International Environmental Law

A Case Study Analysis

GERRY NAGTZAAM,
EVAN VAN HOOK,
and DOUGLAS GUILFOYLE

ROUTLEDGE

International Environmental Law

This book seeks to better understand how International Environmental Law regimes evolve. The authors address throughout the major environmental, economic, and political tensions that have both shaped and constrained the evolution of international environmental policy within regimes, and its expression in international legal rule and norm development.

Readers will gain an increased understanding of the growing role played by non-state actors in global environmental governance, including environmental non-government organisations, scientists, the United Nations, and corporations. The authors also look ahead to the future of International Environmental Law, evaluating key challenges and decisions that the discipline will face.

The text is clear, concise, and accessible. It is ideally suited to students and professionals interested in International Environmental Law, and individuals who are intrigued by this dynamic area of law.

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Forewords

AMBASSADOR STUART E. EIZENSTAT

International Environmental Law: A Case Study Analysis performs a critically important service for the United States and the world in highlighting the importance of global cooperation to tackle the growing environmental challenges, but recognizing the obstacles to achieving this result.

Environmental degradation knows no national borders. Plastics dumped into the ocean in one country can affect fish thousands of miles away on another continent. Air pollution, and greenhouse gases which come from industrial countries, will impact on nations thousands of miles away. The melting of icecaps in Antarctica causes rising sea levels that threaten to engulf island nations in the Pacific Ocean.

I first came to this realization when I was serving as President Jimmy Carter's Chief White House Domestic Policy Adviser (1977–1981). Jimmy Carter was the greatest presidential environmental and conservation champion since President Theodore Roosevelt created the National Park System. As governor of Georgia, he became the first governor to block a Corps of Engineers dam, the Sprewell Bluff Dam, because of the environmental damage to rivers, free flowing streams, and fish. As president, Carter took on huge, popular water projects, at signficant political cost, because of their cost and environmental consequences, and succeeded in imposing new cost–benefit requirements that largely ended the era of mammoth dams. He personally negotiated and signed into law shortly before leaving office the Alaska Lands Act, which doubled the size of the national park system, and protected millions of acres of land from development.

But President Carter also recognized the international dimension of environmental policy and the need for United States leadership. Under his direction, the first global environmental study was called for by a head of state, an ambitious interagency effort conducted, and which I monitored, initially under the co-chairmanship of one Charles Warrant, chairman of the President's Council on Environmental Quality (succeeded by Gus Speth) and Patsy Mink, Assistant Secretary of State for Oceans and International Environmental Affairs (succeeded

by Thomas Pickering, one of our greatest career ambassadors). The result was the landmark 1980 report, the *Global 2000 Report*. It was remarkably prescient in its stark warnings that with projected population growth by the year 2000, there would be great stress on our oceans, air quality, natural and agricultural resources, that deforestation could lead to the elimination of half of the world's forests, and that thousands of species, primarily insects and plants, would become extinct. All of this could lead to a more volatile world.

But President Carter's *Global 2000 Report* also made clear that these grim results could be averted by positive action: putting energy conservation and renewable energy at the center of our energy policy; taking steps to protect our forests, oceans, and air. It belied the notion that there was an inherent conflict between economic development and environmental quality, and indeed they could go hand-in-hand. President Carter made clear that the United States had to take global leadership in tackling these issues. Global cooperation was needed. Hearings before the Joint Economic Committee of the U.S. Congress were held on September 4, 1980, with Gus Speth and Tom Pickering testifying. But with Jimmy Carter's loss to Ronald Reagan in the 1980 presidential election, all of the momentum to tackle global environmental problems vanished, and many of the projections have unfortunately materialized.

The world only slowly began to come to terms with environmental challenges. The earliest and most successful example occurred with the *Montreal Protocol on Substances that Deplete the Ozone Layer*, under Presidents Reagan and Bush, a binding treaty involving over 190 countries, phasing out chemicals that had created an ozone hole in the atmosphere, which threatened health on earth. UN Secretary General Kofi Annan called it "perhaps the single most important international agreement" up to that point. As a result of concerted international action, led by the U.S., the ozone hole is slowly recovering and is projected to return to 1980 levels between 2050 and 2070. In a way the international trade negotiations under the *General Agreement on Tariffs and Trade* in which I participated, which led to the binding Tokyo Round in 1979 with 102 countries during the Carter Administration (as Chief White House Domestic Policy Adviser to President Carter) and the Uruguay Round (as U.S. Ambassador to the European Union) in 1994 with 123 countries, are high-water marks of legally binding international agreements, like the Montreal convention in the environmental area. But in each case, a few key industrial democracies, led by the United States, reached agreement among themselves, and less developed states went along.

Yet even the Montreal Protocol, which is a model of global environmental cooperation, depends upon national enforcement. Scientific studies in 2018 and 2019, published in the journal *Nature*, show that one of the banned chemicals, CFC-11, that damage the earth's protective ozone layer has been used in two Chinese provinces, and to their credit, the Chinese government cracked down, seizing stocks of the chemical and closing rogue plants. But this accounts for only some of the use of the chemical, which some companies may still produce because it is cheaper than climate-friendly alternatives. Still, the Montreal Protocol is an

example of what can be done when there is a scientific consensus, U.S. leadership, and a common recognition of the threat.

It became clear that this model could not apply in later years in either international trade or environmental negotiations, as developing countries demanded a greater role, rather than accept what was agreed to by the developed countries. So the Doha Round was launched with great fanfare in Doha, Qatar in 2001, as a new type of trade agreement, one focused on development in developing countries. It has never come close to reaching an international consensus, for a variety of reasons: the U.S. and European Union would not give up their agricultural subsidies, key developing countries like China and India refused to play a constructive leadership role, and fundamentally the interests of the developed economies and the under-developed ones were too far apart.

I saw this wide gulf between the industrialized world and the developing countries up close, when I headed the U.S. delegation and was the chief negotiator for the Clinton Administration of the 1997 *Kyoto Protocol to the United Nations Framework Convention on Climate Change*. This was the most difficult negotiation in which I have ever participated. The U.S. government side had to fight a two-front war. Even as he was contemplating his own run for the presidency, Vice-President Al Gore courageously flew to Kyoto and delivered a stirring address on the dangers of the climate change to our planet, dramatizing the commitment of the Clinton–Gore Administration to take a leadership role, which many delegates doubted before his speech. Still, we faced formidable odds. On one side, the European Union (to which I was Ambassador from 1993–1996) wanted to take what we believed were overly ambitious and unachievable commitments to reduce greenhouse gas emissions during the first commitment period between 2008 to 2012, compared to a base year of 1990, and to do so by top-down regulations that did not take advantage of market mechanisms, like emissions trading between companies that had been so successful in the SO2 program in the U.S.

We organized a coalition of countries, from Japan and Australia to Russia and New Zealand, to demand a more realistic set of emission reduction goals, and the use of the free market, as well as government regulation to achieve them. With this leverage I was able to get the agreement of the EU delegation, headed by UK deputy prime minister John Prescott, to allow the U.S. to take less ambitious but more achievable emission reduction targets, but still we did not have an agreement. In the climatic final session, I refused to agree to the text unless the Protocol allowed full flexibility on how nations achieved their goals. The chairman of the conference dramatically suspended the plenary and took Prescott and myself to the Green Room behind the podium, where Prescott reluctantly relented and we announced an agreement.

Throughout the grueling day and night negotiations I had to coordinate more than a dozen federal agencies and departments, and brief the U.S. congressional delegation, which had both proponents and opponents of an agreement, and the large NGO delegation each and every day, and, as we came closer to an agreement, several times a day. Their impact on the emerging agreement cannot be overstated.

But the 1997 Kyoto Protocol, unlike the 1987 one, was flawed and showed the limits of global cooperation on environmental issues up to that point. China and India had organized the G-77 developing nations into a bloc that fiercely opposed any commitments to deal with climate change. When I addressed their huge delegation, I urged them to recognize that climate change was a global threat. I stressed that we were not seeking similar commitments to those of the industrialized nations of actual reductions in greenhouse gas emissions from a 1990 baseline, but simply to curb the rate of their increases. I argued for differentiated targets. China and India angrily lambasted me and the U.S., asserting that global warming had been caused by the industrial revolution beginning hundreds of years ago in the West, and that we had no right to impede their economic development just as they were beginning their own industrial development. This was another form of colonialism, they argued. So there were two divisions: Annex I industrialized nations which took on binding commitments and Annex II developing countries which did not.

This presented a grave dilemma for us. Led by Democratic Senator Robert C. Byrd, of West Virginia, the leading producer of coal, a Senate Resolution was unanimously passed shortly before the conference in Kyoto, starkly warning the Administration that we should not sign any agreement and they would not consider ratifying one that did not also call for key emerging nations, like China, to make emission reduction commitments as well. Senator Byrd called me personally from his Senate office to the U.S. delegation room in Kyoto. We had worked together during the Carter Administration when he was Senate Majority Leader and respected each other. In emotional terms, he said, "Stu, I believe global warming is a real problem. I want my grandchildren to have a healthier planet. But this cannot be achieved by the United States alone, or even together with the European Union states. It requires all nations, particularly rapidly industrializing ones like China, to also make commitments. We in the Senate cannot support anything that fails to achieve universal commitments."

After consultations with the White House, which were being coordinated by Gene Sperling, the chairman of the National Economic Council, we decided we would take half a loaf and sign the Kyoto Protocol to show U.S. leadership, if we could get the EU to relent on their hardline stance, but we would recognize the hard reality that the treaty we were bringing home should not even be sent to the Senate, because it would be shot down immediately and would set back the global effort to deal with climate change. Of the 37 countries that took on binding commitments, only seven ratified Kyoto through their national legislatures.

Over the ensuing years since Kyoto, the dangers of climate change became clearer, manifest in severe heat which parched agricultural lands around the world, especially in Africa; the melting of glaciers leading to rising tides which threatened the very existence of Pacific Island nations, and causing severe flooding in American coastal cities; the extermination of whole species; the bleaching of coral reefs from warming waters, upon which fish depend; and unhealthy air. During the Obama Administration there was a breakthrough: a bilateral agreement

between the U.S. and China for mutual differentiated steps to address climate change. China for the first time agreed to take on emission targets.

This in turn led to the Paris Climate Change Accord in which over 190 countries pledged to address climate change. But as welcome as this was, the Paris Accord lacked the force of law which the Montreal Protocol included, and yet they both nevertheless have had a greater impact than the Kyoto Protocols. The sense of urgency became more obvious. New scientific studies dramatized the results of inaction. Several nations, including the United States (for example, the Obama Administration's proposed power plant rules), France and the Netherlands took concrete steps to meet their Paris obligations.

This is somewhat similar to another realm in which I was active during the Clinton–Gore Administration. I was the chief negotiator of the 1998 *Washington Principles on Nazi-Confiscated Art*, in which over 40 nations agreed to a set of principles to research, identify, publish and find "just solutions" to the issue of art confiscated by the Nazis during World War II, and never returned to their rightful owners, including heirs of those who perished in the Holocaust. The Washington Principles expressly recognized that they did not constitute an internationally legally binding obligation and did not override national law, but created a moral commitment to belated justice. And yet, with all their limitations, the moral factors were so compelling that a number of countries (Austria, Germany, Netherlands, United Kingdom) have created binding dispute resolution panels where claimants can present their claims to Nazi-looted art in the possession of museums; the two largest art auction houses, Christies and Sotheby's, have full-time staff to screen for any possible looted art, and will not auction or sell any item they believe may be Nazi-looted art; France has recently agreed to establish a special office in the Prime Minister's office to deal with Nazi-looted art and to review their public collections to locate any such items.

Hopefully, the Paris Accord will stimulate similar action. But there has been a major setback caused by the United States, the world's largest emitter of greenhouse gases. The Trump Administration rejects the basic global scientific finding that there is global warming and that it is caused, at least in signficant part, by human conduct. It has taken steps to withdraw from the Accord. Regulatory measures, from fuel economy standards to power plant rules proposed by the Obama Administration to deal with climate change and implement the Paris Accord, have been reversed.

It is for this reason that *International Environmental Law: A Case Study Analysis* is so important and timely. It makes an urgent case for international action to deal with environmental challenges from biodiversity to ozone depletion and climate change, critical to the quality of our lives and those of our children and grandchildren and, indeed, to the habitability of our planet, with all of its beauty. No one country can do this alone. In my international negotiations I have come to appreciate a key point made by this book: international environmental progress requires an understanding and sensitivity of the perspective of a bewildering variety of key actors: nations at different stages of economic and political development; International Governmental Organizations (IGOs), including the

United Nations which was the organizer of the Conference; Environmental Non-Governmental Organizations (ENGOs), who often have different perspectives from each other; and Transnational Corporations (TNCs). The authors of this book have done a great service to everyone interested in using international environmental law to make our world safer.

AMBASSADOR THOMAS A. SHANNON JR.

Diplomacy and law are intimate partners in shaping the structure and purpose of global relations. Elihu Root, a great twentieth-century American lawyer and diplomat, and the first Secretary of State to win the Nobel Peace Prize, said that the purpose of both is to rescue "from the field of difference and controversy" and transfer "to the field of understanding and agreement" one subject after another.

One of the freshest, most far-reaching, and most compelling instances of this partnership relates to the environment – how states work to protect human well-being by addressing environmental degradation, climate change, and threats to biodiversity, while promoting sustainable development and alleviating poverty is one of the most significant challenges we face in this century.

The diplomats and lawyers who have worked alongside each other in addressing this challenge have produced a remarkable body of work. My own effort in this area as an American diplomat spans the twenty years that separate the 1992 Rio Conference on the Environment from the 2012 United Nations Rio+20 Conference on Sustainable Development. In the first instance, I was a young Foreign Service Officer serving as the Special Assistant to the U.S. Ambassador to Brazil. In the second, I was the U.S. Ambassador and a member of the American delegation.

The arc that cut through that period of time, with one end anchored by the 1972 Stockholm Declaration and the other end by the 2015 Paris Climate Accord, was a period of great intellectual creativity, innovative negotiation, and global determination to address the accumulating dangers that faced mankind.

It was also a time of controversy and frustration as nations battled to protect their economic interests, assert a right to development, and avoid bearing costs for environmental problems that many had little historical role in creating. This conundrum was complicated by dramatic economic and social changes that were transforming our world. The end of the Cold War and its international ideological conflict, the creation of a global economy, the fashioning of trade agreements that dramatically redistributed global wealth, the re-emergence of two giant societies – China and India – into the world of commerce and trade, and the rise of regional powers, many with global ambitions, fundamentally altered the political landscape in which environmental agreements were negotiated, ratified, and implemented.

Within a global context where problems have become more pronounced, but solutions harder to fashion, the inclination of some is to defer confronting

the problems. Some seek solace and escape by hiding behind borders, others by returning to a bygone era of 'great power politics.' However, the transnational nature of our environmental challenges, and their convergence and connection to other global problems like disease, poverty, crime, and terrorism, will not let go of us. We must face them or succumb to them.

The most comprehensive assessment of our environment was published recently by the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES). Compiled by more than 450 experts, it provides a detailed accounting of the relationship between economic development and its impact on nature. IPBES Chair Sir Robert Watson summed up the findings by stating that "the health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health, and quality of life worldwide."

The three authors of the groundbreaking book you now hold have captured the daunting challenge, high drama, and dynamism of this remarkable period in global relations through the lens of international environmental law. Both scholars and practitioners, the authors have provided a solid work of explanation and research that uses case studies to walk through the major advances in environmental agreements, and the norms, rules, and laws they have created.

But they have also highlighted the need for global solutions to global problems. They have identified the limited capabilities of our state-based international order, and the limited ability of governments to solve problems. They make a forceful argument for an inclusive approach to environmental problems, arguing for partnership between civil societies and governments.

This understanding of the importance of partnerships is one of the key strengths of this book. While it covers the key intergovernmental actions, decisions, forums, and documents undergirding international environmental law, it extends beyond this to the "governance ecosystem" comprised of all players who contribute to our international environmental responses. It is this ecosystem, and not state actors alone, that are confronting the challenges addressed in this book: protection of the Antarctic, tropical timber, and atmospheric ozone; cessation and reversal of climate change; protection of biological diversity and the oceans; regulation of international whaling and the Atlantic tuna fishery; and human displacement by environmental disasters and its attendant risks of conflict and suffering.

This book also provides important insight on the future of international environmental law, including the potential for new institutions or associations within the international community to accelerate decision making. The authors look at what Moises Naim called a "minilateralist" approach, in which the smallest possible "magic number" of the most influential states would form environmental policy for other states to "slipstream" behind. They also look at more explicit recognition of the role of civil society in developing and implementing environmental policy, and efforts to integrate international environmental regimes into a unified field.

Finally, the authors leave the reader not only with a sense of direction and purpose, but also with the conviction that we are up to the challenge we face. Without reducing the immensity of the challenge, the authors assert that the extraordinary individuals, organizations, and governments fashioning international environmental law can, through ingenuity, scientific efforts, and collective will, prevail. I believe this book provides a useful step in accomplishing that.

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Abbreviations

AAC	Annual Allowable Cut
ABS	Access and Benefit Sharing
ACF	Australian Conservation Foundation
ADP	*Ad Hoc* Working Group on the Durban Platform
AIA	Advance Inform Agreement
AOSIS	Alliance of Small Island States
ASOC	Antarctic and Southern Ocean Coalition
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Contracting (or Consultative) Parties
ATS	Antarctic Treaty System
BCH	Biosafety Clearing House
BCSD	Business Council for Sustainable Development
BNGO	Business Non-Governmental Organization
BSWG	Open-ended *Ad hoc* Working Group on Biosafety
BWU	Blue Whale Unit
CBDR	Common But Differentiated Responsibility
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCAS	Convention on the Conservation of Antarctic Seals
CCEC	Climate Change: Evidence and Causes
CCH	Common Concern of Humankind
CCP	Cities for Climate Protection
CCRF	Code of Conduct for Responsible Fisheries
CCS	Carbon Capture and Sequestration
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CCX	Chicago Climate Exchange
CDM	Clean Development Mechanism
CDP	Climate Disclosure Project
CEC	Commission of the European Communities

CEF	Corporate Eco Forum
CEP	Committee of Environmental Protection
CER	Certified Emission Reduction Credit
CFC	Chlorofluorocarbon
CITES	Convention on International Trade in Endangered Species
CLASP	Centre for Law and Social Policy
CAN	Climate Action Network
CO_2	Carbon Dioxide
COC	Conservation and Management Measures Compliance Committee
COMNAP	Committee of Managers of National Antarctic Programmes
COP	Conference of the Parties
CPC	Contracting Parties and Cooperating Non-contracting Parties
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
CRC	Carbon Reduction Commitment
CRLTRP	Convention on Long-range Transboundary Air Pollution
CSD	Commission on Sustainable Development
DSV	DeepSea Ventures Inc
EAC	Ecology Action Centre
EAMREA	Environmental Impact Assessment of Mineral Exploration/ Exploitation in Antarctica
eBCD	Electronic Bluefin Tuna Catch Document System
EC	European Community
ECE	Economic Commission for Europe
EDF	Environment Defence Fund
EEC	European Economic Council
EEZ	Exclusive Economic Zone
EIA	Environmental Investigation Agency
ENGO	Environmental Non-Governmental Organization
EPA	Environmental Protection Agency
ESD	Ecological Sustainable Development
ETS	Emissions Trading Scheme
EU	European Union
FAD	Fish Aggregate Devices
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
FoE	Friends of the Earth
FSA	Straddling Fish Stocks Agreement
FSC	Forest Stewardship Council
GARP	Global Atmospheric Research Programme
GATT	General Agreement on Trade and Tariffs
GBO	Global Biological Outlook
GEF	Global Environmental Facility

GHG	Greenhouse Gas
GM	Genetically Modified
GMO	Genetically Modified Organisms
GWG	Guidelines Working Group
GWP	Global Warming Potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HST	Hegemonic Stability Theory
IBRD	International Bank for Reconstruction and Development
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Seas
ICF	International Fund for the CBD
ICJ	International Court of Justice
ICRW	International Convention for the Regulation of Whaling
ICSU	International Council of Scientific Unions
IFF	Intergovernmental Forum on Forests
IFAW	International Fund for Animal Welfare
IGY	International Geophysical Year
IIED	International Institute for Environment and Development
ILC	Indigenous and Local Communities
IMF	International Monetary Fund
INC	Intergovernmental Negotiating Committee
INDC	Intended Nationally Determined Contributions
ISA	International Seabed Authority
IPBN	Indigenous Peoples' Biodiversity Network
IPCC	Intergovernmental Panel on Climate Change
IO	International Organization
IOC	Intergovernmental Oceanographic Commission
IPC	Integrated Program for Commodities
IPR	Intellectual Property Rights
IR	International Relations
ISO	International Organization for Standardization
ITC	International Trade Centre
ITTA	International Tropical Timber Agreement
ITTC	International Tropical Timber Council
ITTO	International Tropical Timber Organization
IU	International Undertaking
IUCN	International Union for the Conservation of Nature (World Conservation Union)
IUU	Illegal, Unreported and Unregulated
IWC	International Whaling Commission
LDC	Lesser Developed Country
LMMDC	Like-Minded Megadiverse Developed Countries
LMMC	Like-Minded Megadiverse Countries
LMO	Living Modified Organism

LPAA	Lima to Paris Action Agenda
MEA	Multilateral Environmental Agreement
MMPA	Marine Mammal Protection Act
MOP	Meeting of Parties
MSY	Maximum Sustainable Yield
NAMA	Nationally Appropriate Mitigation Actions
NAMMCO	North Atlantic Marine Mammals Commission
NAS	National Academy of Sciences
NASA	National Aeronautical and Space Agency
NATO	North Atlantic Treaty Organization
NCP	Non-Contracting Party
NIEO	New International Economic Order
NGO	Non-Governmental Organization
NMP	New Management Procedure
NRDC	National Resource Defence Council
ODS	Ozone Depleting Substance
OECD	Organisation for Economic Co-operation and Development
OFI	Oxford Forestry Institute
OPEC	Organization of the Petroleum Exporting Countries
PDA	Paris Decision and Agreement
PEPAT	Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol)
POP	Persistent Organic Pollutant
POWPA	Programme of Work on Protected Areas
PPP	Polluter Pays Principle
PWG	Permanent Working Group
RESOLVE	Responsible Environmental Steps, Opportunities to Lead by Voluntary Efforts
RFMO	Regional Fisheries Management Organization
RMP	Revised Management Procedure
RMS	Revised Management Scheme
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SCAR	Scientific Committee for Antarctic Research
SCBD	Permanent Secretariat of the Convention on Biological Diversity
SCRS	Standing Committee on Research and Statistics
SFM	Sustainable Forest Management
SI	Survival International
SP	Supplementary Protocol
SSCS	Sea Shepherd Conservation Society
SWG	Small Working Group
TAC	Total Annual Catch
TFAP	Tropical Forestry Action Plan
TNC	Transnational Corporation
TRADA	Timber Research and Development Association
UK	United Kingdom

UN	United Nations
UNCCC	United Nations Convention on Climate Change
UNCLOS	United Nations Convention on the Law of the Sea
UNCLOS III	Third United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEA	United Nations Environmental Assembly
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	UN Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
US	United States of America
USGCRP	United States Global Change Research Program
USSR	Union of Soviet Socialist Republics
WBCSD	World Business Council for Sustainable Development
WCW	World Council of Whalers
WG	Working Group
WHO	World Health Organization
WILPF	Women's International League for Peace and Freedom
WMO	World Meteorological Organization
WRI	World Resources Institute
WRM	World Rainforest Movement
WTO	World Trade Organization
WWF	World Wildlife Fund

Chapter 1

Introduction

Up until the twentieth century, humans tended to merely exploit resources secure in the knowledge that, while their actions might have local consequences, their actions could not impact the environment at the global level. However, as humanity's scientific knowledge grew, humans have come to be aware of the detrimental impact their species is having on the global environment. Scientists began to posit that the planet was no longer in the Holocene era, but rather had entered into what they coined the 'Anthropocene era' whereby the entire planet was being impacted by humanity and its needs. Particularly in the second half of the twentieth century, we can observe a growth in the number of differing types of ecological problems global society is attempting to resolve. Scientists have observed increasing rates of global biodiversity loss; soil erosion; a fresh water deficiency; increasing global chemical consumption and releases; anthropogenic changes to the global climate; a deterioration of the ozone layer; increased desertification and loss of arable land; rising sea levels; and ever-increasing rates of human population and consumption of resources while crowding out other species and their habitats.[1]

Such environmental problems tend to be unintended; unwanted; inherently complex to resolve (often dependent on scientists to observe and explain the phenomena); non-reducible in terms of causal factors; variable, in that they do not all follow the same format and sequence of events; unpredictable and their negative effects often uncertain, e.g. the failure to detect the thinning of the ozone layer due to the proliferation of chlorofluorocarbons; their impact tends to be collective, though such effects may differ between different regions and classes and is spontaneous, in that ecosystems may have little or no ability to adapt to the problem in a sufficient timeframe to ensure survival.[2] The difference between local and global environmental problems is often just a question of degree. At the local level deforestation affects farmers and peasants but aggregated together in the thousands such activities pose a global-level problem exacerbating deforestation, climate change and other global environmental problems.[3]

These complex environmental problems are sometimes referred to as 'wicked problems' in that they are multi-faceted challenges with no straightforward legal or political solutions. These problems are often ubiquitous and persistent, unintended, transboundary in nature and can operate over long timescales including millennia. Any proffered solutions are highly contested by a plethora of differing actors requiring often arduous negotiations as to what is the appropriate cooperative action to take, leading to lengthy delays with consequent negative impacts on the global environment.[4]

Many of these environmental risks are a by-product of our technological societies and their ever-increasing need to exploit resources. As Ulrich Beck has trenchantly observed, "they are 'piggy-back products' which are inhaled or ingested with other things. They are *the stowaways of normal consumption*."[5] Other environmental problems are brought about by poverty where people are forced to despoil the planet to meet subsistence needs, for example, cutting down trees for firewood. Compounding the search for solutions is that environmental problems innately combine scientific uncertainty, citizen and corporate activism, and political, social and economic dimensions that make outcomes uncertain and difficult to implement and good environmental results tenuous at best to achieve.[6]

The complexity and consequences of global environmental problems pose key legal and political challenges for global society.[7] Given the transboundary nature of the bulk of environmental problems, national environmental policy and proscriptions are not capable of resolving these global issues individually.[8] While humanity has wrought global environmental damage, it also has the capacity to create and implement solutions.[9]

It is only since the 1960s that states have banded together to attempt to resolve these issues.[10] The preferred method utilised by the international community is through intergovernmental cooperation, usually through the mechanism of lengthy and diplomatically arduous multilateral negotiations. Thus, cooperation between states becomes essential for minimising or preventing "both the global environmental impacts of local human activity and the local impacts of global environmental degradation."[11] At the same time International Environmental Law (IEL) began to develop as a subset of international law to attempt to grapple with these complex, interdependent and potentially world-ending problems with decidedly mixed results given the scale and scope of the ongoing environmental problems.[12]

Since then it can be observed that IEL has developed remarkably in a relatively short period of time to become a discrete and critical part of the law. Particularly since the 1992 Rio Conference on the Environment the area has flourished. According to the IEA (International Environmental Agreements) Projects database there are over 1,300 multilateral environmental agreements, and approximately 3,000 bilateral environmental agreements currently operating.[13]

International environmental law operates at a number of levels: transboundary, global, domestic or an amalgam of the three. Firstly, there are transboundary problems such as air and water pollution or the protection of migratory species

which are no respecters of artificial state boundaries. These issues, particularly initially, tended to be dealt with by regional instruments and organisations. However, some environmental problems, by their global nature, ubiquity, and their ability to impact all parts of the globe require all interested and/or willing states and international organisations to act. The various climate change convention and protocols, the *Montreal Protocol on Substances that Deplete the Ozone Layer* and the *Convention of Biological Diversity* are all examples of the global community rallying to attempt to deal with pressing global environmental problems that need, at the very least, a majority of states and other organisations willing to address them.[14]

International environmental law also seeps down into the domestic sphere. International instruments set standards that must be incorporated into national law to meet the obligations agreed to by individual states. As it can thus be seen, while we use the nomenclature 'international environmental law' mostly for traditional reasons, it is better understood as a global phenomenon, given the differing levels it operates at (global, transboundary, regional and domestic) and the plethora of diverse actors (states, international organisations, domestic organisations, transboundary and domestic corporations, NGOs and ENGOs) operating in this sphere.[15]

Over the decades, modern international environmental law has further developed its own unique principles and concepts such as the polluter pays principle (PPP),[16] the precautionary principle,[17] the ideas of a common but differentiated responsibility,[18] intragenerational and intergenerational equity,[19] and a common concern of mankind,[20] and has further broadened our understanding and application of key precepts of international law such as the no harm principle,[21] and the common heritage of mankind.[22]

However, despite the creation of thousands of environmental instruments, its own legal principles and concepts, there is still a perception in global society that the current international governance system tasked with dealing with these complex issues is incapable of addressing the problems in a timely and cogent manner. States often appear unwilling to cede their sovereignty to other global institutions fearing a loss of power. It is clear however, that the downward trends in global degradation of natural assets in most cases will continue unless global institutions are strengthened, states acknowledge their limitations in this field and non-state actors are permitted to become part of the global environmental governance infrastructure.[23]

As Hunter *et al.* warn:

> [T]he study of international environmental law requires an understanding of the problems of environmental degradation and their causes, of the legal processes for addressing these problems, including the processes of law-making, compliance monitoring and dispute resolution, of the players who cause the problems and those who make the law to address the problems, and of the legal principles that form the foundation for the treaty law that now dominates the field.[24]

AIM OF THE BOOK

This book is dedicated to better understanding how IEL regimes[25] develop and in some cases, evolve to provide better environmental protection. At the same time, there is much that can be learned from examining failing IEL regimes where environmental protections have not been robust enough to protect the subject-matter of the treaty. This text will critically examine the phenomenon and growth of International Environmental Law. The book contextualises the major legal developments by examining the key state and non-state actors and institutions involved in the negotiation, settlement and enforcement of international environmental law. The manuscript seeks to move beyond an exclusively 'statist frame' by recognising the increasingly significant role played by non-state actors in global environmental governance, including environmental non-government organisations, scientists, the United Nations, international and regional environmental organisations, Bretton Woods Institutions (for example, the World Bank and the IMF) and corporations. These different frameworks of understanding will be used to analyse the diverse and often competing claims of the modern environment movement, as well as the environmental perspectives of states and other non-state actors who interact in the creation and evolution of international environmental instruments.

The book will cover the international legal responses to major global and transboundary environmental problems and controversies. Attention will be given to the major environmental, economic and political tensions that have both shaped and constrained the evolution of international environmental policy (especially the sustainable development debates and the relationship between environmental protection and state sovereignty) and its expression in the form of international legal rules and norms. Finally, the evolving nature of international environmental law and policy, including problems and prospects for the future, will be examined.

Both the treatment of environmental problems and the examination of these phenomena by scholars has tended to be subject specific. While for ease of analysis we have followed the same structure of examining the chosen regimes individually it needs to be borne in mind that the global environment is interconnected. This poses challenges in creating functioning legal environmental regimes that deal in a comprehensive rather than a piecemeal manner with the environmental concerns raised.[26] This is an issue that needs to be addressed more fully and we will return to the matter in the conclusion.

METHODOLOGY ADOPTED

To explore the evolution of IEL, the authors propose to utilise a linear narrative case study approach that critically examines key stakeholder interactions in order to explain how international environmental law has evolved within particular international environmental regimes. Building on the Krasner definition, a regime is generally understood to refer to a set of "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations." This definition can stretch

to encompass treaties as well as a range of other less formal understandings and agreements, such as declarations and strategies (provided the necessary "convergence of expectations" can be found).

In analysing the environmental space, Thomas Gehring notes that:

> international environmental regimes go far beyond treaty law as such. For a defined issue-area, they are international institutions comprising both an accepted body of normative[27] prescriptions and an organised process for the making and application of these prescriptions. Given the successful integration of these two elements, international regimes turn out to be comparatively autonomous sectoral legal systems.[28]

The challenge of protecting the global environment is often conceptualised by advocates as "the management of interdependence in a system of sovereign states lacking the kind of central authorities assumed to be capable of providing order and regulation within domestic societies"[29] which needs to be explored in greater depth. Thus, there is a need to both identify the key stakeholders and their various issues relating to IEL as well as who will be the decision-makers in each case study. To examine the interactions between these actors the text will therefore incorporate a stakeholder theory approach to allow for a better understanding of the key players' roles and how such decisions are made. These various stakeholders' interests are best understood as both complex and differing and evolving allegiances.[30] A stakeholder is defined as any person or organisation that is impacted by, or causes an impact to, a company, government or other type of organisation. Such analysis can also form the basis of a longitudinal study to changing attitudes and is well suited to the type of study proposed here.

The authors propose to adopt such a 'mapping' analysis within the proposed case studies using the Mitchell, Agle and Wood approach which, while traditionally applied to businesses, can be adapted here.[31] Mitchell *et al.* have created a classification system based on: each stakeholder's ability to influence proceedings and the decision-maker; the stakeholder's legitimacy *vis à vis* the organisation; and the urgency of the stakeholder's claim. Such a matrix enables managers to determine which actors are (or are not) deserving of attention and how competing claims should be prioritised.[32] In the case studies examined here, this approach can be adopted to show how the range of competing stakeholders and decision-makers determines and assesses the competing stakeholder interests involved in IEL problem solving.

Using empirical primary and secondary source research, this book will critically examine the roles played by the key stakeholders including: international organisations; diplomats; treaty negotiators; advocacy organisations such as environmental non-governmental organisations (ENGOs) which advocate environmentally protective policies; trans-national corporations (TNCs); experts and the research they generate; indigenous populations; and the media, which are often essential in determining how the above actors frame their positions so as to influence the ongoing policy debate in particular IEL regimes.[33]

DEFINING THE ENVIRONMENT

What is the environment? While the term 'environment' is sometimes defined at the state level, the term is not specifically defined by any current international instrument. This is because it can be difficult to quantify something that can include both the entire biosphere and can be talked about at the level of micro-organisms.[34] Legally defining the environment however, is important for a number of reasons. Firstly, at the general level, it enables us to define the scope of the subject areas to be studied and their concomitant organisations charged with oversight. For example, the failure of the ICRW to define the term 'whale' led to state disputes as to whether the convention also covered other cetaceans such as dolphins. Secondly, defining the term becomes critical when attempting to assign liability for damage done to the environment.[35]

Initial biological conventions did not use the term 'environment,' referring rather to the concepts of flora and fauna. For example, the UN Charter makes no reference to the environment in its operating Charter and the pertinent General Agreement on Tariffs and Trade Provisions Article XX (b) and (g) reference only, "human, animal or plant life or health." Similarly, UNCLOS does not define the term "marine environment" anywhere.[36]

The word's etymological roots are in the French word 'environner' meaning to surround or to encircle.[37] As there is no 'legal' definition currently operating, lawyers as a matter of practice are allowed to consult dictionaries in defining key terms. The concept of the environment is defined in the Merriam-Webster dictionary as:

> *a:* the complex of physical, chemical, and biotic factors (such as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival
> *b:* the aggregate of social and cultural conditions that influence the life of an individual or community.[38]

The Oxford Dictionary has several definitions of the term applicable here. Firstly, "The surroundings or conditions in which a person, animal, or plant lives or operates"; and secondly, it defines the concept as, "The natural world, as a whole or in a particular geographical area, especially as affected by human activity."[39]

The *Preamble to the Stockholm Declaration* divides up the environment into "natural and man-made" designations without acknowledging that the concepts do not always neatly bifurcate but rather can exist symbiotically. Principle 2 of the Declaration maintains that the natural resources of the planet include, "air, water, land, flora and fauna and especially representative samples of natural ecosystems."[40]

It can be observed that 'nature' can be distinguished from the concept of the 'environment.' Nature can be defined as "the phenomenon of the physical world collectively, including plants, animals, the landscape and other features and products of the earth; as opposed to humans or human creation."[41] What is 'natural'

is thus typically defined as outside of human nature as codified above in the Stockholm Declaration. John Passmore, an environmental philosopher, makes the point that nature is not necessarily synonymous with the environment, which can include either the natural world or the human built aspects of the planet.[42]

The environment to be analysed here can thus be considered to be the aggregation of natural, social and cultural conditions that influence an individual's or community's – whether human or nonhuman – quality of life. Consequently, while one normally equates the environment to the land, water or air the term can also be applied to problems such as traffic congestion and noise in urban areas. It can be used to refer to a limited geographical area but also can encompass the world, its atmosphere and stratosphere as well as any natural satellites such as the moon.

WHY PROTECT THE ENVIRONMENT?

The answer to this question takes us into the realm of environmental philosophy. Essentially there are two strands of thought as to why humans should protect the planet. Most advocates argue an 'anthropocentric' perspective that places human wants and needs as the catalyst as regards how we interact with the environment. The other strand is referred to by its proponents as biocentrism or ecocentrism that posits that nature has intrinsic value that makes it worthy of moral consideration.[43]

Anthropocentrism

For anthropocentrists humans are the only 'morally' worthy beings on the planet. Thus, the planet's biosphere is only valuable in as much as it can be utilised instrumentally as a resource for the good of humanity but is otherwise dispensable. Thus, arguments to protect the environment are couched in economic terms, focusing primarily on efficiency and sustainable development of resources for the use of present and future generations, e.g. ensuring that the true cost of pollution is internalised into the cost of a product or forests are not cut down to such an extent that there is not enough of this resource for successive generations to enjoy.[44]

The term 'anthropocentric' was first used in the 1860s amongst the debate about Darwin's theory of evolution to argue for the primacy of humans as the locus of the universe. At its core, this philosophy argues humans are the most important lifeform extent and all other species can be considered important insofar as they can be useful. For anthropocentrists, the environment can have moral consideration, since preserving or destroying nature can have positive or negative impacts on humans, e.g. levelling a forest may prevent humanity from discovering a cure for a disease.[45]

Anthropocentrism incorporates the concept of *value* into its philosophical framework and divides it into intrinsic value and instrumental value. According to its tenets only humans have intrinsic value, whilst non-humans can only be

possessed of instrumental value. Proponents argue that this means there is no ethical offence committed in enjoying a superior position to other species which allows mankind to dominate nature.[46]

For critics of an anthropocentric approach it means going beyond a literal interpretation of human-centredness to encompass *human chauvinism* whereby humans are the source of *meaning* in the world, and that everything else derives its meaning from humans. For some proponents of the anthropocentric view of nature, drawing off Genesis in the Bible, humans are the *crown of creation*, or *the apex of evolution*. It is the particular traits or competences inherent to mankind – language, rationality, tool-making, moral or religious sensibility – that make us unique in a moral sense from other species.[47] As Sagoff notes, it is possible to preserve the environment under an anthropocentric approach. Preserving a forest for example, can allow its use as genetic reservoirs (silos), spaces to exercise (gyms) or places to enjoy the spirituality of nature (cathedrals).[48]

The anthropocentric position is reflected in the vast bulk of international environmental agreements or statements regarding the global environment and its care. For example, the 1972 Stockholm Declaration talks exclusively about the 'the human environment,' and argues the *raison d'être* for protecting the world is that: "Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, spiritual, moral and social growth."[49] Similarly, the 1992 Rio *Declaration on Environment and Development* asserts that "Human beings are at the centre of concerns for sustainable development."[50] This is also reflected in a number of instruments that prioritise present and future humans' health or safety such as conventions on nuclear radiation risks or climate change.[51]

Ecocentric or biocentric approach

The concept of ecocentrism derives from the term 'biocentric' which was first adopted by an American biochemist, Lawrence Henderson, in 1913.[52] Biocentrism can be defined as accepting the moral status of the biotic community. If humans do so the consequences are that we would not simply adopt the human point of view as correct but would consider the effects of our actions on other species. Ecocentrism expands on this premise but goes beyond the biosphere in according moral worthiness to include the whole ecosphere.[53] It is important to note that this view differs from the "anthropocentric ethic of mainstream environmentalists," and, as Manes argues, "the difference between these movements is a difference in the depth of understanding of humankind's place on the planet."[54]

Ecocentrism was adopted by the deep ecologist movement in the 1970s led by Arne Naess, who argues that nature should not be accorded moral worthiness for its resource capabilities for humans, but rather that other species have an intrinsic right to exist. It acknowledges the interdependence of humanity with the other species we share the globe with and does not privilege humans as the apex of creation.

Other species are worthy of moral consideration aside from their usefulness to humanity. Applying these principles would mean the destruction of a rainforest would be wrong since it would cause the extinction of species.[55]

The ecocentric or biocentric position has been adopted in some international environmental instruments. For example, the concepts underpin the 1992 *Convention on Biological Diversity* which states in the Preamble that signatories are "Conscious of the intrinsic value of biological diversity . . . ."[56] Similarly, as we shall see, arguments to preserve Antarctica from mining were couched in the language that the region had intrinsic value. Arguments by ENGOs to stop the commercial hunting of whales were made in terms that killing such unique, beautiful creatures should not occur and such a species deserved to live even if it was no longer of utilitarian use to the majority of states that had ceased hunting whales for oil or meat. Advocates of an ecocentric or biocentric approach, such as Arne Naess, argue that anthropocentric approaches have not been successful in preventing the ongoing extinction of nonhuman species or ensuring the maintenance of viable biological diversity.[57]

International environmental law has not fully integrated the belief that species have the intrinsic right to exist outside of their usefulness as evinced by the Stockholm and Rio Declarations which underpin the legal approach to the environment and remain mostly anthropocentric in outlook. However, it can be observed that ecocentric arguments are more readily being made by advocates and, as we shall see, have in some cases been successful, e.g. whaling, Antarctica.

THE CONCEPTS OF EXPLOITATION, CONSERVATION AND PRESERVATION

When examining global environmental regimes, one can observe that advocates adopting various negotiating positions and strategies often employ the concepts of environmental exploitation, conservation and preservation to advance or defend their cause. Often in many cases these concepts rise to the levels of norms[58] that underpin many of the environmental regimes, particularly ones focused on biodiversity management.

Thus, it is useful to begin with a critical taxonomy of the terms of exploitation, conservation and preservation both broadly and from an environmental viewpoint before embarking on an analysis of how such advocates utilise such terminology and ideas to compete within environmental regimes. This is not to say that there is one *correct* definition of the terms examined here. Advocates, as will be seen in the case studies, use differing and sometimes multiple definitions of these concepts to advance their cause. Many proponents mistakenly conflate the terms when defining their positions and some advocates hide their real position within the rhetorical definitions of another term.[59] However, offering conceptual distinctions, based on a long history of environmental philosophical engagement, will help to shed light on the varieties of ways in which these concepts are deployed and/or understood by social agents.

Exploitation

The idea of 'exploitation' has received scant conceptual analysis compared to the concepts of conservation and preservation.[60] One of the few authors to explore the meaning of the general concept in any depth is Alan Wertheimer, who argues that, at the most general level, exploitation occurs when "A takes unfair advantage of B" thus connoting a wrongful action.[61] However, Wertheimer does not consider the exploitation of nature by humans.[62] Taylor, rather than defining exploitation *per se*, speaks in terms of an *exploitative attitude* which he defines as occurring "whenever nature is thought of as nothing more than a vast repository of resources, both physical or biological, to be developed, used, and consumed by humans for human ends."[63]

Even in the ecophilosphical literature the concept of exploitation has been only cursorily explored as part of an overarching Western narrative of historically dominating nature. Most ecophilosophical attention has been devoted to the new environmental norms that have challenged exploitation, namely conservation or preservation.[64] Taylor argues that, for some, the advancement of western civilisation is intricately bound up with the domination of nature in pursuit of the goal of ensuring a better life for the bulk of humanity.[65] Alternatively, some ecophilosophers have made the point that there is a conceptual link between the exploitation of nature and the exploitation of disadvantaged groups within society such as women or indigenous peoples but again the term is not spelt out but rather is left undefined and generally understood as 'bad'.[66]

Humankind has traditionally attempted to portray and justify its environmentally exploitative practices as beneficial to itself. For example, Francis Bacon argued that the dominion of the planet by man gave him the right to utilise nature for 'man's' benefit exclusively.[67] Such exploitation has been described as springing from the human belief that there is an 'inherent right to take and plunder' natural resources and which has been justified using the Christian Bible passage that God gave dominion of the planet to humanity for its own uses.[68]

However, it is possible to perceive exploitation as a good, if it is in the service of a higher moral goal, for example, the provision of a better quality of life for the citizens of a state. Taylor argues that in human centred ecology there is nothing *morally* wrong with choosing an exploitative attitude towards nature. Such non-respect towards nature is permissible since from a human-centred ethical standpoint the environment is "rightly controlled, transformed and consumed in the service of human interests alone" and "[A]side from their actual or potential usefulness to humans, they lack all worth."[69]

States have historically viewed their exploitation of natural resources, both domestic and global, as a right and in some cases as a good.[70] Principle 21 of the Stockholm Declaration (1972) has enshrined this internationally recognised right to the effect that "States have the sovereign right to exploit their own resources pursuant to their own environmental policies . . . ."[71] Exploitation of resources such as those examined in this book – minerals, whales or timber – has long been

accepted as a corollary of state sovereignty, and part of the principle of permanent sovereignty over natural resources.

Given the lack of definitional precision of the term exploitation as it applies to nature it is necessary to advance a working definition for the purposes of this project that encapsulates the morally pejorative meaning of the term as well as the morally non-pejorative sense of the unrestrained use of natural resources. Consequently, the term will be understood, drawing on the work of Taylor, as referring to a situation where humanity treats resources as merely instrumental, to be developed and consumed, without consideration for the survivability of the resource, the overall ecosystem or the rights of future generations of humans. This definition incorporates the idea that such resource usage is unsustainable with no consideration for resource replenishment or for the integrity of the overall ecosystem from which it is drawn.

A major problem in analysing the notion of exploitation then, is that in contemporary times, given its commonly accepted pejorative meaning, arguments for the unrestrained or minimally restrained utilisation of a resource are rarely couched in the language of exploitation by its proponents, who prefer to use the language of sustainable utilisation or conservation. It is ultimately an empirical question whether the argument proposed by a stakeholder is a conservationist one or whether it is exploitationist under the 'cover' of the language of conservation. For example, we shall see that in the case of whaling, many whaling states such as Japan and the Soviet Union, despite a stated commitment to conservationist principles, continued to engage in exploitative whaling practices leading to the near extinction of certain whale types. However, the choice not to use the explicit language of exploitation also provides a revealing indication that support for the norm has waned.

Conservation

In contrast to the notion of exploitation, the concept and, in some cases, ideas of conservation and preservation have enjoyed prominence and influence within global environmental regimes.[72] The debate at the domestic level between those advocating conservationism and those promoting preservationism served to create the first wave of domestic ENGOs in the nineteenth and early twentieth centuries.[73] That domestic conceptual debate is now being played out on a global scale, particularly within global environmental regimes.[74]

Human understanding of the need to conserve resources is an ancient one. The ancient idea of conservation can be found in such early texts as the Bible, and the writings of Plato and Cicero.[75] Conservationism as a concept is similar to the concept of Ecological Sustainable Development (ESD) in that it:

> concedes that nature is not inexhaustible: accordingly, that there are limits to material growth and that husbandry must therefore be practiced because it becomes necessary to consider the interests of human generations as yet unborn when determining courses of action.[76]

The conservationist approach is bound up with the production process and regards the nonhuman world merely in terms of its use-value terms, as a resource to be utilised.[77] Therefore a conservationist perspective treats the biosphere as a reservoir of matter-energy to be altered by technology for human consumption.[78] As with ESD, such conservation can be of renewable or nonrenewable resources, providing there is a husbanding of the resource for present or future generations of humans.[79]

This concept can be seen as a breaking away from the exploitative practices of the past and accepting a more rational, cautious approach to the husbanding of potentially scarce resources. Mark Smith argues that the idea of conservationism has tended to act as a brake ". . . to moderate the pressures for an *exploitative* [my italics] 'free for all' inherent in the drives which propel actions in economic markets," thus ameliorating damaging practices of the past.[80] Rodman argues that resource conservation replaced "the reckless exploitation of forests, wildlife, soils etc." with an "ethical and legal requirement that 'natural resources' be used 'wisely,' in the interests of humanity at large rather than in the interests of a mere few, and considered over the 'long run' rather than the short term."[81] Eckersley supports this position and argues further that resource conservation can be seen as the first step away from unrestrained development.[82]

Conservation is in many ways the least controversial environmental ideal since it has at its heart a utilitarian, human-centred perspective that seeks the greatest good for the greatest number of humans. Using this norm to underpin a global environmental regime tends to invite greater consensus from stakeholders, as its argument that the environment is a resource that must be utilised wisely resonates deeply with many cultures. It embodies a rhetoric of restraint which also suits the interests of states seeking better economic returns from their resources. Scientists have often been the transmitters for conservationist norms within environmental regimes, since the approach that resources should be wisely used and husbanded for future generations has been central to agriculture and forestry.

Preservation

If the saving of a resource is *from* utilisation rather than *for* utilisation, however, we are generally speaking of 'preservation'. John Passmore defines preservation as:

> the attempt to maintain in their present condition such areas of the earth's surface as do not yet bear the obvious marks of man's handiwork and to protect from the risk of extinction those species of living beings which man has not yet destroyed.[83]

Max Oelschlager expands on this by arguing that preservationists reject the notion that nature is merely a resource, instead prizing wilderness values, species rarity and diversity.[84] Anne and Paul Erlich are typical of those who espouse a preservationist viewpoint in that they argue that the biosphere has a right to exist.[85]

Thus, at its heart, preservationism accords an *intrinsic* or non-instrumental value to the world even if it conflicts with human interests.[86]

The preservationist argument often has spiritual overtones. According to Neil Carter it "represents an attitude of reverence towards nature."[87] However, resource preservation can be argued on both intrinsic and instrumental grounds. An instrumental approach maintains that humans derive value from the nonhuman world if the resources enjoyed by humans are allowed to exist unaltered.[88] Such utilisation includes using nature as a retreat (asylum), for recreation (gymnasium), for worship (Cathedral), a laboratory, an art gallery, a silo of genetic diversity,[89] a monument, psychogenetic (psychological health and maturity) or simply as a place to marvel and wonder at.[90]

Passmore, however, takes it as axiomatic that 'true' preservationist arguments *must* rely on the concept of intrinsic value. This position is at odds with many preservationist theorists who also include instrumental arguments to support the preservation of nature.[91] However, while it is possible to argue preservationist positions from an instrumental perspective, doing so does a disservice to the intentions of many global actors advocating preservation who argue that whales or other creatures deserve not to be culled because they intrinsically have a right to exist.[92] At the global level, ENGOs have been the prime proponents advocating (with some success), that the intrinsic strand of preservationism should underpin global environmental regimes concerned with the management of species and wilderness areas.

Bryan Norton argues, at least in the short term, there is little difference between advocating conservationism and preservationism since both views are dedicated to saving ecosystems and species.[93] However, the two views often diverge at critical moments and may be traced to differing philosophical belief systems. A conservationist may only save a resource for use at a future time, whilst a preservationist desires to keep the resources forever untrammelled and protected – thus sooner or later they will find themselves at loggerheads. The biotic case studies examined in this book bear this out, since the advocates of conservation and preservation want different outcomes and work to achieve new practices and goals which are, at times, totally disparate.

A BRIEF HISTORY OF INTERNATIONAL ENVIRONMENTAL LAW-MAKING

Before 1900 there were few agreements relating to international environmental issues. Such agreements were based on unrestrained national sovereignty over natural resources – mainly focused on boundary waters, navigation, and fishing rights along shared waterways, particularly the Rhine River and other European waterways. They did not address pollution or other ecological issues.[94] In the late nineteenth century there were a number of bilateral environmental agreements such as the Fisheries Convention between France and Great Britain 1867 and the US and Great Britain agreement on Fur Seal Fisheries in the Bering

Strait of 1891. However, these are better understood as being agreements to equitably share resources rather than environmental agreements that prioritised environmental protection of a species.[95]

In the early 1900s, states began to conclude agreements to protect commercially valuable species. These agreements include the 1902 *Convention for the Protection of Birds Useful to Agriculture*, the 1916 *Convention for the Protection of Migratory Birds in the United States and Canada*, and the *Treaty for the Preservation and Protection of Fur Seals* signed in 1911. Only one convention focused on wildlife more generally: the 1900 *London Convention for the Protection of Wild Animals, Birds and Fish in Africa*.[96]

By the 1930s and 1940s, states recognised the importance of conserving natural resources and negotiated several agreements to protect fauna and flora generally. These included the 1933 *London Convention on Preservation of Fauna and Flora in Their Natural State* (focused primarily on Africa), and the 1940 *Washington Convention on Nature Protection and Wild Life Preservation* (focused on the Western Hemisphere), which can be considered to have at their heart ecological aims. During this period, states also concluded the current *International Convention for the Regulation of Whaling 1946* (there was an earlier iteration in 1937), as well as other conventions concerned with ocean fisheries and birds.[97] However, such treaties were less about providing for the ecological welfare of the subject species and more about ensuring there was an orderly process in place to harvest the resource. It is clear that in the 1940s and 1950s states both acknowledged and began to mitigate the damage done to the planet. Concern over global pollution and its impact on human progress was also a feature of IEL during this time period.[98]

During the 1950s and early 1960s, the globe's focus was on nuclear damage from civilian use and marine pollution from oil, and the treaties reflected this. States negotiated agreements governing international liability for nuclear damage and required measures to prevent oil pollution at sea, for example, the *Convention on Third Party Liability in the Field of Nuclear Energy*, 1960 and the *International Convention for the Prevention of Pollution of the Sea by Oil*, 1954. International environmental law began to emerge in a significant fashion in the 1960s due to a number of reasons: a growing ecological consciousness developed in western nations combined with an growing understanding that ecological problems had a global component to them that needed to be dealt with by the international community.[99]

It can be discerned that the uptick in international environmental law in part was a reflection of a growing environmental movement. For many observers, this growing ecological consciousness started with the publication of Rachel Carson's book *Silent Spring*, a technical book on pesticides and insecticides in 1962 which warned of the damage these products were wreaking on the ecosphere and highlighted the problem of bioaccumulation in the food chain. The book touched a chord with many, selling half a million copies, and stayed on the *New York Times* bestseller list for 31 weeks. It also sparked off widespread public alarm and prompted the creation of a US Presidential advisory panel on the use of pesticides.[100]

The publication of *Silent Spring* helped jumpstart a nascent public concern over the overuse and despoliation of the environment that within a decade morphed into a global environmental movement which became "a vigorous, temporally continuous, geographically widespread, and increasingly well-organized social and political phenomenon."[101] Global ENGOs, building on the success of domestic ENGOs, sprang up to argue for stronger environmental outcomes within treaty negotiations. International organisations also began to play a more prominent role than they had previously in ensuring that the environmental concerns of global civil society were better met.

Before 1972 it can be observed that vast swathes of the environment were not subject to regulation by treaty. For example, air pollution or the regulation of greenhouse gases was not considered necessary because they did not have scientific understanding of the long-term, severe risks such actions could do to the planet.[102] There was however, a growing understanding that these complex environmental issues were beyond the capacity of one state to resolve and there was a demand for a meeting of states to take place to tackle the question of how best to protect the global environment, culminating in the Stockholm Conference of 1972.

UN environmental conferences

For many observers, modern IEL is considered to date to the 1972 World Conference on the Environment (Stockholm Conference) in that it laid the foundation for the robust development of the field.[103] This type of global meeting with multiple state and non-state actors on the environment was groundbreaking in that it had never been tried before at such scale.[104] The Stockholm Conference was attended by 6,000 delegates,[105] by 113 states, and IOs such as the World Bank and the International Labour Organization and was Chaired by Maurice Strong from Canada. For the first time, global civil society was invited to participate with parallel NGO meetings held outside the main venue including both an Environmental and People's forum.[106]

A number of actors were responsible for the Conference taking place including ENGOs, particularly from the US,[107] scientists, and the Swedish state which at the time was under pressure due to acid rain falling on Western Europe. A Swedish representative mentioned the idea at the 1968 UN Economic and Social Council biosphere meeting where it was well received and Sweden agreed to host the meeting.[108]

In 1968 the UN General Assembly announced the Stockholm Conference in a resolution: 'Problems of the Human Environment.' The focus of the subsequent 1972 conference was on the impact of global environmental degradation on humanity, a decidedly anthropocentric perspective. At later conferences the emphasis on 'human' was discarded as ecocentric perspectives came more to the fore in our interactions with the environment.[109]

However, the conference almost never took place due to the lack of support by lesser developed countries who saw a concern for the environment as merely a luxury indulgence of wealthy, developed states. They were concerned that a

focus on the environment would be detrimental to their own economic development. The Founex Meeting of Experts convened by Strong in Switzerland in 1971 assuaged LDC fears by setting forth an argument that the environment and development could be considered interdependent.[110] The Founex meeting report convinced lesser developed states to attend Stockholm on the understanding any outcomes would not impede their economic development.[111]

Although the desire by the international community to effect global environmental protection was strong it was soon evident to the organisers that many attendees wanted to discuss broader issues than the 'environment' (which for many participants was primarily at that time transboundary pollution) and wanted to engage on issues of poverty and social justice. The Group of 77 (G77) developing states, newly formed in 1964, was firm in the believe that development and the environment were inexorably linked, thus needed to be dealt with simultaneously.[112]

Unbeknown to many delegates, a coalition of industrialised states (known collectively as the Brussels group and including the US, the UK, France, Belgium and Germany) were actively seeking to undermine the creation of UNEP and to protect their economic interests at the expense of lesser developed states.[113]

Conference outcomes

Given the issues between developed and lesser developed states, the four main outcomes produced by the conference reflect that tension. Firstly, the *Declaration on the Human Environment* set forth a series of principles acceptable to all the delegates. Some, such as Principle 21, were based on emerging customary law but others were best described as being part of a 'wish list.'[114] Some key principles put forth in the Declaration included the 'right to a quality environment,' 'the responsibility to protect and improve the environment' and the 'rule against transboundary damage or pollution.'[115]

Secondly, an Environmental Action Plan was developed comprising 109 recommendations. Thirdly, a resolution was passed calling for institutional and monetary implementation by the UN.[116] Fourthly, and despite the blocking efforts at the conference by developed states, by the end of 1972 the UN had established UNEP, not as an agency such as the FAO but as a Programme that, given the breadth of environmental issues, could better serve as a coordinating body between the existing agencies.[117]

Prior to the 1972 Stockholm World Conference on the Human Environment, treaty-making focus when it came to the environment was primarily on resource exploitation. The Conference notably helped bring about ". . . international action previously limited by inadequate perception of environmental issues and by restrictive concepts of national sovereignty and international interest."[118] The Conference, through its highlighting the need for such, helped create new global environmental institutions such as UNEP, as well as a plethora of new conventions focused on biodiversity conservation, waste disposal and marine pollution.[119]

However, the meeting was unable to resolve the issue of how the environment and development currently interacted and how to resolve the inherent tensions. Further, while many states took measures to live up to their promises, overall follow-through on those commitments was desultory.[120] The Stockholm Declaration itself can be read as a compromise between developed and lesser developed states that also balanced the need to protect the environment with requisite allowance to continue development. Doing so, however, was an implicit acknowledgement of future environmental damage caused by both developed and developing states.[121]

Post Stockholm Conference

In 1982 UNEP held a ten-year post-Stockholm meeting that determined that while there was global support for the Stockholm principles, there had been little work done by states on properly integrating the environment into management practices.[122] However, despite the inability of states to properly embed environmental practices into their societies it can be observed that since the 1972 Summit there has been exponential growth in binding environmental legal instruments. It can also be seen that there was development of novel and unique to the area legal concepts and principles which blur the lines between the traditional demarcation of 'public' and 'private' law, and between international and national law.[123]

Following on from the Stockholm Conference, and in particular due to Principle 24 of the Stockholm Declaration which stimulated states to further develop environmental instruments, a plethora of international environmental treaties was created. While it would be 'drawing a long bow' to say that environmental protection is now a primary rationale of states, it can be observed that since the Stockholm Conference it is certainly a subsidiary purpose as demonstrated by the proliferation of multilateral environmental treaties, declarations and action plans subsequent to the conference.[124]

The treaties created in the 1970s targeted issues such as air, soil and water pollution associated with industrial production or poverty.[125] There were a number of key areas which saw instruments created including: transboundary to global pollution agreements; instruments that both conserved or preserved biodiversity; agreements to limit resource usage within states' boundaries, such as within wetlands and world heritage areas; and instruments that prevented direct emissions into waterways.[126]

In the mid-1980s states began to focus on the next generation of environmental problems, such as anthropogenic climate change; the depletion of stratospheric ozone; desertification; protection of biodiversity habitat; and the international trade in toxic chemicals and hazardous waste.[127] The 1980s and 1990s saw so many new multilateral environmental instruments created that some researchers have referred to 'treaty congestion' occurring, since there were so many.[128]

Problematically, such treaties tended to be relatively self-contained in terms of the environmental phenomenon covered and to have inherently weak compliance with its provisions. The focus on individual environmental areas however, led

to a 'mosaic' approach to compliance within separate environmental instruments rather than a coordinated approach to resolving global environmental problems.[129]

The Rio Conference

The World Commission on Environment and Development's (WCED) Brundtland Report in 1987 had recommended that the UN implement its conclusions into a Programme of Action on Sustainable Development. It also endorsed the creation of a conference to both review implementation and create follow-up arrangements to "set benchmarks and maintain human progress within the guidance of human needs and natural law." The UN General Assembly agreed with this approach and determined that the UN Conference on Environment and Development (UNCED) would meet in Rio de Janeiro in 1992, 20 years after the Stockholm meeting.[130]

The Rio Conference was attended by 30,000 delegates from 176 nations and 103 heads of state, numerous ENGOs and more than 6,000 journalists.[131] At Rio, developed states were alarmed at the potential of negotiations to compromise their access to raw materials for their economies. The US in particular was concerned about a potential debate about their overconsumption. At the same time these countries were committed to ensuring the adoption of the UNFCCC and the CBD.[132]

Lesser developed countries were concerned about making sure that any future development had the 'environmental space' to be carried out and closing the 'resource gap' with developed nations. These states decided that they would not sign any agreements unless their concerns over development were met and an analysis of the Rio Declaration shows that their position on the importance of (future) development was reflected in the document.[133]

What made the conference unique in a number of ways was first, the active participation of major companies such as the chemical company ICCI and foundations such as the Rockefeller foundation, and second, that ENGOs were given a prominent role in the preparatory meetings.[134]

The negotiating atmosphere has been described as hostile, as yet again LDCs saw environmental issues through the lens of how it would impact on their development while developed states perceived the issues as merely a technical challenge. Lesser developed states wanted to see the international economic system reformed as part of the issues under consideration which developed countries were unwilling to consider. Major fault-lines developed over issues such as the question of state sovereignty over natural resources; the economic costs of any programmes and who would pay; whether developed states would transfer technology and on what terms to LDCs; equitable burden-sharing; the role to be played by multilateral institutions; and how to tackle the issues of anthropogenic climate change, biological diversity, and deforestation.[135]

How to resolve the issues of anthropogenic climate change, biological diversity, and deforestation proved particularly fraught. Lesser developed states saw the developed states' proposals to resolve deforestation and biological loss as

infringements on their sovereignty. Malaysia in particular led a coalition to block any efforts to create a treaty on the issue of tropical forest protection. Confronting climate change was cast as an inequitable effort by developed states to require LDCs to pay for an issue that developed states had both caused and profited from.[136]

Conference outcomes

The Rio Conference did create new environmental treaties, set up new supranational structures and processes, and fostered the production of ESD national programmes via the following mechanisms:[137]

(1) The *Rio Declaration*, containing 27 non-binding legal principles asking states to protect the global environment and engage in economic development that was cognisant of the environment, human rights and the needs of the poor. The attempts to bridge the lesser developed countries' concerns over being allowed to continue economic development and developed states' worries about better environmental protection saw the inclusion of the 'right to develop,' poverty alleviation, 'precautionary principle,' the 'polluter pays principle' and the idea of 'common but differentiated responsibility.'
(2) *Agenda 21* or the *Rio Action Plan*, a comprehensive plan to bring about ESD. The Plan comprised a number of key global environmental concerns including anthropogenic climate change; ongoing deforestation and desertification; and the protection of the oceans. The document was not legally binding but built on the Stockholm Action Plan with its acknowledgment of the symbiotic relationship between economic, environmental, social, and development matters. The plan also gave scope to international organisations such as the World Bank to play a greater role in supporting and complementing state action. The document also included a call for the creation of a new treaty to combat desertification to be completed by 1994.
(3) The *United Nations Framework Convention on Climate Change* and the *Convention on Biological Diversity* that had been prepared by intergovernmental negotiation committees and opened for signature as a formal multilateral treaty. While both were adopted by consensus and remain the most tangible outcomes from the Conference, as we shall see in Chapters 3, 4, and 13, their implementation remains controversial to this day.
(4) A document containing 15 *Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forest* was adopted by the delegates and endorsed by the UN General Assembly. This non-legally binding statement was the best that could be achieved given the opposition by tropical timber-producing states in Latin America, Africa and South-East Asia who feared the introduction of a stronger treaty on the matter.[138]

(5) A number of institutions were also created. The Global Environmental Facility which was designed to channel monies to the two agreed-to conventions, for Agenda 21 programmes and the proposed Desertification convention; and the UN Commission of Sustainable Development to both monitor and assist states with their implementation of Agenda 21. However, the summit did not create any binding IEL instruments, merely framework agreements to be built upon at a later date.[139]

The ENGO forum, comprising over 8,000 representatives, at the conference also put forward a number of 'alternative' treaties, e.g. the *Draft Covenant on Environmental Conservation and Sustainable Use of Natural Resources* (1992). The instruments were not intended to replace the official texts, nor obviate the ENGOs' input into the official process. Rather they were meant to be a locus of interaction and an expression of their objectives and action plans. Intriguingly, the documents were left as 'open,' in that they could be added to by subsequent drafts to better enable institutional learning.[140]

Maurice Strong in his closing remarks described the conference as "the foundation of a new global partnership." Others criticised the event as merely "the world's largest cocktail party."[141] So what was achieved at the Conference?

After the 1992 Earth Summit we can observe a greater sophistication and coordination (usually around the lodestar of sustainable development) becoming encoded into the DNA of IEL and to have developed to a point where they can be considered to be regimes as envisaged by Krasner. New instruments such as the *Convention on Biological Diversity* and the UNFCCC put in place well-funded secretariats able to provided specialist advice to the states and other interested parties.[142] Further, as Sands notes, the conference can be seen as one step, albeit a key one, in the ongoing development of IEL.[143]

Maurice Strong argued that the Agenda 21 document, while limited by compromises, was still the most wide-ranging, if properly realised, programme devised by the global community.[144] Further, the Earth Summit did raise the ecological consciousness of both society and their leaders. States had to set forth their positions in an open forum and defend them. Global societies' awareness of environmental issues was enhanced as was the need for urgent action.[145] For many states and ENGOs however, the conference was not an unalloyed success, rather it was a missed opportunity. The more ambitious Earth Charter failed to get approval from the delegates; key provisions in the UNFCCC were diluted; the Agenda 21 document was watered down significantly; and the US refused to sign on to the CBD to protect its domestic pharmaceutical industry.[146]

However, the summit did not produce enough binding principles of IEL to protect the environment going forward. It did not produce any new institutions such as UNEP nor did it create a centralised authority to foster and enforce IEL in the future.[147] As with Stockholm, the Rio meeting failed to bridge the gaps between the developed and developing nations. In many ways, it highlighted the limitations of large-scale conferences as the mechanism to resolve these complex

problems. Rather the same old grievances emerged about consumption by the developed countries and population growth in southern states.[148]

Johannesburg summit

In 2002 the world gathered again in Johannesburg at the World Summit on Sustainable Development to attempt to put 'flesh on the bones' of sustainable development.[149] The Johannesburg conference was overshadowed by the events of 9/11. The focus shifted onto how to deal with poverty and the conditions of alienation and ennui that can cause terrorism to flourish. States argued that by targeting the persistent problem of poverty at the conference they could better deal with both terrorism and ESD.[150]

Conference outcomes

However, Johannesburg did not produce much in the ways of deliverables. The Johannesburg Declaration confirmed the commitments expressed at Stockholm and Rio as well as the Millennium Development goals.[151] The Political Declaration further affirmed that states were committed to creating "a humane, equitable and caring global society."[152]

It also created a new 'Plan of Implementation' that was only 54 pages long, despite the existence of Agenda 21, which was ten times longer. The commitments in the plan included to halve the number of people without access to basic sanitation and safe drinking water by 2015; increase energy efficiency and renewable energy use; significantly reduce global biodiversity loss by 2010, restore fisheries to their maximum sustainable yields by 2015; and aim to introduce the production of safer, more environmentally friendly chemicals that minimise adverse effects on humans by 2020.[153] The meeting also created Type II Partnerships which were voluntary transnational, multi-party agreements between states and non-state actors to better allow global civil society to shape ESD development.[154]

Problematically, the Johannesburg Declaration had no mandate to facilitate the development of IEL. The conference outcomes appear to have nudged the concept of ESD more towards the social and economic development axis and away from more stringent environmental considerations.[155]

The conference did draw attention to the ongoing problem of unsustainable consumption of resources.[156] However, the conference failed to establish financial commitments for the implementation of Agenda 21.[157] While concrete measures were ultimately not enacted, states did reaffirm their commitment to the concept of sustainable development.[158] The focus on poverty however, led to an over-reliance on meeting the developmental goals at the expense of environmental outcomes leading to merely an anaemic Declaration which did not articulate new environmental principles or policies.[159]

Rather it merely endorsed the importance of previously expounded-on principles such as the precautionary and polluter pays principle. The Declaration did contain provisions on the protection and management of natural resources, trade

and links with the environment, improving energy efficiency, and strengthening the previously mooted Commission on Sustainable Development (CSD) but little financial or logistical support was provided.[160]

Rio+20 meeting

In 2012 the Rio+20 meeting, *The Future We Want*, took place which was, to date, the largest UN negotiation carried out. More than 45,000 attendees were present along with 150 heads of state but key figures such as the US President Barack Obama, Angela Merkel of Germany and David Cameron of the UK did not attend, reflecting the low expectations that mega-conferences were expected to provide.[161]

Its three key areas to be considered were designing an institutional framework for ESD, what a 'green' economy would be like and poverty eradication.[162] The underlying narrative of the 'green economy' was treated with suspicion by LDCs who saw that approach as a form of 'neo-colonialism' or an attempt to mandate a 'one size fits all approach.' This led to the concept being downgraded to an 'important tool' that states could avail themselves of.[163]

The summit document, *The Future We Want*, had such a tortuous negotiation that the process was halted with still more than 100 paragraphs not agreed too. Negotiators were also unable to agree on a set of Sustainable Development Goals.[164]

Conference outcomes

This led to a Declaration that included language that merely 'encouraged' or 'recognises' or 'stresses' rather than any forceful language of intent. The Report endorsed the concept of the 'green economy' as a key tool but declined to define the term or provide a plan going forward as to how to best integrate the idea into individual economies. States could not decide if the concept was the preferred mechanism to achieve ESD or merely a potential framework to better foster ESD integration.[165] The agreed text was seen as weak and ineffective by the bulk of attendees, lacking clear commitments, timetables, monitoring mechanisms and sufficient financing and the meeting was declared by many to be a failure before it even began.[166]

While there have been a number of successes derived from these large mega-conferences, particularly at the Stockholm and Rio conferences, the 'law of diminishing returns' seems to be in effect with each passing conference iteration to the point that many critics are questioning the efficacy of such large-scale meetings. The focus needs to be on meeting already agreed-to measures such as Agenda 21 or the various agreed-to Conventions, in particular improving both monitoring and enforcement of these treaties.[167]

STRUCTURE OF THE BOOK

It is the inability of states, and to some extent, global societies, to grapple with these complex issues and come up with workable solutions to the myriad of global

environmental problems that underpins the project the authors have elected to undertake. We are interested in understanding the ambit of the problem, how the environmental issue was identified and the scope of the potential environmental damage done or potentially might occur. We seek to identify the various actors involved in each global environmental regime and how their interactions have framed the legal outcomes/instruments that have derived from those efforts. We wish to understand how the regime has evolved over time by examining the interplay between the various stakeholders and examining whether 'optimal' environmental outcomes have been achieved. Below is the structure we propose to adopt going forward:

Introduction: The introduction sets out the rationale and aims of this book and sets out the methodology to be adopted. It critically examines the environmental challenges and problems facing the global community and defines the term 'environment' and asks why we should seek to protect the environment. The introduction poses the question of why solving IEL problems has proven to be so difficult for states and details some of the issues IEL will have to tackle going forward.

The chapter also critically examines some of the key concepts & principles that have shaped IEL. It focuses on environmental concepts such as environmental exploitation, conservation and preservation, anthropocentrism and biocentrism, delineating and explaining them for the reader. It sets out the idea of state sovereignty over natural resources and how this has impacted on IEL development. The chapter further analyses three key principles to IEL: the precautionary principle, the polluter pays principle and the principle of common but differentiated responsibility and explains how they underpin certain IEL regimes. It also briefly traces the historical development and evolution of the field of IEL with a particular emphasis on environmental conferences that have taken place. Lastly it lays out the structure for the book.

Chapter 2, Stakeholders in international environmental regimes: This chapter outlines for the reader the key actors in the IEL space. It first scrutinises the outsized role played by states, both historically and currently, in international environmental regimes. The concept of a 'state' is defined for the reader and the meaning, strengths and limitations of state sovereignty in the environmental sphere are also examined. The chapter then assesses the increasingly important role played by non-state actors in such regimes. The term 'non-state actors' is defined then the chapter explores how they operate and their adopted techniques for achieving their stated goals.

It outlines in particular the role played by the United Nations and in particular the United Nations Environmental Programme; environmental non-governmental organisations (ENGOs); global bureaucratic international organisations; transnational corporations; and the vital role played by scientists within global environmental regimes.

Chapter 3, Antarctic regime and mineral exploitation: This chapter examines the development of the Antarctic regime with regard to desire by states to rationally exploit the mineral wealth of the region. It charts the development of the

Antarctic Treaty System in the 1950s; the race to allow mineral exploitation in the 1960s and 1970s leading to the attempt to institute the *Convention on the Regulation of Antarctic Mineral Resource Activities* (CRAMRA). It analyses the reasons why those stakeholder negotiations failed, leading to the ENGOs seizing their opportunity to have Antarctica declared a 'world park' through the mechanism of the Madrid Protocol 1991, thus locking away mineral resource exploitation in Antarctica for at least 50 years.

Chapter 4, Tropical timber: This chapter will first outline the role played by global forests, the issue and history of global deforestation, and the development of a global tropical timber logging industry and its impact. It outlines a history of forestry exploitation over time and tracks the stilted development of a global tropical timber regime. It further critically examines the development of the International Tropical Timber Agreement (1986, 2006) and the International Tropical Timber Organisation (ITTO) charged with protecting tropical timber. It scrutinises the reasons why member states are more interested in protecting the global timber industry than tropical forests and queries whether the current leaders and structure can provide the requisite leadership. It explores the attempts to exclude ENGOs and the ITTO's refusal to listen to its own scientists and outlines the key reasons why the ITTO has become a failed organisation unable to carry out its primary mission to foster Sustainable Forestry Management (SFM) in tropical forests. Lastly, it considers whether the regime can be redeemed and what steps would be required.

Chapter 5, Atmosphere ozone: This chapter focuses primarily on the issue of ozone depletion and the world's response to the discovery that chlorofluorocarbons were damaging the vital ozone layer. Many environmentalists consider this regime the pinnacle of what can be achieved if all stakeholders are willing to work together for the common ecological good. It summarises the science of ozone depletion, and the role played by Ozone Depleting Substances (ODSs) in modern society and details the discovery of a hole in the ozone layer above Antarctica. It then critically scrutinises the efforts made to quickly resolve the issue including the crafting of the 1985 *Vienna Convention for the Protection of the Ozone Layer*, and the attempts to successfully strengthen the instrument through the Montreal Protocol and subsequent amendments. In this case, the willingness of all key stakeholders, states, IOs, scientists, ENGOs and corporations were committed to building a robust effective regime that addresses the problem of global ozone depletion. Lastly, it asks why the regime was so successful and what lessons can be learned from its example for other global environmental regimes.

Chapter 6, Climate change I: This chapter focuses on what for most environmentalists is the most pressing environmental issue of our times. UN Secretary-General António Guterres has claimed that "Climate change is the defining issue of our time – and we are at a defining moment." It describes for the reader what anthropogenic climate change is, the history of the concept and the role played by scientists to draw global attention to this phenomenon. It then traces the trajectory of our international response to this issue, from mobilising under the auspices of the UN to creation of the *UN Framework Convention*

on Climate Change (UNFCCC), the development of more prescriptive climate requirements under the Kyoto Protocol, and the rejection of the Protocol by the United States and Australia in 2001 and 2002, respectively.

Chapter 7, Climate change II: This chapter picks up after the US and Australian rejection of the Kyoto Protocol to discuss the UN process through the 2008 Bali Action Plan, the 2009 Copenhagen Accord and the signing of the Paris Decision and Agreement in 2015 and its subsequent rejection by US President Trump in 2017. In addition, this chapter traces the meaningful development of a climate "governance ecosystem" outside the UNFCCC, in which ENGOs, TNCs and sub-national government measures developed in parallel with and supplemented the UN climate process. The chapter concludes with musings on the future of the climate governance ecosystem.

Chapter 8, Biological diversity: This chapter scrutinises the attempts by global communities to protect global biological diversity from ongoing human depredation. This chapter examines the concept of property rights in genetic resources and its impact. It critically analyses the ongoing biopiracy-versus-bioprospecting debate about access to genetic resources. It scrutinises the drafting of the CBD and its three protocols and examines the impact the various stakeholders had on the finished texts. It then outlines the key provisions of each instrument and analyses their various strengths and weaknesses of the agreements. In particular, it focuses on the CBD Conferences of the Parties (COPs) and the attempts to put in place biodiversity targets and analyses why the targets failed to be met. Lastly, it asks why, despite a number of important legal instruments drafted, global biodiversity loss is worsening and outlines some suggestions for improving the regime's performance if global biodiversity loss is to be abated.

Chapter 9, The oceans: This chapter focuses on the pre-eminent multilateral instrument of oceans governance, the United Nations *Convention on the Law of the Sea* 1982 and its two implementing agreements. The chapter places the regime established by the convention in context, with particular focus on the historical and political forces which shaped it. A number of forces had to converge for the time to be right to negotiate such a convention. Importantly, the decolonisation period had resulted in a great expansion in the number of states in the international community, many of which saw the existing law of the sea as one unduly favouring highly industrialised states (and their fishing fleets) at the expense of less-developed coastal states. The wedge with which the law of the sea could be reopened as an interrelated package of issues ripe for treaty negotiation was the prospect of deep seabed mining, which seemed at the close of the 1960s imminently technologically and economically feasible.

While seabed mining was the driver, the Convention settled many other important environmental questions such as the width of the territorial sea and breadth of the continental shelf, jurisdiction in the exclusive economic zone, fisheries cooperation in respect of highly migratory or boundary-straddling fish stocks, and the status of archipelagic states. The final text represented an intricate package balancing the rights and interests of various states: highly industrialised and least-developed states; coastal and distant-water fishing states; major maritime powers

and states bordering straits or composed of archipelagos; etc. Finally, the chapter examines the creation of a system of compulsory dispute settlement (albeit a complex one with numerous exceptions) and how it was established for the first time in relation to these rights and how they should be balanced.

Chapter 10, Whaling: This chapter examines the history of the various international whaling conventions culminating in the 1946 *International Convention on the Regulation of Whaling*. It scrutinises the creation, development and evolution within the International Whaling Commission. The chapter outlines the evolutionary process between various competing stakeholders (whalers, scientists, ENGOs) from exploitation of whales, to various failed attempts to impose conservationist mores, leading eventually to a more preservationist outcome – the imposition of a commercial whaling moratorium in 1982. It then considers efforts by pro-whaling forces led by Japan to roll back the moratorium and impose conservationist mores on the IWC. It also critically examines the future of the Commission now that Japan has elected to leave the organisation.

Chapter 11, Atlantic tuna: This chapter focuses on the attempts to create an effective global tuna regime and the reasons why the International Commission for the Conservation of Atlantic Tunas (ICCAT) has proven to be ineffective when it comes to protecting tuna stocks. It traces the evolution of global fisheries and consumption, the development of industrial fishing practices and the reasons why tuna has become so valuable in the Atlantic Ocean and adjacent seas. It explores the history of tuna exploitation in the area and then scrutinises the evolution and efficacy of ICCAT. It provides a history of the creation of ICCAT, its key stakeholders (with a particular emphasis on scientists and ENGOs) and critically analyses the convention it operates under as well as the structural deficiencies of the organisation.

In particular it focuses on the attempts by conservationist-minded states to use the *Convention on International Trade in Endangered Species* (CITES) to ban the international trade in Atlantic tuna and the aftershocks of the proposals at ICCAT. While tuna stocks have stabilised in the last decade, they are not growing substantially. The chapter concludes with a critical examination of the progress the ICCAT has achieved and asks what is the future of ICCAT.

Chapter 12, External actors: the Sea Shepherd Conservation Society: While most actors attempt to pursue their objectives with the regime there are a number which seek to effect change from without. This chapter critically examines the Sea Shepherd Conservation Society and their self-appointed 'outsiders' role to protect oceanic life and to influence the debate around 'scientific whaling' in the Antarctic despite being banned from the IWC. It provides a history of this radical environmental group; the role performed by its charismatic leader Paul Watson; its organisational structure; its strategies and tactics; its governing philosophy; and its attitudes to violence. It also provides a history of the various direct actions carried out by the group. The chapter scrutinises the organisation's confrontations with the Japanese whaling fleet and documents the legal travails the group and its leader have experienced. Lastly, it considers how effective the group has been as an external actor and asks whether their methods are counterproductive

to their stated goals to protect marine life and questions how might the group evolve now that the Japanese are no longer hunting whales in Antarctic waters.

Chapter 13, The future of international environmental law: The book concludes with a critical examination of the current situation of IEL and some future issues the discipline will have to grapple with. It asks whether the current system of sovereign states is suited to resolving 'wicked' global environmental problems and how the failure to do so has opened up the field to non-state actors to make an impact. It critically examines the various supranational options such as an International Court of the Environment and an International Environmental Organisation and judges their likelihood of being created. It considers whether more optimal outcomes could arise by focusing on a 'critical countries' approach to replace the cumbersome mega-conferences which recently have failed to deliver on their promise. It considers whether the future of IEL is no longer discrete regimes. The chapter highlights manifesting global environmental problems such as plastic pollution in the atmosphere, food chain and oceans; the depletion of phytoplankton; the implications of the opening up of the Arctic to travel and possible mineral exploitation; and the environmental displacement of humans due to ecological problems and considers what academics and decision-makers need to do to deal with these proliferating issues.

NOTES

1 Hayley Stevenson, *Global Environmental Politics: Problems, Policy and Practice*, London: Cambridge University Press, 2018, 1.
2 John S. Dryzek, *Rational Ecology: Environment and Political Economy*, New York: Basil Blackwell, 1987, 26–33.
3 Lorraine Elliott, *The Global Politics of the Environment*, London: Macmillan, 1998, 3.
4 Ibid.
5 Ulrich Beck, *Risk Society: Towards A New Modernity*, London: Sage, 1992, 40.
6 Pamela S. Chasek, *Earth Negotiations: Analyzing Thirty Years of Environmental Diplomacy*, New York: United Nations University Press, 2001, 1–2.
7 Ibid., 1.
8 Gabriella Kutting, *Environment, Society and International Relations: Towards More Effective International Agreements*, New York: Routledge, 2000, 1.
9 James Connolly and Graeme Smith, *Politics and the Environment: From Theory to Practice*, London: Routledge, 1999, 9.
10 Regina S. Axelrod, Stacey D. VanDeveer and Norman J. Vig, "Introduction: Governing the International Environment," in Regina S. Axelrod and Stacey VanDeveer (eds), *The Global Environment: Institutions, Law and Policy* (3rd ed.), Washington D.C.: CQ Press, 2011, 1.
11 Lorraine Elliott, *The Global Politics of the Environment*, London: Macmillan, 1998, 3.
12 Geoffrey Palmer, "New Ways to Make International Environmental Law," *American Journal of International Law* (1992), 86 (2), 259–83, 282.
13 International Environmental Agreements (IEA) Database Project, available at: https://iea.uoregon.edu/
14 Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment*, New York: Oxford University Press, 2009, 8–9.

15 Ibid.

16 According to the UNEP, the PPP is the proposition that "whoever is responsible for damage to the environment should bear the costs associated with it." UNEP, *Taking Action: An Environmental Guide for You and Your Community*, (1995), 13. The PPP arguably can be associated with the teachings of Arthur Pigou, who propounded the theory that hidden externalities create market distortions by redistributing their costs, and that identifying and internalising these costs would result in more efficient market outcomes. Julie Adshead, "The Application and Development of the Polluter-Pays Principle across Jurisdictions in Liability for Marine Oil Pollution: The Tales of the 'Erika' and the 'Prestige'," *J Environmental Law* (2018), 30 (3), 425, 429. The PPP therefore promotes efficiency by causing potential polluters to avoid harm in order to avoid costs or to pay those costs when economically reasonable, and promotes fairness by ensuring that the costs of harm are borne by the perpetrator and not by the general public. Roy E. Cordato, Ph.D., *The Polluter Pays Principle: A Proper Guide for Environmental Policy*, Washington, D.C.: The Institute for Research on the Economics of Taxation (IRET), 2001, available at: http://iret.org/pub/SCRE-6.PDF, 1. Although the PPP arguably has roots in historic Eastern and Western legal traditions, it has received explicit support in the modern IEL regime. Beginning in 1972 following the Stockholm Convention, the PPP was recommended by the OECD as the appropriate standard for ensuring the parties responsible for environmental harm bore the full costs of preventing and controlling environmentally deleterious activity for which they are responsible. Sonia E. Rolland, "Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change," *Laws* (2015), 4, 638–53; doi:10.3390/laws4030638 laws ISSN 2075-471X (2015); OECD, *The Polluter Pays Principle: OECD Analyses and Recommendations*, 1992, available at: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)81&docLanguage=En, 1. Since the 1990s the PPP has been recognised by some as a general principle of IEL, and is endorsed in Principle 16 of the 1992 Rio Declaration, which provides that "National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment." *The Rio Declaration on Environment and Development* (1992), available at: http://www.unesco.org/education/pdf/RIO_E.PDF; OECD, The Polluter-Pays Principle: OECD Analyses and Recommendations (1992), available at: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)81&docLanguage=En, 9, but see Kirsten Davies and Thomas Riddell, "The Warming War: How Climate Change is Creating Threats to International Peace and Security," *Geo. Envtl. L. Rev.* (2017), 30, 47 & 57 (arguing that the PPP has not achieved the status of general international law); Julie Adshead, "The Application and Development of the Polluter-Pays Principle," 425, 430, (doubting that PPP is part of customary IEL).

17 The precautionary principle was first enunciated in the 1976 German environmental policy *Vorsorgeprinzip* which noted: "Environmental policy is not fully accomplished by warding off imminent hazards and the elimination of damage, which has occurred. Precautionary environmental policy requires furthermore that natural resources are protected and demands on them are made with care." Gilbert M. Bankobeza, *Ozone Protection: The International Legal Regime*, Utrecht: Eleven International Publishing, 2005, 33. The IPCC Working Group on Mitigation defined the concept as: "In

decision making, the precautionary principle is considered when possibly dangerous, irreversible, or catastrophic effects are identified, but scientific evaluation of the potential damage is not sufficiently certain, and actions to prevent these potential adverse effects need to be justified. The precautionary principle implies an emphasis on the need to prevent such adverse effects. It thus acknowledges societal risk preferences, which are, plausibly, that humankind would rather be risk averse than risk neutral or risk seeking." Available at: http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=437. It was first adopted in the *Vienna Convention for the Protection of the Ozone Layer* in 1985, Bankobeza, *Ozone Protection: The International Legal Regime*, 33. Hence logically following the precautionary principle means uncertainty cannot be an argument for delaying action. The UNFCCC explicitly acknowledges this in Article 3.3 where parties should "take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures." Available at: https://unfccc.int/resource/docs/convkp/conveng.pdf.

It was then enshrined in the *Rio Declaration of the Environment and Development* (Principle 7). Pursuing this principle, mitigation and adaptation measures are to be implemented before full information is available and uncertainties regarding the scope and timing of the particular activity are resolved. Problematically to date, the question of timing and extent of mitigation and/or adaptation policies remains unquantified by the precautionary principle. Available at: http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=437. While some, such as Stone, have questioned whether it is indeed a 'principle' it has been accepted at the very least as a 'guide to negotiations' and has been incorporated into domestic law in many jurisdictions. Phillip Stalley, "Norms from the Periphery: Tracing the Rise of the Common but Differentiated Principle in International Environmental Politics," *Cambridge Review of International Affairs*, (2018), 31 (6), 1–21, 4.

18 According to a legal brief created by the Centre for International Sustainable Development Law (CISDL) for the 2002 UN World Summit on Sustainable Development, the "principle of 'common but differentiated responsibility' [CBDR] evolved from the notion of the 'common heritage of mankind' and is a manifestation of general principles of equity in international law. The principle recognizes historical differences in the contributions of developed and developing States to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems." Available at: http://cisdl.org/public/docs/news/brief_common.pdf. Thus, CBDR recognises that, while all countries have a common role and responsibility to participate in addressing our common environmental problems, those roles and responsibilities need not be identical. Legitimate variation may reflect two factors: differences in respective responsibility among countries for contributing to the problem in question, and differences in respective capacity to contribute to the solution. This principle is explicitly recognised in the UN Rio Declaration, which states: "In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command." Available at: http://www.unesco.org/education/pdf/RIO_E.PDF. For example, with respect to climate change in particular, CBDR is explicitly recognised in the

UNFCCC, which predicates obligations "on the basis of equality and in accordance with their common but differentiated responsibilities and respective capabilities." See: http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf, at Preamble, Par. 7.

19 The greatest challenge in fashioning IEL governance has not been evaluating the science of environmental impact, but rather defining the shape of our collective responses. Responses to environmental issues almost invariably entail modifying human behaviour, often in ways that affect current economic systems, and these modifications will differentially allocate benefits and burdens. The perceived legitimacy of this allocation will be influenced by both intragenerational and intergenerational equity. Developing nations' concerns were highlighted in General Assembly Resolution A/RES/2849, preceding the Stockholm Conference, which strongly pronounced that global environmental problems were "being caused primarily by some highly developed countries, as a consequence of their own high level of improperly planned and inadequately coordinated industrial activities, and that, therefore, the main responsibility for the financing of corrective measures falls upon those countries." See: https://documents-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/328/65/IMG/NR032865.pdf?OpenElement. This Resolution articulated the parameters for one of the key challenges in IEL: arriving at collective solutions that account for past responsibility, present capacity and need, and sovereignty. Collectively, this can be referred to as "intra-generational equity" – an approach that strikes the right equitable balance within the present global generation. Equally important, however, is "inter-generational equity," ensuring that the actions we take today do not inequably burden or constrain the options of future generations. The Brundtland Commission's 1987 Report, *Our Common Future*, established the foundational definition of "sustainable development" which underpins an approach to intra- and inter-generational equity: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Available at: http://www.un-documents.net/our-common-future.pdf. While intra-generational equity is considered through a variety of IEL principles, such as CBDR, Professor Edith Brown Weiss provides a conceptual framework for intergenerational equity by adopting "the perspective of a generation which is placed somewhere on the spectrum of time, but does not know in advance where. Such a generation would want to receive the planet in at least as good condition as every other generation receives it and to be able to use it for its own benefit. This requires that each generation pass on the planet in no worse condition than received and have equitable access to its resources." Edith Brown Weiss, "Climate Change, Intergenerational Equity and International Law," *Vt. J. Envtl. L.* (Winter, 2007–2008), 9, 615, at 622–3. Brown Weiss further identifies "three principles of intergenerational equity: options, quality, and access. The first, comparable options, means conserving the diversity of the natural resource base so that future generations can use it to satisfy their own values. The second principle, comparable quality, means ensuring the quality of the environment on balance is comparable between generations. The third one, comparable access, means non-discriminatory access among generations to the Earth and its resources." Brown Weiss, "Climate Change, Intergenerational Equity and International Law," 616. The equitable application of this principle therefore requires balance among the interests of different generations, neither consuming or destroying resources in the present generation in a manner that would foreclose future rights, nor excessively burdening the present generation in a way that would privilege generations of the

future. Brown Weiss, "Climate Change, Intergenerational Equity and International Law," 616–7.

20 A distinct IEL concept, the Common Concern of Humankind (CCH) applies where the common interest is threatened, including by activities occurring within sovereign states. Chelsea Bowling, Elizabeth Pierson and Stephanie Ratté, "United Nations Division for Ocean Affairs and the Law of the Sea, The Common Concern of Humankind: A Potential Framework for a New International Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biological Diversity in the High Seas." Available at: https://www.un.org/depts/los/biodiversity/prepcom_files/BowlingPiersonandRatte_Common_Concern.pdf, 3.

CCH issues generally affect the whole world, rather than just a small number of nations, and addressing them requires action by the global community. Shinya Murase, Special Rapporteur, International Law Commission, Sixty-seventh session Geneva, 4 May–5 June and 6 July–7 August 2015, "Second Report on the Protection of the Atmosphere, 2 March 2015." Available at: http://legal.un.org/docs/?symbol=A/CN.4/681, ("common concern" appropriate for "problems of global dimension") 22; Nadia Sanchez Castillo-Winkels, 'Common Concern of Humankind' Should Return to the Work of the International Law Commission on the Atmosphere," *Geo. Envtl. L. Rev.* (2016), 29, 131, 135. While again, the principle of CCH has deep historic antecedents, it emerged with particular prominence in the 1987 UN Brundtland Report, Part I of which is titled "Common Concerns," and which extensively propounds the need for international action on common environmental problems. Bowling, Pierson and Ratté, "United Nations Division for Ocean Affairs and the Law of the Sea." Available at: https://www.un.org/depts/los/biodiversity/prepcom_files/BowlingPiersonandRatte_Common_Concern.pdf, 4; see *Report of the World Commission on Environment and Development: Our Common Future*, available at: http://www.un-documents.net/wced-ocf.htm. The preamble to the 1992 *Convention on Biological Diversity* affirms "that the conservation of biological diversity is a common concern of humankind," and the preamble to the 1992 UNFCCC acknowledges "that change in the Earth's climate and its adverse effects are a common concern of humankind." *Convention on Biological Diversity*, available at: https://www.cbd.int/doc/legal/cbd-en.pdf, 1; UNFCCC, available at: https://unfccc.int/resource/docs/convkp/conveng.pdf, 1. According to the Special Rapporteur of the UN International Law Commission, "'[c]ommon concern' implies, and provides the basis for, cooperation of all States on matters of a similar importance to all nations." Shinya Murase, Special Rapporteur, International Law Commission, at 17. CCH has therefore been described as a principle of global solidarity in the face of a common challenge, in which the "raison d'être of common concern is the collective responsibility to act." Bowling, Pierson and Ratté, "The Common Concern of Humankind," 3.

21 The "no-harm" principle is recognised customary international law imposing a duty on states to avoid harm to other states. Legal Response Initiative, 'No-harm rule' and climate change, (24 July 2012), available at: https://legalresponse.org/wp-content/uploads/2013/07/BP42E-Briefing-Paper-No-Harm-Rule-and-Climate-Change-24-July-2012.pdf, 1. Under the Harmon doctrine developed in the late nineteenth century, historically states, because of their absolute territorial sovereignty, were free to allow environmental activities within their borders, regardless of the transboundary effect of those actions on other states. Ulrich Beyerlin and Thilo Marauhn, *International Environmental Law*, Oxford: Hart Publishing, 2011, 39. With respect to IEL, the Principle was articulated in one of the foundational cases,

Trail Smelter (United States, Canada), (*Reports of International Arbitral Awards Recuil Des Sentences Arbitrales* (16 April 1938 and 11 March 1941), available at: http://legal.un.org/riaa/cases/vol_III/1905-1982.pdf, at 1965,) in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, which provides, "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction," *Rio Declaration on Environment and Development* (1992), available at: http://www.unesco.org/education/pdf/RIO_E.PDF. Thus, the Principle is broader than prohibiting harm to other states; it also prohibits harm to areas beyond national jurisdiction including common areas such as the high seas and outer space. Legal Response Initiative, "'No-harm rule' and climate change," (24 July 2012), https://legalresponse.org/wp-content/uploads/2013/07/BP42E-Briefing-Paper-No-Harm-Rule-and-Climate-Change-24-July-2012.pdf, 2; Ulrich Beyerlin and Thilo Marauhn, *International Environmental Law*, Oxford: Hart Publishing, 2011, 39.

22 Under IEL, it's relatively straightforward what legal principles should apply when one state's actions directly affect another state's sovereign territory. However, because the ecosystem's needs and services do not comport with national boundaries, it's essential for IEL to have a conceptual basis for addressing specific areas beyond national jurisdiction, such as the high seabed, Antarctica and space. See Waseem Ahmad Qureshi, "Protecting the Common Heritage of Mankind Beyond National Jurisdiction," *Ariz. J. Int'l & Comp. Law* (2019), 36, 79 & 83. In addition, IEL must have a conceptual basis for addressing actions taken even within sovereign territory that are, nonetheless, of international concern. For the first of these circumstances the international law principle of Common Heritage of Humankind (CHH) stipulates that: i) resources within an area of CHH must be utilised for the benefits of all of humankind; and ii) no state may unilaterally exploit these resources. Rather, CHH resources must be jointly managed by the international community for the benefit of all humankind. Qureshi, "Protecting the Common Heritage of Mankind." This includes for the benefit of states without the capacity to participate in exploiting the resources. CHH differs, therefore, from common property principles applicable to the high seas, where exclusive ownership of resources may be established through capture. John E. Noyes, "The Common Heritage of Mankind: Past, Present, and Future", *Denver. J. Int'l L. & Policy* (Winter, 2011 / Spring, 2012), 40, 447. While the principle of CHH arguably derives from ancient Roman and religious law, its modern iteration can be traced to post-colonial concerns that areas beyond national jurisdiction would be exploited by developed nations to the detriment of developing states. Noyes, "The Common Heritage of Mankind," 457–8. Qureshi, "Protecting the Common Heritage of Mankind," 83; Noyes, "The Common Heritage of Mankind," 458–60. The CHH principle has been incorporated directly into relevant conventions, and, arguably, has attained the status of customary international law. Noyes, "The Common Heritage of Mankind," 454–5. According to Dr. Waseem Ahmad Qureshi of the Pakistani Supreme Court, the essential elements of CHH include prohibition of acquiring or gaining control of the area or resources in the area of CHH, since these are the property of the whole of humanity; that the area of CHH must be utilised for peaceful purposes only; that the conservation of the natural environment in the area of CHH must be ensured

during the extraction of resources; that the benefits of the resources in the area of CHH must be shared by states in an equitable manner, including an equitable share for developing and poor states; and establishment of a common regime for managing and distributing the common resources in the area of CCH for the collective benefits of humankind. Qureshi, "Protecting the Common Heritage of Mankind," 84–5, see also Noyes, "The Common Heritage of Mankind," 450–51.

23 Regina S. Axelrod, Stacey D. VanDeveer and Norman J. Vig, "Introduction: Governing the International Environment," in Axelrod and VanDeveer (eds), *The Global Environment: Institutions, Law and Policy* (3rd ed.), Washington D.C.: CQ Press, 2011, 2–3.

24 David Hunter, James Salzman and Durwood Zaelke, *International Environmental Law and Policy* (2nd ed.), New York: Foundation Press, 2002, vi.

25 Stephen Krasner originally defined regimes as: "sets of implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations." See the methodology section for a more detailed analysis of the term and how it applies ot environmental matters.

26 Phillipe Sands and Jacqueline Peel *et al.*, *Principles of International Environmental Law*, Cambridge: Cambridge University Press, 2018, 5.

27 Normative behaviour or norms, here defined as: "shared expectations about appropriate behaviour held by a collectivity of actors . . .," have been central to the study of domestic politics for over two millennia. J. T. Checkel, "Norms, Institutions and National Identity in Contemporary Europe," *International Studies Quarterly* (1999), 43, 83.

28 Thomas Gehring, "International Environmental Regimes: Dynamic Sectoral Legal Systems," *Yearbook of International Environmental Law*, vol. 1, (1990), 34–56, 56.

29 S. Jakobsen, "International Relations and Global Environmental Change: Review of the Burgeoning Literature on the Environment," *Cooperation and Conflict* (1999), 34 (2), 207.

30 David N. Pellow, Adam Weinberg and Allan Schnaiberg, "The Environmental Justice Movement: Equitable Allocation of Costs and Benefits of Environmental Management Outcomes," *Social Justice Research* (December 2011), 14 (4), 423–39, 427.

31 R. K. Mitchell, B. R. Agle and D. J. Wood "Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts," *Academy of Management Review* (1997), 22 (4), 853–88, 854.

32 Ibid.

33 Adapted from Judith A. Layzer, *The Environmental Case: Translating Values into Policy* (3rd ed.) Washington D.C.: Sage Publishing, 2012, 9–16.

34 Birnie, Boyle and Redgwell, *International Law and the Environment*, 4–5.

35 Phillipe Sands and Jacqueline Peel *et al.*, *Principles of International Environmental Law*, 14.

36 Ibid.

37 See: shodhganga.inflibnet.ac.in/bitstream/10603/5081/8/08_chapter%201.pdf

38 https://www.merriam-webster.com/dictionary/physical%20environment

39 https://en.oxforddictionaries.com/definition/environment

40 *Declaration of the United Nations Conference on the Human Environment* (Stockholm Declaration), 1972, available at: www.un-documents.net/unchedec.htm

41 Claire Brighton, "Unlikely Bedfellows: The Evolution of the Relationship between Environmental Protection and Development," *International and Comparative Law Quarterly* (January 2017), 66, 209–33, 212.

42 James Connolly and Graeme Smith, *Politics and the Environment: From Theory to Practice*, London: Routledge, 1999, 7–8.
43 V. Prabhu, "Rationale of Environmental Ethics," *Journal of Contemporary Tends in Business and Information Technology* (June 2017), 2 (2), 30–36, 30.
44 Birnie, Boyle and Redgwell, *International Law and the Environment*, 7.
45 Katherine V. Kortenkamp and Colleen F. Moore, "Ecocentrism and Anthropocentrism: Moral Reasoning about Ecological Commons Dilemmas," *Journal of Environmental Psychology* (2001), 21, 1–12, 2.
46 Tapan Kumar De and Prasenjit Nanda, "Rehabilitation of Anthropocentrism: A Critical Approach," *Philosophy and Life-World* (2015), 17, 44–60, 45–6.
47 Robyn Eckersley, "Ecocentrism Explained and Defended," in John S. Dryzek and David Schlosberg (eds), *Debating the Earth: The Environmental Politics Reader*, Oxford: Oxford University Press, 1998, 374–97, 379–83.
48 Tapan Kumar De and Prasenjit Nanda, "Rehabilitation of Anthropocentrism," 49–50.
49 *Declaration of the United Nations Conference on the Human Environment* (Stockholm Declaration), 1972, available at: www.un-documents.net/unchedec.htm.
50 www.unesco.org/education/pdf/RIO_E.PDF
51 Birnie, Boyle and Redgwell, *International Law and the Environment*, 7.
52 Kortenkamp and Moore, "Ecocentrism and Anthropocentrism," 2.
53 De and Nanda, "Rehabilitation of Anthropocentrism," 53.
54 Anthony Vincent Silvaggio, "The Forest Defense Movement, 1980–2005: Resistance at the Point of Extraction, Consumption, and Production." (PhD Dissertation, University of Oregon, Eugene, OR, 2005) 28; C. Manes, *Green Rage: Radical Environmentalism and the Unmaking of Civilization* Boston, MA: Little, Brown and Co., 1990.
55 Kortenkamp and Moore, "Ecocentrism and Anthropocentrism: moral reasoning about ecological commons dilemmas," 2.
56 *https://www.cbd.int/doc/legal/cbd-en.pdf*
57 De and Nanda, "Rehabilitation of Anthropocentrism," 54.
58 The antecedents of the term 'norm' derive from sociological literature and are defined in the sociological domain as "rules and expectations by which a society guides the behaviour of its members." Such norms were generally considered to be of two types, either prescriptive, telling us what we can do, or proscriptive, telling us what we cannot. Moshe Hirsch, "Compliance with International Norms in the Age of Globalization: Two Theoretical Perspectives," in Eyal Benvenisti and Moshe Hirsch (eds), *The Impact of International Law on International Cooperation*, Cambridge: Cambridge University Press, 2004, 171, f. 21.
59 For an example of conflation, see Birnie and Boyle, who define conservation in preservationist terms as: ". . . to keep in safety or from harm, decay or loss; to preserve in being; to keep alive." Patricia W. Birnie and Alan E. Boyle, *International Law and the Environment* (2nd ed.), Oxford: Oxford University Press, 2002, 550. While conservationist rhetoric about the need to save the environment is standard, it would be a brave state or company that would argue in this day and age for reckless exploitation of a resource to occur. Rather the position is put that global resources need careful conserving or "wise use" to ensure there are resources available for future generations of humans.
60 Alan Wertheimer, *Exploitation*, Princeton, NJ: Princeton University Press, 1996, 5.
61 Ibid., 10, 5.
62 Ibid., 10–12.

63 Paul W. Taylor, *Respect for Nature: A Theory of Environmental Ethics*, Princeton, NJ: Princeton University Press, 1986, p. 95.
64 Warwick Fox, *Toward a Transpersonal Ecology: Developing New Foundations for Environmentalism* (1st ed.), Boston, MA: Shambhala, 1990, 152–3.
65 Taylor, *Respect for Nature: A Theory of Environmental Ethics*, 95.
66 Robyn Eckersley, "Politics," in Dale Jamieson (ed.), *A Companion to Environmental Philosophy*, Oxford: Blackwell Publishing, 2003, 321. For research on the link between nature, feminism and indigenous peoples, see Val Plumwood, *Feminism and the Mastery of Nature*, London: Routledge, 1990.
67 Robin Attfield, "Christianity," in Dale Jamieson, *A Companion to Environmental Philosophy*, 105.
68 Peter Brown, *Ethics, Economics and International Relations: Transparent Sovereignty in the Commonwealth of Life*, Edinburgh: Edinburgh University Press, 2000, 44.
69 Taylor, *Respect for Nature: A Theory of Environmental Ethics*, 51–2.
70 S. Sucharitikul, "State Responsibility and International Liability under International Law," *Loyola of Los Angeles International and Comparative Law Journal* (1996), 18 (3), 837.
71 https://www.ipcc.ch/apps/njlite/srex/njlite_download.php?id=6471
72 A. Kellow, "Norms, Interests and Environmental NGOs: The Limits of Cosmopolitanism," *Environmental Politics* (2009), 9 (9), 17.
73 Neil Carter, *The Politics of the Environment: Ideas, Activism, Policy*, New York: Cambridge University Press, 2001, 27.
74 Mark J. Smith, *Ecologism: Towards Ecological Citizenship, Concepts in the Social Sciences*, Buckingham: Open University Press, 1998, 12–13.
75 Robyn Eckersley, *Environmentalism and Political Theory: Toward an Ecocentric Approach*, London: UCL Press, 1992, 35.
76 Peter Hay, *Main Currents in Western Environmental Thought*, Sydney: UNSW Press, 2002, 33.
77 Eckersley, *Environmentalism and Political Theory*, 36.
78 This approach ". . . mirrors Judeo-Christian traditions, especially in its anthropocentric outlook. Nature and natural entities are not sacred, have no end or justification in and of themselves, and exist solely as means in terms of which human ends might be fulfilled." Max Oelschlaeger, *Idea of Wilderness: From Prehistory to the Age of Ecology* (new ed.) New Haven, CT: Yale University Press, 1993, 287.
79 Taylor, *Respect for Nature: A Theory of Environmental Ethics*, 298.
80 Smith, *Ecologism: Towards Ecological Citizenship, Concepts in the Social Sciences*, 11.
81 Hay, *Main Currents in Western Environmental Thought*, 31.
82 Eckersley, *Environmentalism and Political Theory*, 36.
83 John Passmore, *Man's Responsibility for Nature: Ecological Problems and Western Traditions*, London: Duckworth, 1980, 101.
84 R.C. Paehlke, "Environmental Values and Public Policy," in N. J. Vig and M. E. Kraft (eds), *Environmental Policy in the 1990s: Reform or Reaction*, Washington, D.C.: Congressional Quarterly Inc., 1997, 78.
85 George Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," in Max Oelschlaeger (ed.), *The Wilderness Condition: Essays on Environment and Civilization*, San Francisco: Sierra Club books, 1992, 102.
86 W. Godfrey-Smith, "The Rights of Non-Humans and Intrinsic Values," in D. S. Mannison, M. A. McRobbie and R. Routley (eds), *Environmental Philosophy*, Canberra: Department of Philosophy, Research School of Social Science, Australian National University, 1980, 31.

87 Carter, *The Politics of the Environment: Ideas, Activism, Policy*, 27.
88 Hay, *Main Currents in Western Environmental Thought*, 33.
89 The most politically influential arguments for preserving biodiversity appeal to their potential instrumental value to humans, for example, medicines, as opposed to an argument based on the intrinsic value of nature. Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," 96. Therefore, humanity ". . . should preserve as wide as possible a range of genetic diversity because there is no way of anticipating what our *future* needs might happen to be," Godfrey-Smith, "The Rights of Non-Humans and Intrinsic Values," 31. For many environmentalists however, this instrumental approach to preservation is morally bankrupt, because ". . . to categorize and quantify the benefits of what they take . . . is a flawed approach to . . . preservation. It is, in effect, to play the game of your opponent by trying to bolster your side by including on your team bigger, better, and more players (or, in this case, more human benefits arguments), while the question of whether or not the correct game is being played in the first place goes unanswered and unasked," M. P. Nelson, "An Amalgamation of Wilderness Preservation Arguments," in A. Light and H. Rolston III (eds), *Environmental Ethics: An Anthology*, Malden, MA: Blackwell Publishing, 2003, 432.
90 Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," 97. Nelson further expands on those categories and argues that preservation can be argued and (possibly) justified on the following instrumental grounds: its use as a classroom; on ontogeny grounds (we are what we are because of our environment); cultural diversity (such diversity of cultures depends on a variety of ecosystems); national character (designated wilderness areas symbolically enshrine national character); such areas allow self-realisation as per the tenets of deep ecology; disease sequestration (viruses in a damaged ecosystem are under extreme selective pressure, and when humans enter such a region they bring out potentially deadly epidemics); salvation of freedom (potential sanctuaries from oppressive governments); and that it is 'mythopoetic' (serves as a perfect location for viewing the history of myth) amongst other arguments. Nelson, "An Amalgamation of Wilderness Preservation Arguments," 423–8. Sessions further proposes that preservation as an argument can be justified in terms of 'the minding animals argument' whereby humanity needs wild animals in a pristine ecosystem so humans can prosper because human intelligence is "bound to the presence of animals." Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," 98.
91 Godfrey-Smith, "The Value of Wilderness," *Environmental Ethics* (1979), 1, 310; B. G. Norton, "Conservation and Preservation: A Conceptual Rehabilitation," *Environmental Ethics* (1986), 8, 196.
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Chapter 2

Stakeholders in international environmental regimes

INTRODUCTION

Before examining the creation, evolution and the interplay of stakeholders within global environmental regimes, there is a need to not only identify the key actors involved but also understand their history, philosophies, strategies they have adopted and their scope. This chapter critically examines the principle stakeholders involved in global environmental negotiations. While there are potentially hundreds of thousands of stakeholders involved in regime negotiations we have chosen to critically examine the main categories of actors: the state and non-state actors.[1]

The chapter first examines the outsized role played by states, both historically and currently, in international environmental regimes. Given they are the entities that enter into legal environmental agreements their role is critical to an understanding of regime change. The section starts with defining the 'state', then critically explores the meaning, strengths and limitations of state sovereignty. It then demonstrates the role played by states in international law, and the capabilities and impacts of states with a particular emphasis on international environmental law.

Second, we examine the increasingly important role played by non-state actors in such deliberations. The section starts with a definition of this grouping and then explores how they operate and their adopted techniques for achieving their goals. We note that it is a 'category error' to treat all non-state actors as a monolithic bloc, given how disparate they are with their different histories and agendas. Consequently, we have chosen to scrutinise the key non-state actors, some of which are given short shrift in key textbooks, in their own right and in detail.

The important role played by international organisations is also scrutinised. The term is defined and a brief history of IOs is provided. We outline they key conditions an entity needs to meet to be considered a modern IO and how they can be classified, and we highlight the limitations IOs operate under. The function of scientists within environmental regimes is also put under a microscope. Scientists often act as 'canaries in the coalmine' to alert the world as to the nature

and threat of a given environmental problem. We consider their function as an 'epistemic community' bound together by shared knowledge and highlight the factors that shape the influence scientists have on the policy debate and their attempts to exert political influence on the process.

The next non-state set of actors to be examined are advocacy organisations such as non-governmental organisations (NGOs) and the subset of environmental non-governmental organisations (ENGOs) which see their role as advocating on behalf of the global environment. A definition and history of the term NGO is provided along with an analysis of the activities they undertake and the factors that limit their effectiveness as advocates. This section focuses on the differing types and structures of ENGOs currently extant, how they operate at both the domestic and international level, and a brief history of the key ENGOs is provided. The role and action they undertake in influencing regime negotiation is made explicit and the modern interaction between ENGOs and TNCs is set out.

Lastly, we critically scrutinise a key actor which is rarely given credence in analyses of regime development: that of the transnational corporation (TNC). The designation is defined and the scale and scope of their activities, particularly with regard to their outsized environment impact. We note how such entities test state sovereignty and how they exert influence both globally and within specific environmental regimes. We trace how they seek to shape IEL but also how multilateral environmental agreements impose obligations and impact on their activities.

THE ROLE OF THE STATE

One cannot examine stakeholder interaction without considering the role of states, because states enter into the bargaining that produce global environmental regimes.[2] States also are important to this negotiation process because individual states can domestically alter the behaviour of their citizens through the twin means of coercion or persuasion, with repercussions for the global sphere.[3]

Since the end of World War II, ". . . the international world has been formally levelled into one and only one constitutional category: sovereign states."[4] Further, according to the UN Charter all states are sovereign (having the ability to self-govern) and states cannot violate the sovereignty of another state.[5]

Traditionally the study and practice of international law has focused on the role played by these sovereign states. As explained by Professor William Nordhaus of Yale:

> The 1648 Treaty of Westphalia established the central principles of modern international law. First, nations are sovereign and have the fundamental right of political self-determination; second, states are legally equal; and third, states are free to manage their internal affairs without the intervention of other states. The current Westphalian system requires that countries consent to joining international agreements, and all agreements are therefore essentially voluntary.
>
> (Treaty of Vienna 1969, article 34)[6]

The idea of state sovereignty and the equality of states has three corollaries embedded in it:

> (1) a jurisdiction, prima facie exclusive, over a territory and a permanent population living there; (2) a duty of non-intervention in the area of exclusive jurisdiction of other states; and (3) the dependence of obligations arising from customary law and treaties on the consent of the obligor.[7]

States thus have significant claims to political power given their historical claims to exclusive rules over both its territory and populace, expressed as the principle of state sovereignty. States maintain legal frameworks, they build political, economic and social interactions, they deploy resources provided by bureaucracies and paid for by the tax system, all backed by coercive authority and power.[8] As Eckersley notes, given the scale of the activities undertaken by states, for better or worse, has a major impact on global environmental activities.[9]

Thus, IEL operates within a de-centralised system that situates states at the heart of it. States are the authors of IEL, in that treaties are typically ratified by states; customary international environmental law is based on state practice; and *opinio juris* comes from official statements and principles of IEL often derive from state-based environmental law.[10] National regulation of the domestic environment has developed over decades to put in place environmental management practices (of varying quality).[11]

States are also 'addressees' of IEL in that they have different obligations imposed on them under IEL: an obligation to refrain; obligations to prevent and obligations to preserve. States may be prevented from carrying out transboundary harm to neighbouring states, e.g. dumping hazardous waste on land or sea; states are also tasked to prevent environmentally harmful activities within the domestic sphere by means such as creating licencing systems or enforcement of criminal penalties for anti-environmental behaviour. Lastly, states can be required to preserve part of the environment. This is not just in terms of preventing environmental damage but may impose positive obligations on the state to improve a particular regime.[12]

Given their scale and capacity for impact there are few social institutions that can match the legitimacy and capabilities of states to deal with global environmental crises. States, particularly when acting collectively, have the capability to deal with global environmental issues in both a timely and effective manner.[13]. As we shall see, particular states have, in certain circumstances, been staunch proponents of global environmental protection. For example, the support of both the United States of America and Australia was critical to the strengthening of the regime to ban commercial whaling. However, states have also been active exploiters of resources leading to global environmental degradation. As Eckersley describes it, "there is no shortage of detailed historical accounts of the various ways in which particular states (whether communist or capitalist, developed or undeveloped) have acted as resource plunderers . . .", so comprehension of their role as both protector and despoiler is critical to an understanding of how global environmental regimes evolve.[14]

It is often observed that states are too large to deal with local ecological problems and too small to deal with global issues; the state nonetheless prevails as the key unit of global decision-making. As political theorist Hedley Bull points out, the state is "here to stay" and thus any examination of IEL negotiations must grapple with the role played by states.[15]

THE ROLE OF NON-STATE ACTORS

Continuing global ecological interdependence has highlighted the deficiencies of states that are bound primarily to their national sovereign borders.[16] This allows analysts to include an analysis of the roles played by non-state actors and their impact on a regime's structure and evolution. The ideas and norms that shape international environmental regimes usually arise from globalising networks of concerned citizens, leading NGOs and/or scientists, arguing for models of environmental change from one forum or bureaucracy to another, until they capture a powerful bureaucracy, state or coalition of states to champion their model.

As noted previously, historically, the organs of international governance sought to resolve global environmental problems primarily through voluntary agreements among sovereign states, with mixed results.[17] More recently, civil society organisations have assumed an important role in global environmental governance, not just by participating in formal IEL structures, but increasingly through extra-governmental private law.[18] While there are strong arguments for strengthening public IEL,[19] the advent of robust private law efforts by civil society organisations presents unique opportunities for addressing international environmental issues.

'Non-state actors' as an appellation has a broad remit. It can include not only global civil society and social movements, but also economic actors (corporations and trade unions) and sub-state actors (municipal actors such as cities).[20] Defining these actors as *non-state* means that any analysis of them requires a critical examination of their binary opposition: the state. This then reifies the role of the state as not only a key actor, but indispensable: the 'sun' around which all other planets (non-state actors) orbit.[21]

Researchers studying global issues are however, increasingly discounting traditional statist frameworks, instead regarding states as one among a plethora of actors on the global scene.[22] Karen Litfin points out that "the knowledge-based nature of environmental problems has opened up the playing field to a profusion of unconventional players" whose roles and motivations must be examined to understand how global environmental regimes are created and evolve.[23] Thus, state and non-state 'normative stakeholders' all play a role in creating and transforming global environmental regimes.[24] One can observe the formation of 'transnational networks' of officials, experts and interest groups of IOs, NGOs, ENGOs, and states coalescing around a single issue which helps make up a broader global community tasked with resolving global problems.[25]

Non-state actors operate in the environmental arena on a field that is distinctly not state-centric in at least three ways. First, ecological systems bear little or no relation to national boundaries.[26] Second, the economic system, arguably the germination point for many environmental impacts, rests on a global plane that is impacted, but hardly controlled, by national law.[27] And third, civil society, the author of many environmental impacts, is dominated today by organisations that are intrinsically international, with governance, leadership, operations, supply chains, work forces and markets dispersed pursuant to business and strategic models, rather than national boundaries.[28]

Non-state actors are integral at all stages of IEL negotiation: the 'before' state (helping create the pre-conditions for meeting and helping generate the agenda parameters), the 'during' phase (participating in negotiations), and 'after' (helping to monitor or enforce legal instruments).[29] In international negotiations, non-state actors work through the domestic arena of powerful states or work together transnationally to achieve their aims.[30] Further, state delegations to multilateral negotiations often include non-state actors as active members as either invited participants or, on some occasions, as willing policy 'stalking horses'. For example, the Seychelles delegation to the IWC, reputedly contained Greenpeace members who used their presence at IWC meetings to advance their anti-whaling cause.[31]

Transnational non-state actors that utilise framing, symbolic 'stunts', the deployment of powerful actors and techniques of 'naming and shaming' laggard states can also impact outcomes; epistemic communities such as scientists can improve organisational learning by helping foster shared understandings based on their specialised acumen and expertise in their knowledge areas.[32]

Supporters of these non-state players argue that their involvement has increased the validity of global governance, allowing for other voices to be heard. However, others issue a caveat arguing such groups are not an unalloyed panacea to improve global governance structures. Critics argue these groups tend not to be accountable for their campaigns to broader societies and they represent narrow dominant interests.[33]

Problematically there is a tendency when examining their development to treat non-state actors as a monolithic bloc when the truth is they have different histories, philosophies and goals which need to be analysed discreetly.[34] Below we categorise, define and explore the distinctions between the key non-state actors involved in global environmental regime generation and evolution.

International organisations

International organisations (IOs) are "the bureaucracies that often result from governments working together to solve their problems."[35] IOs are often dismissed as faceless bureaucrats, but this underplays their important role in international institutions and the creation of regimes. When states delegate to IOs they give them "a conditional grant of authority" for their actions.[36] IOs can resolve disputes, manage conflicts, shape international discourse incentives and elaborate norms. Thus, they are considered 'actors' in the regime sense.[37]

The modern iteration of IOs began with the treaty in Utrecht in 1713 and Vienna, Austria and the putting forth of peace principles. Little research has been carried out as to how IOs formed and expanded beyond state borders prior to 1900 but it can be observed that IOs of this period were tasked with helping secure the political and legal goals of the state, a trend that continues to this day. The etymology of the term IO can be traced back to Professor James Lorimer of England who first coined the term in 1867 in a lecture to the Royal Academy entitled "On the application of the principle of relative, or proportional, equity to international organisation." Modern IOs are considered to date from the Treaty of Versailles.[38]

To be considered a modern IO, the *Year Book of International Organizations* (1976/1977) published by the Union of International Associates, states that in such an entity:

> (1) The aims must be genuinely international with the intention to cover three states. (2) Membership must be individual or involve collective participation, with full voting rights, from at least three states and must be open to any individual or entity appropriately qualified in the organizations' area of operations. Voting must be arranged so that no one national group can control the organization. (3) The constitution must provide for a formal structure giving members the right to periodically elect governing bodies and officers. Provision should be made for continuity of operation with a permanent headquarters. (4) Officers should not all be the same nationality for more than a given period. (5) There should be substantial contribution to the budget from at least three states and there should be no attempt to make profits for distribution to members. (6) Those with an organic relationship with other organizations must show they can exist independently and elect their own officials. (7) Evidence of current activities must be available . . . (8) Size, politics, ideology, fields of activity, geographical location of headquarters, and nomenclature are irrelevant in deciding whether a setup is an 'international organization' or not.[39]

They may not overtly advocate a particular normative position, but their structure and character can ensure whether a norm becomes dominant or not. In the case of the Scientific Committee on Antarctic Research (SCAR), which considers itself an IO as opposed to an ENGO, its scientific advice has been crucial in providing evidence to protect Antarctica's fragile ecosystem.

International organisations can be categorised into distinct groupings. They include intergovernmental organisations such as UN agencies, UNEP, Intergovernmental Panel on Climate Change; international non-governmental organisations like the International Union for the Conservation of Nature; and multinational corporations, for example the World Bank and regional development banks.[40]

Intergovernmental treaty secretariats can also be classified as IOs. The International Whaling Commission (IWC) and the International Tropical Timber Organization (ITTO) are examples of such environmental regime secretariats.

Such secretariats are, "international organization[s] established by the relevant parties to assist them in fulfilling the goals of the treaty." They administer the treaty collectively on behalf of the states who are signatories to the treaty. However, they are classified as non-state actors in that they are not states *per se*.[41]

IOs such as the UN, the FAO and the International Maritime Organization have been the main mechanism through which international environmental regimes have developed and flourished. They provide a permanent forum whereby states and non-state actors can commingle, dialogue and negotiate. Such a legitimised process is more likely to be perceived as authentic by all the stakeholders which leads to potentially optimal environmental outcomes. The major UN-led conferences such as Stockholm and Rio have set the agenda in this policy area for decades.[42] IOs have also proven to be leaders in allowing access to participation and information about various negotiations.[43]

However, it must be borne in mind that IOs do not have powers to institute individual actions: they are effectively creatures of the states that created them and are hemmed in by the willingness of member states to abide by decisions made by the entity as a whole. Any outcome produced will be a product of the member's interests, not necessarily the interests of non-state actors and the global community as a whole, as assayed by the voting structures in place.[44]

International organisations have been criticised for being fundamentally undemocratic as they take power and accountability away from elected states and reside such authority in opaque organisations with arcane rules and little oversight. Secondly, IOs are impugned for their inability to wield authority given the preponderance of the entities – they are unable to take binding decisions by majority vote and thus are unable to take effective action on behalf of the global community or impose their decisions on recalcitrant states. However, this is really an issue of state sovereignty since states are reluctant to cede their autonomy and powers to outside organisations.[45]

Scientists

Another group of global actors that has become increasingly important within global environmental regimes is scientists, who provide the technical knowledge and language as well as encouraging debate and calling on states to act responsibly and comply with existing agreements.[46] Within environmental regimes scientific knowledge is, "often privileged, as it is accumulated using rigorous rules of evidence, internally regulated by peer review."[47]

The former Norwegian Minister of Foreign Affairs, Thorvald Stoltenberg, noted in 1989 that science and technology had been key factors in our global awareness of global environmental problems. He argued:

> Science and technology are key factors in this development. Technology has made the world smaller and more integrated at the same time it has given us more powerful tools for research and further advances of human knowledge

> than ever before. The network of cooperation and exchange of information between scientists in all countries has been a driving force behind the process of internationalization.[48]

Scientists are an example of 'epistemic communities'. Haas, who coined the term, defined it as, "a knowledge-based transnational network of professionals holding political power by cognitive authority. Members of an epistemic community could come from different disciplines but share a common body of knowledge which they interpret in a similar way."[49] These epistemic communities of (environmental) experts from affected stakeholder organisations participate in recurrent, informed and purposeful exchanges of ideas and problem-solving experiences. Inevitably, these conditions encourage ideas to develop and evolve, and promote common approaches and solutions. This 'human' artefact of the interaction in the governance ecosystem creates conditions for progress that otherwise would not exist.[50]

The influence of scientific behaviour of shaping how stakeholders behave or decide comes down to three key factors: scientific credibility, political legitimacy and policy salience. Scientific credibility refers to the believability of the assessment provided to a stakeholder. Political legitimacy, in this case, refers to the political acceptability or perceived fairness of a scientific assessment to the stakeholder. Policy salience refers to the ability of a prepared report to address the key policy concerns of a stakeholder. If a report has high scientific credibility, political legitimacy and policy salience, the more likely it is to be seen as credible and able to shape a stakeholder's, or regime community's, behaviour and decision-making. The less credible, legitimate or salient the assessment provided, the converse would apply.[51]

When it comes to understanding global environmental problems, scientists help determine the scale of the problem, the bases for conflict and the potential solutions to be proffered. No proper action can be carried out without understanding that scientists need to be a vital component of any process.[52] By updating initial assessments and creating indicators to monitor progress, scientists can help properly modify stakeholders' strategies in response to the successes or failures of policies adopted within environmental regimes.[53]

As Haas has noted, environmental regimes are not only bonded "by state power, but by the application of scientific understanding about ecological systems to the management of environmental policy issues with which decision makers are unfamiliar."[54] This expert knowledge converts readily into political influence in a number of environmental regimes such as Antarctica and whaling. For many regimes, one of the initial key steps to environmentally protecting a regime is the building of a global scientific consensus that agrees on the issue boundaries and narrows any uncertainties allowing negotiation to take place.[55]

As stated above, many scientists (e.g. cetologists) argue from conservationist positions that reflect their scientific beliefs and training. Scientific assessments are thus a key battleground as to how environmental issues are framed, options identified and priorities established.[56]

Given how critical their role is, there have been relatively few analyses of the impact of the work carried out by scientists.[57] This book seeks to remedy this deficiency by focusing heavily on their key role within the examined environmental regimes.

Non-governmental organisations and environmental non-governmental organisations

Non-governmental organisations are broadly speaking any organisation that is not a state, though most analysts now do not include IOs or civil society as being so classified. Rather they are better understood as: "private organisations not established by a government or by intergovernmental agreement which are capable of playing a role in international affairs by virtue of their activities."[58]

These entities do not accept the global community's power structures and international law as currently constituted. Rather they seek to overcome state sovereignty which many of the entities see as an impediment to effective global environmental policies and procedures.[59] NGOs can function at both the domestic and international levels, but they all emphasise community values. They are funded by donations, membership fees and grants.[60]

The historical antecedents of NGOs can be traced back to the eighteenth century when multiple NGOs helped develop international law around such areas as slavery, labour rights and the rights of women to participate in the political process. In the early twentieth century, the League of Nations allowed NGOs to attend intergovernmental committees, including issues of trade and economic policy. While the UN Charter formalised the *ad hoc* NGO participation the League of Nations had allowed, it is generally acknowledged that compared to previous eras, NGO participation was sparse until the mid-1970s.[61]

The etymology of the term 'NGO' stems from the UN's foundational charter which stated that, "the Economic and Social Council may table suitable arrangements for consultation with non-governmental organisations."[62] While there are a number of differing definitions of what constitutes an NGO, at its core, any NGO must be free of direct government control. The number of NGOS that have been accredited by the UN Economic and Social Calendar has increased from 712 in 1984 to 4,045 in 2014, more than a 500 per cent increase in 30 years.[63]

These groups carry out seven types of activities: "problem definition, agenda setting, and goal setting; enforcement of principles and norms; provision of information and expertise; public advocacy and mobilization; lobbying; direct participation in the formulation of international agreements; and monitoring and other assistance with compliance."[64]

Technically, non-governmental organisations lack "legal personality" in international law.[65] However, former UN Secretary General Boutros Boutros-Ghali considers NGOs to be "full participants" at the international level, particularly at the UN. However, their participation at global regime negotiations remains mostly unofficial, *ad hoc* and subject to the whims of state governments.[66]

How far NGOs go in obtaining access and gaining influence at global fora can often depend on the structures, rules and procedures allowing them to participate or be part of the deliberations and decision-making processes. The most successful NGOs tend to be those that are wealthy; are connected enough to gain access to state delegations (including being members of official delegations); excel at public relations; and are able to lobby for and create strategic coalitions with state delegations to achieve their objectives.[67]

Since the Rio Conference in 1992 and in particular Agenda 21 which called for regular channels to be developed for NGOs, "to contribute to policy design, decision-making, implementation and evaluation" of intergovernmental organisations, NGO and ENGO involvement in global environmental policy making has skyrocketed.[68]

NGOs also have become partners with organisations such as UNEP, FAO and UNCTAD to carry out mutual goals. They are considered by many as 'conscience keepers' in that "they are regarded as the keepers of the conscience of the emerging international moral community, whilst governments are seen as one lap behind." Thus, they provided moral legitimacy to both the current and emerging global order.[69]

The development of global environmental regimes cannot be adequately explained without regard to ENGOs and their campaigns to influence global environmental regimes. ENGO members share a common concern about environmental degradation. ENGOs aim to inculcate in people an "ecological sensibility" with the aim of moving people to act more responsibly towards the environment.[70] Wapner argues that the ENGO's mission is to "identify and manipulate cultural frames of reference to persuade ordinary citizens throughout the world to adopt environmental values."[71] This approach has often enabled ENGOs to be in the vanguard in promoting a global environmental consciousness both domestically and internationally, particularly with regime negotiations.[72]

These environmental entities can be divided into three types. The first grouping resides within the 'ideological mainstream' and seeks to achieve their aims by influencing public policy within the current institutional framework. The second type is influenced by deep ecology and attempts to challenge existing societal norms and structures. The last group, 'radical environmentalists', is willing to use violence to achieve property and in some cases against humans to achieve their environmental goals.[73] Chapter 12 examines the radical environment movement with a particular emphasis on the Sea Shepherd organisation and its attempts to influence the policy debate around ending Japanese scientific whaling.

In the nineteenth and early twentieth centuries the first wave of environmentalists focused on wildlife protection and preserving national resources. The second wave (1960s and 1970s) saw ENGOs mount campaigns on global environmental problems and quality of life issues in technologically advanced societies.[74] Some argue that ENGOs became accepted as part of the international environmental negotiating process when they were part of the informal Founex group in 1971 and helped draft the subsequent report which framed the issues of the 1972 Stockholm conference.[75]

The 1980s saw ENGOs at the zenith of their power developing from being primarily domestic, small and under-resourced organisations into global entities with vast resources.[76] While precise information is unavailable, it is estimated that by the 1990s there were over 100,000 ENGOs operating globally with millions of members.[77] The UN currently has 562 accredited key ENGOs to the UN Environmental Assembly of UNEP which allows observer status of the Assembly.[78]

Like all NGOs, ENGOs can operate at multiple levels including local, national and global. There are two basic models of ENGO action relating to global environmental regimes. One is the "network model" (for example, the Antarctic and South Ocean Coalition) and the other is the "ENGO leader model," where one wealthy global ENGO leads the way (for example, Greenpeace with its 3 million members[79] worldwide). The lead ENGO model is best suited to lobbying that requires concentrated resources (e.g. ships to monitor and publicise the practice of whaling) and the network model is ideal for environmental problems that are diffuse and variable across different regions (e.g. pesticides).[80]

This book is concerned primarily with those ENGOs that operate at the global level and focus on regional or global environmental protection, such as Greenpeace,[81] World Wildlife Fund[82] and Friends of the Earth.[83] The ENGOs' impact on the global scene is linked to their ability to exert political influence over states and other actors by direct action campaigns, publicity campaigns, conferences and the use of celebrities to raise public awareness of global environmental issues.[84] ENGOs raise public awareness of environmental issues, lobby decision-makers, organise boycotts and monitor and implement global agreements.[85] ENGOs have also been crucial for regime maintenance by monitoring potential and actual transgression of global environmental treaties.[86]

Like NGOs, ENGOs have no 'formal' role within UN negotiations, a role played by states as the legitimate decision-makers with voting powers. Thus, ENGOs to achieve their goals need to communicate their positions to government representatives who then can incorporate these views and advocate on the ENGO's behalf.[87] ENGOs influence global environmental negotiations by putting forth information, ideas and frameworks that would not otherwise have been available to delegates.[88] As Thomas Princen has noted, "[i]n negotiations that have few precedents, little predetermined structure, an ill-defined agenda, and fuzzy outcome expectations, simply sitting at the table confers influence" which can be critical in achieving normative transformation.[89]

However, we must also note the very substantial role that ENGOs play – sometimes collaborative and sometimes adversarial – in global environmental governance of TNCs and their extensive supply chains. This includes setting environmental standards, monitoring performance, and ensuring positive and negative consequences for deviation from standards. ENGOs' ability to do this is enhanced by the quality of their personnel, their technical and scientific resources, their global organisational structures,[90] positive public perceptions, support from opinion influencers, including celebrities and well-known personalities, access to press,[91] and skilful utilisation of contemporary media.[92] Their effectiveness can be

impeded by lack of direct knowledge of TNC processes, lack of transparency and due process, and potential conflicts between mission and funding imperatives.[93]

While the participation of ENGOs in influencing traditional IEL is crucial,[94] this section will focus on the measures that ENGOs are taking directly to affect TNC performance. For example, the Forest Stewardship Council, an international ENGO based in Bonn, Germany and operating in over 80 countries, sets standards for sustainable forest management. Independent certifiers can award FSC certification both to forest managers, and to each party handling wood products from the forest to the ultimate end user. The latter certification requires that each prior participant in the supply chain is similarly FSC certified. Certified companies may use the FSC trademark in marketing their products. FSC has developed a comprehensive trademark infringement strategy, including consumer reporting procedures,[95] to protect the integrity of their process. More than 380 million acres of forest are certified under FSC,[96] which is just slightly smaller than the entire country of Iran.

Thus, the FSC, with little resort to government, affects every phase of the governance cycle. In fact, the FSC US website claims that the organisation was catalysed by frustration over governments' failure to act to stop deforestation at the 1992 UN Earth Summit.[97] Using private expertise, it has established rules of behaviour. Through certification, logo use and positive publicity, they create incentives for adherence. Chain of Custody certification creates other incentives, as major customers who desire certification will put pressure on their supply chain to be certified back to the original forest, and suppliers of wood products will have incentives to be certified if they wish to supply to end-use manufacturers with certification. They create monitoring by enlisting the public in reporting logo misuse. While they may have to resort, at times, to courts to enforce their logo trademark,[98] this threat can be supplemented by adverse publicity. Importantly, by creating a clear, simple indicator of performance, they make it easy for consumers, supply chains, governments and others to incorporate sustainable forestry into everyday decisions. The World Wildlife Fund has concluded that "Forest Stewardship Council (FSC) certification . . . has played an important role in transforming forest management and trade."[99]

Non-state actors such as NGOs and ENGOs have, by their actions, contributed to the development of both international law and IEL. Also, as noted previously, one cannot understand the development of international law and international relations without an examination of the role played by these non-state actors.[100] However, the assessment of the global political role of NGOs, particularly that of ENGOs, has to date been incomplete. Helmut Breitmeier and Volker Rittberger are critical of current NGO scholarship, arguing that despite the plethora of material written on NGOs there is still "little systematic knowledge about which actions of which types of NGOs have the greatest impact on international political processes."[101] Heeding this criticism, this book will pay particular attention to the actions of NGOS and ENGOs to assess which strategies and tactics have been successful in achieving their ecological goals. Conversely, we will also seek to illuminate where their approaches have not been successful and explain what went wrong with their methodology.

Transnational corporations

Transnational corporations (TNCs) have also become involved in global environmental regime creation and propagation, particularly in the cases of whaling and tropical timber. A TNC can be defined as a "business that undertake[s] production, sales, and investment within multiple countries and across national boundaries."[102] What differentiates them from other companies is their quasi-detachment from any one state and their ability to function outside of state control.[103]

While a complete taxonomy of international business organisations is beyond the scope of this text, it is important to note that they are not monolithic. Some distinguish between TNCs and multi-national corporations (MNCs) on the premise that MNCs have a central management structure organised around a headquarters and directing international activities, while a TNC is "more or less borderless," giving significant decision-making power and structural autonomy to operations in different countries. For our purposes, the two terms can be used interchangeably, though we will mostly use the nomenclature of TNCs.[104] Transnational Corporations can also be differentiated on the basis of whether their business model is primarily focused on resource extraction for export, or focused on manufacturing and service product generation for supplying emerging consumer demand in developing markets.[105]

The scope of TNCs' control of, and potential impact on, the environment is staggering. The sheer scale of these companies means they have a greater impact on global resource extraction and utilisation than many states, since they control assets greater than the gross national product of some nations.[106]

By some measures, of the 100 organisations with the highest annual revenues in 2014, 63 were corporations and just 37 were governments.[107] Walmart has revenues higher than those of Austria,[108] and if Facebook were a country and its nearly 2 billion subscribers were its citizens in 2017, it would be by far the largest country in the world.[109] In sum, many large companies "are seen to be more powerful than countries,"[110] and "sometimes amass . . . so much power and influence that they transcend their commercial role and take on behavior more traditionally associated with governance."[111]

In the last few decades, corporations have come to be recognised as major actors on the global scene. Such power has not always been wielded ethically and TNCs have traditionally been considered as organisations that have opposed or reduced the spread of environmental causes to ensure their continuing access to raw materials as well as a source of pollution.[112] With this recognition has come greater awareness of both the environmental damage such entities can do and their potential to act as agents of moral change. Since many corporations cannot exist without access to global resources, they tend not to advocate preservationist ideals but rather positions on a spectrum from outright exploitation to conservation.

TNCs have been responsible for some of the worst cases of exploitation, such as the destruction of tropical forests in Sarawak. On the other hand, other TNCs have advocated a conservationist position similar to those of certain ENGOs. Where corporate power is strong, particularly in influencing state policy, we can

expect to see an exploitative or conservationist norm underpinning a global environmental regime, as in the case of tropical timber.

If poorly managed, the potential environmental impact generated by this economic activity is large.[113] However, TNCs' tremendous financial and intellectual resources and incentives may be a fruitful source of solutions to IEL challenges. By some estimates, approximately 53 percent of the scientists and engineers working in the United States work for private industry,[114] indicating that they have the intellectual resources to address critical IEL issues.[115] In 2016, 26 per cent of professionally managed assets, or 22.89 trillion USD, were devoted to "responsible investing" incentivising strong environmental performance,[116] and in 2017, 93 per cent of the world's 250 largest companies reported on their own sustainability performance.[117] These facts indicate that TNCs have incentives to improve environmental performance, and the resources to pursue those incentives.

With respect to international governance of TNCs, on the one hand, the inherently international aspects of both the subject matter of IEL and of TNCs present enormous tests for sovereign-state-based governance in terms of objectives, rule formation, monitoring, adjudication and enforcement.[118] Since the environment, the economy and TNCs equally deploy across boundaries, individual states often have difficulty regulating and monitoring the activities of corporate entities.[119] On the other hand, the same intrinsic internationality of TNCs that contributes to the challenge also creates a significant opportunity. TNCs' internal rules, governance systems, communications, internal knowledge, personnel interactions, reputational imperatives, market and shareholder demands, technical resources, strategic decisions and cultural norms span both the reach of TNCs and, increasingly, the reach of their extensive shareholder bases and supply chains, and create a unique platform for effecting environmental outcomes.[120] It's not easy to imagine an equivalent change platform being created through inter-state negotiation. At a minimum, these characteristics of TNC structure must be an essential complement to state action and the actions of other civil society players in achieving desired IEL results.[121]

A study by David Humphreys, Kelly Lee and Michael Pugh has revealed four main routes whereby TNCs have exerted influence:

- They have acquired official representation as members of, or expert advisors to, government delegations negotiating regimes.
- They have organised themselves into associations which are then granted NGO observer status at UN-sponsored negotiations.
- Individual representatives from TNCs have been elected as chairs of committees. For example, in the case of the International Tropical Timber Organization (ITTO), a prominent international timber trader, Ernesto Sanvictores (owner of Armitico and chairman of the Philippines Wood Products Association), was elected chair of the International Tropical Timber Council (ITTC).
- TNCs have provided development assistance to members of various international bodies, such as the ITTO.[122]

The international community has long recognised that TNC behaviour is a critical object of environmental governance.[123] Concurrently, TNCs have recognised their interest in participating directly in shaping IEL.[124] The 1992 Earth Summit constituted the first large-scale direct TNC participation in treaty negotiations.[125] TNCs have participated directly in every major UN conference since.[126] In addition to *direct* participation at IEL fora, TNCs participate in IEL *indirectly* by lobbying their domestic governments to affect their IEL negotiating positions.[127]

There are currently hundreds of MEAs (Multilateral Environmental Agreements) in effect.[128] Occasionally, MEAs have imposed direct IEL obligations on TNCs.[129] More often, however, MEAs regulate TNC activity indirectly, by requiring member states to promulgate rules required to effect the MEA's objectives.[130] The effectiveness of this approach depends on several factors, including the clarity and appropriateness of the agreed-to MEA obligations, the administrative capacity of the member states, and the mechanisms for monitoring and enforcing state compliance. Numerous programmes implemented by UNDEP, IGOs, NGOs and others are aimed at improving capacity and monitoring required for MEA implementation.[131]

Capacity and transparency concerns aside, this approach allows states to implement measures that best fit with their overall regulatory context, and to reflect the principle of Common but Differentiated Responsibilities.[132] It also allows states to leverage domestic agency execution, monitoring, adjudication and enforcement consequences, each of which are difficult to administer on an international level. In such cases the MEA will often specify requirements for the parties to outline plans for passage of appropriate legislation, monitoring and enforcement to ensure the MEA requirements are met.[133]

Customary IEL also can impact on TNC behaviour with respect to the environment. In *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, the International Court of Justice found that the conduct of an Environmental Impact Assessment was "a practice, which in recent years has gained so much acceptance among states that it may now be considered a requirement under general international law . . . where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource."[134]

Finally, other formal international law regimes have developed rules affecting TNC behaviour relating to the environment.[135] The environmental implications of international trade are sufficiently significant that environmental protection rights are specifically referenced in the agreement establishing the WTO, which maintains a permanent Trade and Environment Committee.[136] WTO rules allow countries a qualified right to enact trade-related measures with the purpose of protecting the environment.[137]

With respect to human rights, the First Principle of the 1972 Stockholm Declaration, the foundational IEL text, provides that "[m]an [*sic*] has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he

bears a solemn responsibility to protect and improve the environment for present and future generations."[138] Also, recognising the implications of environmental degradation for human rights, UNEP, the UN Office of the High Commissioner for Human Rights, and the UN Special Rapporteur on Human Rights and the Environment have created a "joint effort" to "identify, promote and exchange views on good practices relating to the use of human rights obligations and commitments to inform, support and strengthen environmental policymaking, especially in the areas of environmental protection and management."[139]

The UN has also established a voluntary protocol for TNC environmental activity through its Global Compact. The Compact establishes principles encouraging environmental management. While the UN does not directly monitor compliance by TNCs that have voluntarily endorsed the Compact, TNCs that publicly adopt the Compact but then fail to adhere to it risk adverse publicity from NGOs and others.[140] The Compact's website indicates that it has over 12,000 signatories in 170 countries.[141]

All of these state and non-state actors seek to establish their preferences as dominant within the relevant global environmental regimes under examination. Their interactions help develop, frame and retard or support environmental outcomes within global environmental regimes. We now turn to an examination of the various global environmental regimes case studies.

NOTES

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11 Duit, Feindt and Meadowcraft, "Greening Leviathan," 3.
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14 Robyn Eckersley, "Greening the Nation-State from Exclusive to Inclusive Sovereignty, Economy and Ecology," paper presented at the European Consortium for Political Research Annual Joint Sessions, Grenoble, France, 6–11 April 2001, 4.
15 Eckersley, *The Green State*, 5–6.
16 Stepan Wood and Benjamin J. Richardson, "Environmental Law for Sustainability," in Benjamin J. Richardson and Stepan Wood (eds), *Environmental Law for Sustainability*, Oxford, UK: Hart Publishing, 2006, 9.
17 See, e.g., David Leary and Balakrishna Pisupati (eds), *The Future of International Environmental Law*, Tokyo: United Nations University Press, 2010, 3. "The global community has taken steps to seek to tackle many . . . environmental challenges. These attempts have seen a veritable bloom in the development of international environmental law. There are now more than 900 multi-lateral and over 1500 bilateral treaties and other international agreements dealing with environmental issues. These are in addition to the thousands of 'soft law' instruments such as declarations and plans of action which have been the product of environmental diplomacy in recent decades. But despite the proliferation of international environmental agreements, environmental degradation has proceeded and new environmental challenges have continued to emerge." Available at: http://archive.unu.edu/unupress/sample-chapters/FutureOfIntlEnvironmentalLaw.pdf.
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25 Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment*, New York: Oxford University Press, 2009, 9.
26 See Christopher Uhl, *Developing Ecological Consciousness: The End of Separation* (2nd ed.), Lanham, MD: Rowman and Littlefield Publishers Inc., 2013, at 2, "[N]ational boundaries are political constructs devoid of biological meaning. The natural world, built on the principle of interdependence, ignores these artificial boundaries."
27 Gary Younge, "Who's in Control – Nation States or Global Corporations?" *The Guardian*, June 2, 2014. Available at: https://www.theguardian.com/commentisfree/2014/jun/02/control-nation-states-corporations-autonomy-neoliberalism. "The limited ability of national governments to pursue any agenda that has not first been endorsed by international capital and its proxies is no longer simply the cross they have to bear; it is the cross to which we have all been nailed. The nation state is the primary democratic entity that remains. But given the scale of neoliberal globalisation it is clearly no longer up to that task. 'By many measures, corporations are more central players in global affairs than nations,' writes Benjamin Barber in Jihad vs McWorld. 'We call them multinational but they are more accurately understood as postnational, transnational or even anti-national. For they abjure the very idea of nations or any other parochialism that limits them in time or space.'"
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44 Birnie, Boyle and Redgwell, *International Law and the Environment*, 8–9.
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70 Wapner, "Horizontal Politics," 39, 46.
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81 Greenpeace was created in 1969 under the name Don't Make Waves Committee, a splinter group of Sierra Club members and peace activists. Jacqueline Vaughn Switzer, *Environmental Politics: Domestic and Global Dimensions* (4th ed.), Belmont, CA: Thomson/Wadsworth, 2004, 41. In 1972 it formally took the name Greenpeace with the aim of being a transnational environmental activist group. Paul Kevin Wapner, "Politics Beyond the State: Environmental Activism and World Civic Politics," *World Politics* (1995), 47 (3), 320. Greenpeace seeks to replace traditional interpretations of exploitationist practices with new frameworks of understanding. Wapner, "Politics Beyond the State," 321. In Wapner's words, Greenpeace: "targets the global cultural realm. It clues into internationally shared modes of discourse, such as moral norms, symbols, and scientific argument, and it manipulates them to induce people to pursue, what Greenpeace assumes are, environmentally sound practices." Wapner, *Environmental Activism and World Civic Politics*, 14–15.
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96 https://ic.fsc.org/en, https://us.fsc.org.
97 https://us.fsc.org/en-us/who-we-are/our-history.
98 The FSC website provides: "We have developed a trademark protection strategy to identify anyone infringing upon our intellectual property rights and to take legal action against them."
99 "The Role of Responsible Forest Management in Intact Forest Landscapes," WWF Brief (2017). Available at: http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_brief_role_of_rfm_in_ifls_june_2017.pdf, at 1.
100 Amandine Orsini, "The Negotiation Burden of Institutional Interactions: Non-State Organizations and the International Negotiations on Forests," *Cambridge Review of International Affairs* (2016), 29 (4), 1421–40, 1423.

101 Helmut Breitmeier and Volker Rittberger, "Environmental NGOs in an Emerging Global Civil Society," in Pamela S. Chasek (ed.), *The Global Environment in the Twenty-First Century: Prospects for International Cooperation*, New York: United Nations University Press, 2000, 130–63, 142.
102 Paul Kevin Wapner, "The Normative Promise of Nonstate Actors: A Theoretical Account of Global Civil Society," in Paul Kevin Wapner and Lester Edwin J. Ruiz (eds), *Principled World Politics: The Challenge of Normative International Relations*, Oxford: Rowman & Littlefield Publishers Inc., 2000, 268.
103 Ibid.
104 https://www.slideshare.net/SatishKumar53/mncs-tncs
105 See, e.g., Romy Kraemer and Rob van Tulder, "Internationalization of TNCs from the Extractive Industries: A Literature Review," *Transnational Corporations* (2009), 18 (1),. Available at: http://unctad.org/en/Docs/diaeiia20097a6_en.pdf. While beyond the scope of this text, it is possible that the details of the business model deployed may impact the types and force of influencers shaping an organisation's behavior.
106 Marian A. L. Miller, *The Third World in Global Environmental Politics*, Issues in Third World Politics, Boulder, CO: Lynne Rienner Publishers, 1995, 35; Wapner, "Politics Beyond the State," 317.
107 Nicholas Freudenberg, "The 100 Largest Governments and Corporations by Revenue," Corporations and Health. Available at: http://www.corporationsandhealth.org/2015/08/27/the-100-largest-governments-and-corporations-by-revenue/. UNCTAD has estimated that, in 2009, there were approximately 82,000 TNCs with over 800,000 affiliates. Available at: http://unctad.org/en/docs/wir2009_en.pdf, at xxi. In 2011, US TNCs alone employed 34.5 million people globally, see "Summary Estimates for Multinational Companies: Employment, Sales, and Capital Expenditures for 2011," April 18, 2013, U.S. Department of Commerce, Bureau of Economic Analysis. Available at: https://www.bea.gov/system/files/2019-04/mnc2011.pdf. The world's 500 largest companies are headquartered in 34 different countries. Collectively, they generated $27.7 trillion in revenues and $1.5 trillion in profits in 2016, employing 67 million people, see: http://fortune.com/global500. If these employees represented one country, it would constitute the 21st largest country in the world, ahead of the UK and France. See: http://www.worldometers.info/world-population/population-by-country/.
108 http://fortune.com/2015/06/06/walmart-facts/.
109 https://www.fool.com/investing/2017/03/30/how-many-users-does-facebook-have.aspx
110 Miranda Bogen, "Wired for Geopolitics: Incentives Shaping Technology Companies' International Policy Decisions," submitted in fulfillment of Masters of Arts in Law and Diplomacy Capstone Requirement, The Fletcher School, Tufts University (April, 2016) (on file with the author), 4.
111 Ibid., 12–15.
112 Peter Dauvergne, *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*, Cambridge: Cambridge University Press, 2001, 54; Elliott, *The Global Politics of the Environment*, 123; Gareth Porter and Janet Welsh Brown, *Global Environmental Politics*, Boulder, CO: Westview Press, 1991, 59.
113 An October 5, 2010 study for the UN Environment Programme found that the 3,000 largest corporations generated $2.2 trillion US in environmental externalities in 2008. Derek Wong, "UN Estimates Annual Global Environmental Costs Equal $6 Trillion,"

Newsletter, October 5, 2010. Available at: https://www.environmentalleader.com/2010/10/un-estimates-annual-global-environmental-costs-equal-6-trillion/

114 https://www.nap.edu/read/13512/chapter/2.

115 For example, US corporation Honeywell's engineers and scientists have developed a Green Jet Fuel made from sustainable biofuel feedstocks that can reduce airplane greenhouse gas emissions by 65%–85% compared with petroleum-based fuels, while improving performance. Major airlines are utilising this Green Jet Fuel to meet their voluntary greenhouse gas reduction commitments and to increase energy diversification. Honeywell International Corporate Citizenship Report 2016, https://www.honeywell.com/content/dam/honeywell/files/Honeywell_Corporate_Citizenship_Report-2016_FINAL_pdf.pdf, at 14.

116 CERES, "Disclose What Matters: Bridging the Gap Between Investor Needs and Company Disclosures on Sustainability," 2018. Available at: https://www.ceres.org/resources/reports/disclose-what-matters-bridging-gap-between-investor-needs-and-company-disclosures, at 1.

117 Ibid., at 3.

118 See "World Resources 2002–2004," http://pdf.wri.org/wr2002_fullreport.pdf, Chapter 7, International Environmental Governance, at 137. "It is not enough to confine our environmental governance to the local or national level only. The global biosphere behaves as a single system, where the environmental impacts of each nation ultimately affect the whole. That makes a coordinated response from the community of nations a necessity for reversing today's global environmental decline. But the challenges of international governance are substantial. Finding consensus among nations about what sustainable development means, how to finance it, and what international laws and institutions are required to facilitate it is an urgent, but unfinished task."

119 Hunter, Salzman and Zaelke, *International Environmental Law and Policy*, 1382–85.

120 As just one example of the scope of TNC environmental governance mechanisms, more than 300,000 business organisations have been certified to the International Standard Organization's voluntary ISO 14001 standard, which establishes protocols for environmental management that are then certified by a qualified third party. See: https://www.iso.org/iso-14001-environmental-management.html.

121 *Cf.* Miranda Bogen, *Wired for Geopolitics: Incentives Shaping Technology Companies' International Policy Decisions*, *Introduction*, submitted in fulfillment of Masters of Arts in Law and Diplomacy Capstone Requirement, The Fletcher School, Tufts University (April, 2016) (on file with the author): "Internet-based technology multinational companies (Tech TNCs) have become powerful non-state actors confronted with delicate geopolitical decisions related to border designation, sovereign recognition, diplomatic relations, international development, global governance and even appropriate response to physical violence or terrorism."

122 David Humphreys, "Environmental Accountability and Transnational Corporations." Paper presented at the International Academic Conference on Environmental Justice: Global Ethics for the 21st Century, University of Melbourne, Australia, 1–3 October 1997, 4–5.

123 The UN Stockholm Conference in 1972, considered the initiation of broad UN-based IEL, provided in the preamble to its Stockholm Declaration that "[t]o achieve this environmental goal will demand the acceptance of responsibility by . . . enterprises and institutions at every level." Stockholm Declaration, Preamble at Par. 7. Available at: http://www.un-documents.net/unchedec.htm. The Commission on Transnational Corporations and the United Nations Centre on Transnational Corporations

(UNCTC) were created soon thereafter in 1974. Agenda 21, the core document of the 1992 UN Rio Conference, devotes its Chapter 30 to "Strengthening the role of business and industry," in achieving sustainable development, Agenda 21, Chapter 30. Available at: https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf. "Agenda 21, therefore, is based upon the idea that sustainable development cannot be achieved without the cooperation of business." Elisa Morgera, *Corporate Accountability in International Environmental Law*, Oxford University Press, 2009, at 13. The next major UN conference, in Johannesburg in 2002, stated in its *Declaration on Sustainable Development* that "[i]n pursuit of their legitimate activities the private sector, both large and small companies, have a duty to contribute to the evolution of equitable and sustainable communities and societies. . . . there is a need for private sector corporations to enforce corporate accountability." *Johannesburg Declaration* at Pars. 27 & 29. Available at: http://www.un-documents.net/jburgdec.htm.

124 Direct participation by TNCs in formal IEL processes has led to some concern that they will have an undue influence on these processes. See "World Resources 2002–2004," at 167.

125 Elisa Morgera, *Corporate Accountability in International Environmental Law*, Oxford: Oxford University Press, 2009, 12.

126 See, e.g., http://www.cop21paris.org/; Dinmukhamed Eshanov, "The Role of Multinational Corporations from the Neoinstitutionalist and International Law Perspectives: The Concept of the Three-Level Game," *N.Y.U. Envtl. L.J.* (2008), 16, 110, 117–18. "[C]ontemporary environmental accords are hammered out through a close cooperation of states and non-state actors, with their representatives sharing the same negotiating table . . . . Moreover, international conferences have allowed MNCs to employ coalition-building strategies with their foreign counterparts, so as to level the playing field vis-a-vis states on the one hand and rival non-state actors such as the environmental NGOs on the other".

127 Dinmukhamed Eshanov, "The Role of Multinational Corporations," 121–3; September 19, 2018, interview with Susan Biniaz (on file with author).

128 See "World Resources 2002–2004," at 145–8 and Table 7.2.

129 For example, the 1969 *International Convention on Civil Liability for Oil Pollution Damage* provides, in Article III, that "the owner of a ship at the time of an incident, or where the incident consists of a series of occurrences at the time of the first such occurrence, shall be liable for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident." Available at: http://www.admiraltylawguide.com/conven/civilpol1969.html. Of course, in addition to "hard law," international bodies, including the UN, produce reams of "soft law" – such as Agenda 21 referenced above (in Note 124) – containing hortatory expressions of how TNCs 'should' act respecting the environment.

130 See "World Resources 2002–2004," at 138, "From legislation to regulation to enforcement, it is the actions taken by nations at the domestic level that ultimately count most for success at the global level." For example, India's *Schedule III* of the *Hazardous and Other Wastes (Management and Handling) Rules 2016* imposes broad requirements on the country's corporations to implement the UN *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*. Available at: https://www.worldtradescanner.com/HWM%20Rules%202016.pdf. China's 2010 *Management Regulation of ODS* imposes broad obligations on producers and users of ozone-depleting substances as part of its fulfillment of obligations

under the UN Montreal Protocol. Available at: http://www.unep.fr/ozonaction/information/mmcfiles/6355-e-ChinaRegulations_PR2010.pdf. In the United States, obligations relating to the Montreal Protocol are imposed through federal regulations at 40 CFR Part 82, Protection of Stratospheric Ozone. See also Section L. 597-1 et seq. of the French Environmental Code (making applicable in France the Paris Convention of 1960 on civil liability in the scope of nuclear energy); EU Regulation n° 649/2012, July 4, 2012 (transposing the Rotterdam Convention on Prior Informed Consent on certain chemical substances).

131 For example, in 2017 Elizabeth Maruma Mrema, Director of the Law Division of UN Environment, wrote that "the sheer number of MEAs (around 500), with their varying mandates, obligations and expected outcomes presents a challenge to implementing Parties. Despite the ratification and support from countries in taking action to impede environmental degradation, developing countries – especially small island developing states – face considerable challenges in the implementation of these MEAs due to lack of human, institutional, and technical capacity. To address this, UN Environment joined forces with the European Commission and the Secretariat of the African, Caribbean and Pacific (ACP) Group of States and initiated a four-year project in 2009 to assist 79 countries to enhance their capacities in implementing certain MEAs at the national and regional level." United Nations Environment Programme, 2017 Publication: Environmental change through capacity building: Africa, the Caribbean, and the Pacific – capacity building related to multilateral environmental agreements (MEAs) in African, Caribbean and Pacific (ACP) countries, (March 2017) ISBN No:978-92-807-3631-1 Job No: DEL/2084/NA Produced by UN Environment, Law Division, at 5.

132 This IEL principle recognises historical differences in the contributions of developed and developing states to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems, are legitimate bases for imposing different requirements among countries, see http://cisdl.org/public/docs/news/brief_common.pdf.

133 See, generally, UNEP, *Manual on Compliance with and Enforcement of Multilateral Environmental Agreements*. Available at: http://www.oas.org/dsd/Tool-kit/Documentos/ModulleVI/Compliance%20with%20MEAs.pdf.

134 Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) (April 20, 2010), par. 204. Available at: http://www.icj-cij.org/files/case-related/135/135-20100420-JUD-01-00-EN.pdf.

135 See "World Resources 2002–2004," at 138, 142–43 and Table 7.

136 https://www.wto.org/english/thewto_e/whatis_e/tif_e/bey2_e.htm.

137 https://www.wto.org/english/tratop_e/envir_e/envir_e.htm.

138 http://hrlibrary.umn.edu/instree/humanenvironment.html.

139 http://www.unep.org/divisions/delc/human-rights-and-environment.

140 See Steve Johnson, "Companies Fail UN's Global Compact," *Financial Times*, February 14, 2010. Available at: https://www.ft.com/content/8b19f9ee-1806-11df-91d2-00144feab49a, (publicising 86 companies that had failed to live up to their commitments under the UN Global Compact).

141 https://www.unglobalcompact.org/.

Chapter 3

Antarctic regime and mineral exploitation

INTRODUCTION

Humanity has looked to Antarctica for centuries with dreams of undiscovered mineral wealth that could be exploited. However, it was not until the 1970s that this potential became a feasible economic reality and outside corporate forces began to pressure states to modify the existing Antarctic regime, which disallowed mining, to allow access to these resources. At the same time, various ENGOs were determined that the Antarctic environment be preserved unspoilt in perpetuity and opposed any potential mining. With the support of key defecting states (in particular France and Australia), in 1991 they achieved this goal with the adoption of the Protocol on Environment Protection to the Antarctic Treaty (PEPAT or Madrid Protocol), allowing Antarctica to be "locked away" for 50 years from the adoption of PEPAT.

This chapter begins with the history of the region, the exploration of the continent and early attempts to exploit the region with an emphasis on mineral utilisation. It lays out the creation of the Antarctic Treaty system and the various treaty negotiations within that system to protect the region as well as detailing the key stakeholders involved. The chapter then analyses the key meetings focusing on the key events that led to the failure of the Antarctic Treaty Contracting Parties to adopt the proposed CRAMRA text that was designed to regulate the exploration and exploitation of Antarctic mineral resources. The failure to adopt CRAMRA 'opened the door' for the creation of the Madrid Protocol, and the campaigns run by ENGOs and concerned states to undermine CRAMRA and promote the 'world park' concept will be analysed in detail. Lastly, it asks what is the future of the region once the fifty-year ban on mineral exploitation expires and examines the attempts by some states to position themselves post the end of the moratorium.

A BRIEF HISTORY OF ANTARCTICA

Antarctica has been referred to as the "land which God gave to Cain" because of its bleak nature.[1] Its name can be traced to the Greeks, who, convinced that the

world was round, reasoned there was a southern landmass to counter Eurasia. Since they had named the North Pole *arktos* (the bear) the theorised southern landmass was named "anti-Arctic."[2] The continent of Antarctica is a study in contrasts. It comprises an area of 14 million square kilometres (one-tenth of the globe's land mass) and it is the coldest, windiest, driest, highest and least accessible continent on earth.[3] At any given time approximately 98 per cent of its landmass is covered with a mantle of ice approximately one mile thick. It receives less rainfall than the Sahara Desert (annual precipitation rarely exceeds 5 centimetres) and it is therefore officially classed as a desert. And yet its icecap contains 75 per cent of the world's fresh water supplies.[4]

Antarctica is considered unique from a scientific viewpoint (for a number of reasons), a fact that ENGOs were quick to use in their arguments: it holds data as to previous atmospheric and climactic conditions trapped in its ice which are available nowhere else on the planet; it is a major determinant of the ocean's currents and it is considered a "heat sink" by meteorologists, one that has a significant impact on the globe's weather patterns.[5] It is also one of the few wilderness areas that has not been exploited by humanity.

The nature of Antarctica, particularly its intense cold, renders the area extremely ecologically fragile and one with no mechanisms to guard against environmental damage. Antarctica's terrestrial and fresh water ecosystems are considered particularly fragile because in such a harsh environment growth is slow and recovery times are long. Many ENGOs and scientists have argued that given this fragility, creating a strong environmental protection regime is critical, and that the emphasis must be put on "preserving" the region as an effective way to protect what is a uniquely fragile bio-system.[6]

Up until very recently, Antarctica was the least explored continent with only 80 per cent of the 332,000 square kilometres not covered by ice mapped at reconnaissance level and 10 per cent in detail.[7] The first official claim to Antarctic land was most likely by France, which annexed the Isles de Kerguelen in January 1893 and gave the right to exploit their resources to a private company.[8] From the 1900s onward, countries such as the UK (1908), New Zealand (1923), Australia (1933), France again (1938), Norway (1939), Chile (1940) and Argentina (1942) all made territorial claims. They based these claims on (a) discovery and occupation; (b) administrative acts; and/or (c) the principles of contiguity and continuity. This group of states has come to be classified as the 'claimant states'.[9]

These claims to Antarctica were originally nationalistic ones, and were pursued in a relatively haphazard manner, due to the assumption that there was little profit to be had from such a bleak landscape. The first claim by Great Britain was so poorly drawn up that it contained parts of South America and had to be redrafted in 1917.[10] Five other countries, Belgium, Japan, South Africa, the Soviet Union and the United States, also began exploring and researching Antarctica and after WWII declared that while they did not assert any territorial claim over the area, they did not recognise any claims by other states (referred to as the "nonclaimant states"). This group argued that they could pursue their claim at any time in

the future and that because the claimant states had not occupied the disputed Antarctic territory, and because Antarctica was unique, no state could legitimately claim the area as theirs.[11]

ANTARCTICA AND THE SEARCH FOR MINERALS

In modern times the interest in Antarctica by states was initially dominated by the desire for resource extraction, with a greater or lesser degree of concern for conservation. Two types of exploitation were immediately observable, one of living resources, and the other of mineral resources. This chapter is concerned with both.[12] Mineral resources are not easily defined, as there is much debate about how widely or narrowly to construe the term. Robert Willan *et al.* argue that they are best understood in expansive terms as the "summation of hypothetical deposits and mineral reserves which have been identified."[13] However this definition is too wide, including as it does all possible reserves.

For the purposes of this chapter, mineral resources will be defined as in the 1980s *Convention on the Regulation of Antarctic Mineral Resource Activities* (CRAMRA), Article 1(6): "all non-living natural non-renewable resources including fossil fuels, metallic and non-metallic minerals."[14] Mineral resources are generally considered to be exhaustible over a given time period and are not considered to include ice.[15] Such resources, like minerals anywhere, are not considered conservable. Conservation in this case refers to ensuring that the lands (as distinct from the exhaustible minerals mined) are available to future generations in an unimpaired condition fit for other activities.

In the late nineteenth and early twentieth centuries, the presence – supposed or otherwise – of Antarctic mineral deposits served as a spur to Antarctic exploration, with several concessions and licences granted.[16] For example, in 1905 the British Government granted a mining exploration licence for South Georgia Island.[17] Certainly, it is now known that the earliest explorers of Antarctica did discover pockets of minerals, and coal obtained from Antarctica was utilised in various settlements.[18] However, the main problem for explorers and states wanting to exploit commercially Antarctic resources has been, and remains, potential rather than actual. Geological information on Antarctic mineral deposits remains scant and contradictory. While it is widely believed that minerals exist in Antarctica, this is a supposition, based on the fact that Antarctica is a continent and all other continents have yielded mineral deposits.[19]

While there have been many mineral traces discovered such as copper, gold, silver, cobalt, chromium, nickel and platinum, very few actual mineral deposits have been located.[20] The continent also, in the eyes of some geologists, ranks last in terms of oil potential.[21] An alternative view to the prevailing one is that there are vast resources waiting to be exploited but they are as yet unknown. Some geologists believe that Antarctica has large reserves of gold, silver and other precious metals as well as oil, natural gas and manganese nodules.[22] The economic cost of exploiting such resources is still prohibitive and likely to remain so for the foreseeable future.[23] Given the nature of the continent, the cost of even a small

commercial exploration venture is an order of magnitude higher than other more hospitable parts of the globe.[24]

Given the present knowledge of Antarctica and the level of technology currently available, it will be a long time before exploring and exploiting mineral resources will be cost effective but this has not stopped states from seeing the potential of the region, and wishing to lay claim to this potential wealth.[25] A significant feature of this case study is that the negotiations associated with Antarctic mineral exploitation took place in the context of little hard evidence about the actual location or extent of such resources, but with the hope of nonetheless tapping vast riches.[26]

BUILDING THE ANTARCTIC REGIME

The issue of the mineral exploitation of Antarctica was not tackled in any significant way in the first half of the twentieth century. The first real chance to focus on this issue came with the creation of the Antarctic regime in the late 1950s. Post World War II, interest in Antarctica peaked when both the USA and the Soviet Union became interested in the region for military strategic reasons. In the summer of 1947/48 this interest led the USA to send the largest expedition to the region of 13 ships, and over 4,000 personnel. In 1949 meanwhile, the Soviet Union introduced a new holiday, "Antarctic Day," and claimed that the Russian Admiral Bellingshausen was the first to discover the region.[27] The potential for Antarctica to become another battleground in the Cold War led the USA to suggest in August 1948 that the area be designated a "multiple condominium," but other claimant states rejected the notion.[28]

Complicating the situation was the fact that relations between some of the claimant states had reached a perilous lowpoint. Argentina and Chile, on one side, and Great Britain, on the other, had fallen out over plans by the first two states to create a 'South American Antarctic' that would have substantially covered the territory claimed by the British.[29] To address the escalating situation and attempt to meet these competing concerns Argentina proposed in 1947 a Conference of Interested Parties but this came to naught, as did a similar proposal by the USA in 1948 to have the area declared a Trust Territory under the auspices of the UN.[30]

In 1948 Chile suggested the *Escudaro Declaration* that outlined a plan to suspend sovereignty claims by competing Antarctic states for five years and to encourage scientific cooperation, but the suggestion was not acted upon.[31] That same year the truce between the two sides (the UK versus Argentina and Chile) ended in gunfire. In May 1955 the UK brought the matter before the International Court of Justice but the court was unable to act because neither Chile nor Argentina at that time recognised the jurisdiction of this world court and in March 1956 the Court held it could not proceed with the matter.[32]

Against this backdrop of mutual antagonism and conflict over territorial claims, scientists from several claimant nations established in 1955 20 scientific stations in Antarctica. This initiative was allowed by the claimant states for a period of

18 months.[33] Post 1956 scientists who wished to continue their research and research planning became more co-ordinated under the banner of the upcoming third International Geophysical Year, whose organisers were determined to marginalise political quarrels and focus on scientific cooperation.[34] The IGY ushered in a new level of cooperation regarding Antarctica, leading to the setting up of meteorological stations and a rush of scientific papers.[35] At the official conclusion of the IGY on 31 December 1958, all the Antarctic states of that period had pledged to continue scientific research into Antarctica.[36]

The success of the IGY offered the best chance yet to resolve outstanding territorial issues. Towards that end, in May 1958, the USA invited all 11 claimant and nonclaimant states to Washington D.C., with the goal of avoiding potential disputes in the region, and to negotiate a Treaty to oversee Antarctica. Alfred van der Essen argues that the scientific bases, which had been established by states that did not seem eager to vacate the region, provided the reason why President Eisenhower extended the invitation at this time.[37] The written request by the USA to create an Antarctic Treaty specifically mentioned that the makeup of such a Treaty should include the principles of:

(a) free scientific research in Antarctica by citizens, organizations and governments of all countries and the maintenance of the scientific international cooperation . . . carried out during the IGY;
(b) an international agreement to warrant that Antarctica . . . be used only for peaceful purposes;
(c) other peaceful purposes . . . not incompatible with those of the United Nations Charter.[38]

The USA invitation also soothed the territorial concerns of some of the invitees as it stated that no state would have to surrender their historical or sovereign claims to Antarctica.[39]

Despite there being some obstruction to the concept at the 60 preparatory meetings, negotiations opened on 15 October 1959, and the Antarctic Treaty was signed six weeks later on 1 December 1959.[40] Under Article VI Antarctica was defined for the purposes of the treaty as "the area south of 60 degrees South Latitude, including all ice shelves."[41] The Signatories to the Antarctic Treaty included the 12 countries that were active in Antarctica during the International Geophysical Year of 1957–58. These Parties were given the right to participate in consultative meetings under Article IX of the Treaty and were referred to as Consultative Parties. The Parties now meet every year to discuss Antarctic related issues, though prior to 1991 it was only every two years. The Consultative Parties meet:

> for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering and recommending to their Governments measures in furtherance of the principles and objectives of the Treaty.[42]

States that are not Consultative Parties, even if they are signatories to the Treaty, may only attend meetings as observers. The meetings themselves take place in relative secrecy. It is only in the last few years that open annual reports have begun to be published.[43]

Critically, Article Four of the 1959 Antarctic Treaty annulled the various territorial claims of nations that had established a presence on the continent – Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.[44] The Antarctic Treaty did not settle any outstanding territorial claims. Rather it effectively 'froze' the status quo between the competing states by providing in Article IV that:

> (1) there shall be no renunciation by any contracting party of previously asserted rights of or claims to – or even any basis of claim to – territorial sovereignty in Antarctica;
> (2) no acts or activities while the Treaty is in force can constitute a basis for asserting, supporting or denying a claim; and
> (3) no new claim or enlargement of an existing claim may be asserted while the Treaty is in force.[45]

Among the original parties to the Antarctic Treaty, seven (Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom) claimed exclusive sovereign rights to Antarctic "sectors," with the claims advanced by Argentina, Chile and the United Kingdom being conflicting and overlapping ones. Some 15 per cent of the continent was considered to be unclaimed territory. Among the nonclaimant states, Japan, the United States and the Soviet Union refused to recognise any claims made by other states.[46] In recognition of the difficult history of territorial conflict, and in a bid to overcome this history the primary purpose of the Treaty was to ensure that:

> in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord. In trying to achieve this goal it prohibits 'any measures of a military nature' and the continent must be considered a 'nuclear free zone' (Article V) . . . [but does] . . . not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.[47]

The ideal of scientific cooperation in relation to Antarctic research, which had begun with the IGY in 1957, was officially enshrined as a principle, and incorporated into Articles II and III of the Treaty.[48] The Treaty aimed to promote "international cooperation in scientific investigation in Antarctica" and encourage "the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica." This aim became a critical factor in allowing certain ENGOs to participate in discussions relating to Treaty activities. The Antarctic Treaty contains no reference to the word "environment,"

but it does allow Antarctic Treaty Contracting (or Consultative) Parties to make recommendations at the Meetings concerning the "preservation and conservation of living resources."[49]

From the date of its entry into force in 1961 the Antarctic Treaty has been evolving into a multilateral regional regime called the Antarctic Treaty System (ATS).[50] The term was originally coined by Mr Roberto Guyer and is now considered to include the Antarctic Treaty (1959), recommendations adopted at meetings of the Antarctic Treaty Parties, the *Madrid Protocol on Environmental Protection to the Antarctic Treaty* (also referred to as PEPAT, or the Madrid Protocol 1991), two separate conventions for the *Conservation of Antarctic Seals* (London 1972), and the *Convention on the Conservation of Antarctic Marine Living Resources* (CCAMLR, Canberra 1980). The *Convention on the Regulation of Antarctic Mineral Resource Activities* (CRAMRA, Wellington 1988) has not been ratified by any state, but is considered to be part of the body of documents making up the Antarctic Treaty System. The ATS also includes the results of Meetings of Experts, the decisions of Special Consultative Meetings and, at a non-governmental level, it reflects the work of the Scientific Committee on Antarctic Research (SCAR).[51] It can also be understood as a regime with geographical boundaries varying between 60 degrees south and the Antarctic convergence.[52]

The ATS comprises a two-tiered system in which ATCPs have full voting rights and Acceding (or Non-Consultatives) have no vote.[53] The ATCPs meet regularly, as per Article IX (1):

> for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty.[54]

Decisions made at an ATCM require consensus by all member states present. This has become an enshrined procedural norm underpinning the regime.[55] Joyner sees the central norms underpinning the regime as peaceful use of the continent, scientific cooperation, and the promotion of international harmony.[56] However, no norm as regards the environment *per se* was articulated at this time.

Among commentators there is no consensus on what the ATS model actually is and how successful it has been. Falk considers it as a model for global cooperation in that:

> The governance of Antarctica, ingeniously combining the virtues of international cooperation with the reality of state sovereignty, is the closest thing to a "world order miracle" that the world has known.[57]

Some perceive it as a triumph of science over politics, and as avoiding hot and cold wars so that scientific resources can benefit all humanity. Others, taking a more cynical view, argue that it is merely an example of *Realpolitik*, where clever politicians have overcome tremendous odds to achieve cooperative gains. Some

have argued that the ATS is inclusive of states while others portray the Parties as a group of wealthy states that have formed an exclusionary club.[58]

THE ANTARCTIC TREATY AND MINERAL EXPLOITATION

While the issue of mineral exploration and exploitation was discussed in the negotiations to create the Treaty, the negotiating states believed that it was premature to deal with the issue at that time.[59] First, it was considered impractical to exploit those resources and thus, in 1959 at any rate, it was not considered a pressing issue.[60] Secondly, differences between the claimant and nonclaimant states were considered intractable, and with so many other more pressing issues to hand, particularly ones of sovereignty, it was agreed that this be left unresolved.

Thus subsequent discussions on mineral exploitation were underpinned by the unresolved tension between claimant and nonclaimant states. This needs to be borne in mind when examining this issue.[61] Had an agreement on mineral resources been demanded, however, the Treaty itself might not have been agreed to because it would have prejudiced the negotiations over demilitarisation and scientific cooperation.[62] The Treaty is significant more for what it does not say, namely that it does not forbid mineral exploitation.[63]

This does not mean that the issue was not of concern to the delegates in 1959. The issue of mineral exploitation was certainly considered by the parties but it was not considered a pressing issue. An examination of domestic preference settings reveals that the national governments were well aware of the issues and potential problems a mineral strike might yield. For example, in evidence before the US Senate on 14 June 1960 concerning the scope of the Antarctic Treaty, Senator Aiken expressed concern as to what would be the situation under the Treaty if a vast strike of a particularly valuable resource were discovered. Mr Phleger, the leader of the US Delegation to the Antarctic Treaty, replied that the Treaty did not cover such a situation and that in any

> discovery of value in a sector which was claimed by one of the claimant nations it would naturally claim sovereignty and the right to dictate the manner of exploitation. The United States on the other hand never having recognized the validity of that claim is in a position to assert that it has rights with respect thereto and that would be settled by whatever means the parties finally adopt and accept any control by this treaty.[64]

The fear of many states at the time was that the question of exploitation of mineral resources had the potential to derail proceedings. States like Australia worked hard to ensure that the minerals question did not become an issue that might jeopardise the creation of the regime:

> It was this Government's policy to avoid discussion on this subject at Washington, because it could easily have prejudiced the whole negotiations . . . In order to reach agreement between nations with very diverse

> views which are signatories to the treaty, it was necessary to confine the negotiations strictly to the purposes in hand, and that was done.[65]

The 1959 Treaty does in a limited sense address indirectly the issue of mineral exploitation however, since it bans military activities and the dumping of radioactive wastes, and sets Antarctica aside as a "preserve" for the carrying out of scientific research.[66] Moreover, the Antarctic Treaty did establish an approach to resource exploitation, in that it made it clear that ATCPs would regulate any future mineral activity.[67] The Antarctic Treaty did not explicitly endorse environmental protection but it did permit the ATCPs to negotiate, where thought advisable, for the preservation and conservation of Antarctic resources.[68] This design flaw, or flexibility, depending on one's perspective, has enabled regime transformation to occur to meet the evolving needs of the stakeholders.[69]

WHY THE PUSH TO EXPLOIT ANTARCTICA'S MINERALS?

Until about 1970, the most accurate way to describe how the ATCPs and the broader global community treated Antarctica was "benign neglect" at best. However, the increasing global need for resources soon changed that, forcing ATCPs to confront questions of resource exploitation and/or management.[70] In the late 1960s several ATCPs (Australia, UK and USA) were approached by domestic oil companies about the possibility of prospecting for oil within Antarctica and its surrounding oceans. At approximately the same time New Zealand's government was asked to consider an application to prospect in the Ross Sea.[71] These entreaties first exposed the legislative and policy gap in the Treaty, in that there was no mention of mineral exploitation in the Treaty and no system for the issuing of permits or licences.[72] The issue of mineral exploitation was first discussed informally by the ATCPs at the 1970 Meeting in Tokyo, but no action was deemed necessary.[73]

Several years later the issue came to a head when the American ship the *Glomar Challenger* drilled into the Ross Continental shelf in 1972/73 and found gas traces in three sites indicating the potential of exploitable oil fields.[74] Several global economic developments emerged at this time that made the issue of natural resource exploitation vital, particularly for Western states' interests. Firstly, the Arab oil embargo of 1973–74 created a global oil shortage, and led to natural resource exploitation of Antarctica being of interest to those ATCPs which wanted to meet the shortfall with inexpensive oil.

Secondly, the ongoing UNCLOS negotiations were taking place between the developed and the least developed countries. Christopher Joyner argues that the fractious nature of these discussions might well have placed added pressure on ATCPs to create a mineral regime to forestall a possible challenge from the Group of 77 that Antarctica should be subject to the common heritage principles underpinning the UNCLOS negotiations.[75] Thirdly, Antarctica was seen as a potential strategic zone if world powers went to war because Antarctica provided a crucial base of operations for maritime communications between the Pacific and Atlantic Oceans.[76]

Both the major global powers of that period, the USA and the USSR, saw Antarctica and its potential exploitable resources as a tempting prize. The USA had always maintained national interest in the region including access to Antarctica's potential resources and saw Antarctica as a vital resource area of the future.[77] The USSR was also cognisant of the potential mineral riches of Antarctica and it openly stated it intended the exploitation of the resources of Antarctica for the benefit of its economy.[78]

Combined, these issues made it imperative for the ATCPs that they develop a mineral regime to gain access to vital resources and avoid the issue becoming one that could damage the ATS as a whole. If exploitable mineral deposits were found, the Parties knew that it would be hard to both assert their authority against other nations and create a regulatory scheme against entrenched economic interests.[79]

ENGOS AND ANTARCTIC MINERAL EXPLOITATION

NGOs and ENGOs appear to have had no impact on the actual creation and framework of the Antarctic regime. Richard Herr and Bruce Davis maintain that for many years after the creation of the ATS the relative policy vacuum of the organisation did not attract the attention of ENGOs, except for SCAR, and there is merit to their observation.[80] However, from the mid-1970s, ENGOs became interested in the case of Antarctica, and in particular any potential mineral exploitation that could damage the region, as part of their renewed interest in global environmental issues.[81] After the 1972 Stockholm Conference, and as the exploitation of Antarctic resources was discussed in earnest by states, ENGOs began to investigate the Antarctic management system and states' activities since they were concerned that the last pristine wilderness area was under threat.[82]

However they had not decided what their environmental position should be. The issue came to a head at the Second World Conference on National Parks in 1972, held at the Yellowstone National Park, USA. The Conference, co-sponsored by the IUCN,[83] saw attendees argue for the creation of an Antarctic "World Park"[84] under the auspices of the UN as the best solution, given the "great scientific and aesthetic value of the unaltered natural ecosystems of the Antarctic."[85] After much debate the body agreed on Recommendation 5 that stated:

> nations party to the Antarctic Treaty should negotiate to establish the Antarctic Continent and the surrounding seas as the first world park, under the auspices of the United Nations.[86]

Proponents of such a park argued that given its fragility any exploitation of the mineral reserves of the region could lead to an environmental catastrophe and they wanted the region to remain preserved and unmined.[87] While not binding on ENGO delegates, the recommendation appears to be the first time the debate as to the preferred ENGO normative position regarding Antarctica was discussed.

At that time the IUCN sent the resolution to the ATCPs but it was never formally considered and the Non-Consultative Parties were never given the chance to express an opinion on the matter.[88]

ANTARCTIC TREATY CONSULTATIVE PARTIES AND MINERAL EXPLOITATION

In the same year as the IUCN conference, the issue of mineral exploitation was first officially discussed. This was at the Seventh Consultative Meeting held at Wellington, and occasioned the adoption of *Recommendation VII-6: Antarctic Resources: Effects of Mineral Exploration*. The ATCPs noted that given the "technological developments in polar mineral exploration and the increasing interest in the possibility of there being exploitable minerals in the Antarctic Treaty area," that the issue be carefully studied and included on the agenda of the next meeting.[89] Some members argued against rushing to exploit while others such as Great Britain argued that the issue could not be avoided *ad infinitum* and should be addressed urgently.[90]

However, upon an examination of the literature and the official minutes, there appears to have been no state that did not define its interests in terms of being able to exploit these potential riches. The only impediment at this time to unrestrained exploitation was the fear that the issue could destroy the ATS, which had kept the lid on conflict over the region. States were afraid of losing the benefits of cooperation and, in this case, the fear was well founded. One member of a European delegation was anonymously reported to have stated: "This treaty will last till a big mineral discovery is made – then it will be every man for himself."[91] This fear of reverting to a pre-regime 'lawless' scenario, where sovereignty disputes and unhindered exploitation are the norm, was to prove an enduring thread running through the various mineral negotiations.

The following year from, 30 May to 10 June 1973, the Nansen Foundation sponsored an informal conference of experts at Polhogda, Norway to examine whether mineral mining was compatible with the objectives of the Antarctic Treaty.[92] This Experts Meeting was the start of the ATCPs' attempts to resolve the vexed minerals question and avoid a potential 'gold rush'. Experts came from all the ATCP states.[93] The Group's Report argued that considering the requests to exploit mineral resources made by oil companies the members needed to deal with the issue of mineral exploitation now, before commercial exploitation was feasible.[94]

However, several states thought such commercial exploitation was antithetical to the Treaty because of the potential risks of environmental contamination and the negative impacts on scientific research.[95] Lastly the experts considered the issue of minerals not being mentioned in the Antarctic Treaty in the light of the theoretical suggestion that any state/group should be able to explore and exploit any mineral resources. The Experts decided that any mineral accord outside the environs of the treaty was to be discouraged since it would lead to international discord.[96]

In 1975 New Zealand formally proposed that Antarctica should be designated a world park and offered to cede its territorial claims if other states followed suit. Chile was generally supportive of the proposal but was not willing to give up its territorial claims. No other Party was willing to adopt the New Zealand approach, seeing it as against their interests to give up their claim, and the matter was never formally discussed at an ATCM.[97] At that point in time the idea was seen as absurd by the ATCPs since any such policy was considered "conceptually fuzzy, legally undefined and internationally unenforceable."[98]

The idea of a permanent moratorium on mining activities was much discussed by ATCPs from 1973 to 1975.[99] By the time of the next Meeting of the Parties in 1975 the issue was brought into sharper focus. All the ATCPs accepted that the creation of a formal instrument was necessary and that they were the body to decide on questions pertaining to mineral exploitation within Antarctica. The majority of Members favoured the imposition of a New Zealand proposal, with weak support from Argentina and Chile, which called for a moratorium on mineral exploitation in the interim.[100]

Deborah Shapley has another version of the events leading to the ban, according to which the push for such a policy was led by the Soviet Union who, it was alleged, was hoping to catch-up with the Western powers in offshore oil technology. At that point, according to R. Tucker Scully of the USA State Department, the USA was virtually alone in opposing such a policy, maintaining its aforementioned position that exploitation was in its interest. The USA refused to accede to a moratorium at the Oslo meeting, putting considerable pressure on the other ATCPs not to impose any ban, and the issue was consequently not resolved.[101]

The Parties decided to task SCAR with working out the potential environmental consequences of mineral exploitation in the region. The main documents on the issue of mineral exploitation and its consequences are the *Report of the SCAR Group of Specialists on the Environmental Impact Assessment of Mineral Exploration/Exploitation (EAMREA)* prepared at the request of the Eighth Consultative Meeting and the Special Preparatory Meeting (for the Ninth Consultative Meeting) held in Paris in June 1976. In 1976 SCAR reported back and offered four principles applicable to any putative mineral exploitation:

(1) the Consultative Parties should continue to play an active and responsible role in dealing with the question of Antarctic mineral resources;
(2) the Antarctic Treaty must be maintained in its entirety;
(3) protection of the unique Antarctic environment and of its dependent ecosystems should be a basic consideration;
(4) the Consultative Parties in dealing with the question of mineral resources in Antarctica, should not prejudice the interests of all mankind in Antarctica.[102]

SCAR's guidelines were subsequently approved at the Ninth Consultative Meeting in 1977 (Recommendation IX-1).[103] Cognisant of environmental concerns and possibly to forestall states trying to gain an advantage and start mineral

activities now, a voluntary restraint policy was adopted in 1977 at the London Meeting by the ATCPs urging member states to refrain from mineral exploration and exploitation till an agreed regime could be adopted.[104]

There were several problems with the voluntary ban. The moratorium was merely a 'gentleman's agreement' that was not legally binding on ATCPs nor was it binding on other states and it was never clearly explicated as to precisely what geophysical activities were considered banned.[105] Nonetheless there is no evidence to suggest that the ban was ever not honoured by both ATCPs and other states. States were primarily concerned that if the voluntary moratorium collapsed without any convention replacing it, there would develop a 'frontier mentality' which would allow the unrestrained exploitation of mineral resources in Antarctica by the strongest state, with no need to share with the world community.[106] The voluntary ban placed no stress on the regime as a whole, however, because there was no real pressure to mine at that time, due to technological limitations.

At this point we can clearly observe that many states had accepted mineral exploitation as inevitable and necessary. Ted Rowlands, the UK Minister of State for Foreign and Commonwealth Affairs, argued in his speech to the 1977 ATCM in terms that seemed to speak for many states when he framed the debate in terms of global need: "I do not mean to imply that Antarctic resources should not be exploited – the world's need for them is probably too great for such an argument to be tenable."[107]However, there was an understanding by Mr Rowlands and representatives of other states that such a course of action would have deleterious effects on the Antarctic environment unless, "foreseen and guarded against."[108]

While mineral exploitation was seen as necessary to satisfy the globe's demands for raw resources some states were concerned about the impact on the region and were calling for a conservationist approach. One of the Argentinian delegates, J.C. Beltramino, argued: "That effective conservation measures, i.e. measures conducive to rational utilisation of such resources, should be adopted seems to us to be glaringly obvious."[109] Some delegates were in favour of the need to preserve the Antarctic environment and were willing to state such a position openly. The Chilean delegate, F. Zegers and the US member R.C. Brewster highlighted the need for any mineral activities to be cognisant of preserving the unique Antarctic environment.[110]

SCAR, through their particular National Antarctic Committees, was asked to assess the impact of such mineral gathering.[111] The Group of Experts Report considered that were it thought possible to commence mineral exploration or exploitation in the Antarctic, guidelines would need to be drawn up with regard to any environmental impact assessment.[112] At the time the Group felt that current technology was not capable of year-round oil production in the Antarctic but that such technology was being developed.[113] The Report recommended that Antarctic environmental protection had to be determined before any mineral exploitation could be undertaken.[114]

The Group of Experts met again in Washington, D.C., between 25 and 29 June 1979.[115] The Group agreed in *The Report of the Group of Ecological,*

Technical and Other Related Experts on Mineral Exploration and Exploitation in Antarctica, Washington 1979, that current scientific, technological, and economic factors indicated little possibility of the commercial exploitation of Antarctic mineral resources except for offshore hydrocarbons for the foreseeable future. Accordingly, they recommended that future scientific programmes to deal with the impact of mining activity should be concerned primarily with oil.[116] The overall thrust of the Group's report was that while there were environmental risks associated with such activities, they were not so severe as to rule out such exploitation *ab initio*.[117]

The 1979 ATCM in Washington D.C. saw the ATCPs stipulate that any agreed regime should assess the impact of any mineral resource activity and create rules to protect the environment. It was clear that some delegates to the Meeting were convinced that exploitation of petroleum deposits was likely within ten years and that steps must be taken now to avoid over-exploitation.[118] The ATCPs agreed with the conservationist proposition that 'the interests of all mankind' should not be adversely affected by any minerals regime.[119] Recommendation X-1 effectively added a fifth principle to the four previously accepted regime principles when it stated that any future minerals regime would designate "whether mineral resource activities would be acceptable."[120]

Why states had shifted from exploitation to conservation at this time is not explored in the literature but there are several possibilities. First, is that states wanted to exploit Antarctic resources but were afraid that such activities would be resisted unless there were environmental safeguards. Second, there was genuine concern by states to protect the Antarctic environment, providing such regulation did not interfere with mineral activities.

Recommendation X-1 was to prove crucial in the battle to come since it mandated that all Parties must deem the proposed mineral regime acceptable. By 1980, the last ATCP members who had objected to the creation of such a regime, Japan and the USSR, agreed to negotiate.[121] The debate at this stage was only between those wanting a conservationist minerals regime and those desiring exploitation. However, the negotiations to create a minerals regime would for the first time provide a forum for altruistic arguments to be tested and agreed to by the Parties. This opened the door for ENGOs and their preservationist arguments.

ENGOS DURING THE 1970S

The ENGOs spent the 1970s effectively marshalling their forces for the fight to protect the Antarctic environment. The charge was led primarily by domestic ENGOs from the developed states. In the USA CLASP became involved in Antarctic protection after the announcement that hydrocarbon gases (methane, ethylene and ethane) had been found in the Ross Sea by the American-run Deep Sea Drilling Project of 1972–73. The International Office of the America-based Sierra Club asked CLASP to represent it on Antarctic issues and the CLASP Director attended the Eighth ATCM in Oslo in 1975 and the Special Meeting

on Minerals preceding the Ninth Meeting in 1976. Having no official role, the Director was limited to passing out position papers to delegates outside the Meeting Room. Both the Sierra Club and CLASP functioned as informational clearing houses on Antarctic issues for the rest of the decade.[122]

In Great Britain, IIED implemented an Antarctic project in 1975–76 to support conservation of Antarctica. Opening up the ATS to more states and individuals influenced the management of the regime. The IIED's press arm, Earthscan, also played an early vital role in raising global public awareness on Antarctica, framing the issue as one of protecting a fragile wilderness. This heightened awareness was critical since it allowed ENGOs to convince states that any decision would be scrutinised by the world. Earthscan also provided valuable expertise to countries not part of the ATS and to concerned individuals and scholars.[123]

It was during this period that ENGOs began to be directly involved in the inner workings of the Antarctic Treaty System, access that was to prove crucial to ENGO policy successes in the 1980s. Following an upsurge in domestic interest in Antarctic issues, in 1977 for the first time the Director of the International Office of the Sierra Club was allowed for the first time to be a member of the USA delegation to the Ninth and Tenth ATCMs.[124]

The ENGOs' policy direction was influenced primarily by two documents. As noted earlier, the 1972 recommendation of the Second World Conference on National Parks, which called for Antarctica to be designated a 'World Park' administered by the United Nations, was a critical starting point in the campaign to have the Antarctic declared a preserve. Initially some ENGOs were more influenced by the second document, however, the *1980 World Conservation Strategy*, prepared by IUCN, UNEP and the World Wildlife Fund (WWF), part of which dealt with making the conservation of Antarctic living resources a global priority. The document however, was silent on the issue of mineral exploitation.[125]

By the time of the 1981 World Parks Congress many ENGOs had backed away from the preservationist 'World Park' concept, in favour of demanding a conservationist minerals Convention. Many representatives believed that preservationism was not a viable negotiating position. This was more of a strategic decision, relatively separate from their particular beliefs, because they were convinced that advocating a preservationist position would impede their ability to influence the Antarctic states. Given the virtually unanimous support amongst states for exploiting Antarctic mineral resources they calculated that the best negotiating strategy would be to push for the strongest conservationist regime.[126]

While this was the majority decision, not all ENGOs favoured such an approach. Those more radical sought a social actor that could articulate the preservationist position. Eventually ASOC became the vehicle through which such views were promoted. ASOC was created in 1978 by CLASP in an effort to build a coalition of like-minded ENGOs from over 40 countries.[127] Importantly, the framework of ASOC enabled many ENGOs to take part in Antarctic issues without having to meet large monetary or personnel expenses.[128]

ASOC's primary objective was "to preserve the wilderness values of Antarctica by having the area declared off limits to mineral exploitation."[129] The ASOC member groups were dedicated to creating a world park preserve and a permanent moratorium on mineral activities.[130] Initially ATCMs were wary of ASOC, fearing it would function only as a potential non-state 'veto group' but its work on Antarctic issues demonstrated that it could work in tandem with the other stakeholders to produce mutually beneficial outcomes.[131]

THE CREATION OF THE WELLINGTON CONVENTION (CRAMRA)

The purpose of the negotiations was to establish a regulatory regime (if ever minerals development should go forward) that balanced orderly resource extraction with environmental protection. To do this the ATCPs created what became known as CRAMRA, or the Wellington Convention. Margaret Clark evinces three reasons why state interest dictated that negotiations commence in the early 1980s: the most technologically able countries were confident they would be best able exploit any resources and turn a profit (first in best dressed). Further, any discovery of resources would probably lead to the dissolution of the legal freeze on territorial claims and would lead to an 'open season'. Most states were anxious to avoid this scenario and wanted an agreement in place to regulate mineral activity and avoid destroying the Antarctic regime. Lastly, some states were concerned about environmental impacts on the fragile region, and wanted a regime that allowed mineral activities that would not destroy the overall Antarctic ecosystem.[132]

Over the life of the Antarctic regime the ATCPs had developed a number of legal instruments to regulate human activity in the Antarctic. These were all negotiated in a spirit of consensus and this had changed the social dynamic under which the relevant states operated. Coupled with this consensus style has been a philosophy of attempting to regulate contentious issues before they developed into problems. When the ATCPs began to negotiate CRAMRA, these two principles of consensus and solving problems before they became intractable underpinned the proceedings and helped establish proper conduct and principles for how the states were supposed to act when negotiating.[133] This social learning was to have a major impact on both negotiations and proceedings by ensuring that they were not particularly acrimonious and the outcome was acceptable, if not internalised, by all.

At the 1981 ATCM in Buenos Aires the Parties adopted a *Recommendation on Antarctic Mineral Resources* that set out a schedule of Special Meetings to create a mineral regime as a matter of urgency to cover commercial exploration and exploitation.[134] The delegates to the Special Meetings were tasked to create a mineral regime that took into account the following principles:

(1) That the ATCPs continue to be the main stakeholders when dealing with issues of mineral exploitation;
(2) That the Antarctic Treaty had to be maintained;

(3) That the ATCPs, when deciding on this issue, be in no way prejudicing the interests of humanity in Antarctica;
(4) That Article IV and its provisions on sovereignty remain unaffected; and
(5) That the principles inherent in Article IV be upheld.[135]

That Meeting also considered the issue of whether to continue the voluntary restraint of Antarctic mineral resource activities agreed to in Recommendation IX-1 for the interim period before the entry into force of the Convention. All the Parties agreed not to engage in Antarctic mineral resource activities as defined in the Convention until CRAMRA entered into force.[136]

It should be borne in mind when examining these negotiations that the Antarctic mineral negotiations took place against a backdrop of global concern over resource exploitation generally and against a backdrop of antagonism from elements of the UN, and between ATS and non-Party states, in particular.[137] During the 1980s, the issue of global resource exploitation and its apportionment reached a zenith with the UNCLOS and CRAMRA negotiations.[138] Consequently the successful negotiation of CRAMRA was in the ATCP's interests to allow for an orderly taking of resources before the intervention of, or complaints from, outside agencies or states that believed they were being unfairly denied their share of Antarctic resources and might create their own minerals regime.[139]

ENGOs, unhappy with the idea of CRAMRA being implemented, moved strategically to create an "alliance of interests" with states that opposed the ATS control of Antarctica, such as Malaysia. The Malaysian-led campaign for the UN to control the Antarctica idea held initial attraction for ASOC and Greenpeace since at the time the ATCPs were resistant to accepting ENGO influence in the ATS. The ENGOs were conscious that to have an impact with their own particular moral arguments, and to persuade member states, they had to ensure that the forum in which such debates occurred was receptive to their reasoning. Some ENGOs calculated that given their long association with the UN system they would have more sway in a UN-controlled organisation, and the issue split ASOC. Greenpeace, a key member, decided in 1984 that it could have direct influence in the ATS and chose to become actively involved in the negotiations, as eventually, did ASOC for primarily the same reason.[140]

In 1981 when the negotiations to create CRAMRA began, no Party believed that commercial exploitation was imminent. It was deemed better to address the issue urgently however, rather than wait for active commercial ventures to begin when technology had overcome the climactic issues with its attendant prohibitive operating costs.[141] Despite the ATCP's professed concern about environmental protection, Porter and Brown established that there was no evidence of Parties carrying out an environmental impact statement of such mineral exploitation before the regime negotiations commenced. No states appear to have actively argued for exploitation without regard for its environmental consequences on the region. Of the ATCPs, those most in favour of mining were the United States, West Germany, Japan, Britain, and France.[142]

The USA, and its allies, were cognisant of the need not to undermine the existing ATS however, and considered that the ongoing:

> negotiations towards a minerals regime are not a concerted effort to open Antarctica to mineral exploration and exploitation, but a process necessary to create an environment in which any such mineral resource activities will not undermine the basic understandings and political compromises at the heart of the Antarctic Treaty System.[143]

The southern hemisphere nations of Australia, Argentina and Chile were all concerned that any mineral activity should not be deleterious to the environment. They were all active initially in calling for strong conservationist measures to be part of the CRAMRA.[144]

In all, there were twelve formal CRAMRA negotiations and three informal intersessional meetings over six years in total. In many ways Chris Beeby, the Deputy Secretary of the NZ Ministry of Foreign Affairs and Chairman of the CRAMRA negotiations became the driving force behind the negotiations arguing for the need for a strong conservationist ethic. The participants were the current ATCPs at the time.[145] Initially there were two draft conventions that were known as the "German" and the "Beeby" drafts. Both argued that mineral activities were only permissible if a framework of environmental safeguards was in place.[146] The Beeby draft became the working draft for subsequent negotiations. Amazingly no formal notes or records were kept of the proceedings so it is difficult to establish individual state negotiating positions. Rather progress was recorded by the delegates keeping mental notes by the rewriting of an informal proposal, from an agreed text, by the Chairman of the Meetings.[147]

The first session of the Fourth Special Consultative Meeting was held in Wellington, New Zealand, in June 1982. Eleven other meetings took place over the course of the decade, hosted by different Parties.[148] The final session of the Fourth Special Antarctic Treaty Consultative Meeting was held in Wellington from 2 May to 2 June 1988. Christopher Beeby of New Zealand was again elected as Chairman and representatives of all the Consultative Parties attended, as did the contracting parties and invited states (but not the ENGOs).[149] It was agreed by the negotiating parties that until negotiations were concluded and a new mineral regime installed that a voluntary moratorium would remain in place.[150]

ENGO RESPONSES TO THE CRAMRA NEGOTIATIONS

The response to the CRAMRA negotiations by the ENGOs was fractured. As noted previously there was dissension between the various ENGOs making up ASOC as to what their objective in the CRAMRA negotiations should be. Should they seek to preserve the region via the creation of a world park or bow to what many believed would be the inevitable minerals convention and seek stronger environmental provisions in the CRAMRA?[151] Many individual ENGOs had as policy the complete denial of mineral development in Antarctica, declaring it an

internationally protected site. For example, Greenpeace International circulated an "Antarctic Declaration" which emphasised the principles of The Antarctic Treaty as justifying "full protection" status.[152] Another faction of ASOC members favoured promoting environmental safeguards to the CRAMRA negotiations as the appropriate negotiating strategy.[153]

However, over time the preservationist faction within ASOC appears to have achieved ascendency. The IUCN resolution in 1981 to designate Antarctica a world park was endorsed by the World National Parks Congress in Bali in 1982. It was resolved that "the concept of a world park and other appropriate designations should be developed more urgently."[154] Greenpeace, one of the more preservationist ENGOs, joined up with ASOC in 1983 after concerns about the direction of the ATCP's mineral negotiations in 1982. As a result, ASOC took on a more preservationist edge as a whole.[155]

Over this decade ASOC circulated world park petitions globally, while Greenpeace created a publicity campaign that included expeditions to the region in 1985–86 and 1986–87 that focused on the idea of a world park. They also established "World Park Week" every year in February and the creation of "World Park Embassies" in some capital cities. They published a pamphlet on the idea in October 1986 that was circulated during the UN Debate on the Question of Antarctica in November. The umbrella group ASOC published numerous articles on world parks in its magazine *eco* and handed out a briefing paper to the Antarctic Treaty states in 1986.[156]

ASOC was not above employing strategic actions designed to embarrass the ATCPs about their preference for mineral exploitation, either. After the special meeting in January 1983 in Wellington a working draft of a minerals regime was created. This working paper was obtained by ASOC which published it in the ENGO publication *ECO*, bearing the headline caption *Beeby's Slick Solution* to underscore the ENGOs' opposition to the CRAMRA text.[157]

The ENGOs were in one sense forced to employ such tactics since the CRAMRA negotiations provided few avenues for ENGO participation. Only the Scientific Advisory Committee could receive "views" from "international organizations" and only in circumscribed circumstances.[158] However, the ENGOs set upon a strategy of infiltrating the negotiations by joining sympathetic state delegations. Since 1983 a representative from either ASOC or Greenpeace has been on the delegations of Australia, New Zealand and Denmark at ATCMs. They were thus a presence, albeit minimal, during the CRAMRA negotiations.[159] For example, ASOC was able to call for the creation of an Antarctic Environmental Protection Agency during the CRAMRA negotiations, albeit without success.[160]

At the same time ENGOs set about becoming an official part of the ATS system through a series of strategic partnerships with established non-state stakeholders. The start of the negotiation for a minerals regime in 1982 also brought increased scientific community concern that any such development would harm the pristine nature of Antarctica. In 1982–83 IUCN's Ecology Commission contacted SCAR about a possible collaborative effort to conserve Antarctica. In April 1985 the two groups meet in Bonn, Germany and in late 1985 a joint IUCN/

SCAR working group was created to focus on long-term conservation strategies for Antarctica. The IUCN saw SCAR's special position in the ATS as a conduit to better promote conservationist policies but there is no evidence of their explicit agreement to act in this manner.[161]

The ENGOs led the charge to declare Antarctica a World Park and they lobbied national delegates vociferously to achieve that aim. When this position was rejected by those states which saw their interests being linked to mining, they argued for the most stringent environmental protections possible.[162] When the negotiations were considered complete, the Consultative Parties adopted the *Convention on the Regulation of Antarctic Mineral Resource Activities* that opened for signature in Wellington on 25 November 1988.[163] The CRAMRA text attempted to put in place a conservationist regime to allow for the taking of minerals without damaging the Antarctic environment in the long-term.

While CRAMRA was not designed to promote sustainable mining, an oxymoron at best, it was intended to balance the rational taking of resources without significant damage to the Antarctic environment in order to conserve the region for other uses and future generations. As noted in the introduction, CRAMRA Article 1(6) defined mineral resources as "all non-living natural non-renewable resources including fossil fuels, metallic and non-metallic minerals."[164] CRAMRA Article 1(7) defined Antarctic mineral resource activities as "prospecting, exploration or development, but does not include scientific research activities within the meaning of Article III of the Antarctic Treaty."[165] CRAMRA's area of application was considered to be similar to the Antarctic Treaty definition, the Antarctic continent, the islands, the ice shelves south of 60 degrees latitude, and the seabed and subsoil of adjacent offshore areas but not the deep seabed.[166]

The Preamble of the Convention acknowledged the ENGO campaign to link Antarctica with environmental principles that while exploitable mineral resources may exist in Antarctica, the region has unique ecological, scientific and wilderness value which the Parties had to recognise and take into account.[167] Article 2(1) of CRAMRA supported this proposition by stating:

> No Antarctic mineral resource activity shall take place until it is judged, based upon assessment of its possible impacts on the Antarctic environment and on dependent and associated ecosystems, that the activity in question would not cause . . . damage to Antarctica's environment and global weather patterns.[168]

Article 4, paragraph 2 mandated that environmental impact statements must be made before exploration and development could occur, while paragraph 3 stated that "significant adverse impacts" on global climate and weather must be taken into account in any development decision. Article 8 made an operator liable for damage to Antarctica caused by their mineral activities, and Article 12 allowed for inspections of all mineral resource activities.[169] Further under CRAMRA, Antarctic mining was banned in any Specially Protected Area or at a Site of Special Scientific Interest under Article IX (1) of the Treaty.[170]

CRAMRA proposed, under Article 3, to prohibit any mineral mining outside its rules and procedures while imposing strict environmental impact criteria on any proposal to mine Antarctica. It also created a skeleton framework of rules to governing exploration and exploitation of minerals that was intended to be fully fleshed out over time.[171] The Convention required consensus by all members of the commission for any mineral exploitation to occur that might have *substantial* environmental impact. No exploration for minerals was to occur without a consensus of members agreeing that such activity would not break environmental standards, thus reversing the previous standard laid down under CCAMLR that exploitation was possible unless there was consensus on measures to limit it.[172]

The Beeby text required decisions on Antarctic mineral exploitation to be made on an *ad hoc* and individual basis and set up a Commission to serve as a broker between the various competing interests. An attempt to exploit the Antarctic mineral resources would start with a sponsoring state informing the Commission that a private company under its jurisdiction desired to prospect a particular region. The sponsoring state would then submit a request, with an environmental impact statement attached, to open such an area for exploration to the Commission that would forward such a request to an advisory committee comprising one expert from every member-state. This body was to consider the request and recommend a decision.[173]

Once allowed, a Regulatory Committee, comprising eight states specifically chosen to reflect the pattern of Antarctic political interests and always to include the USSR and the USA, would oversee the exploration and exploitation until the exploitation was concluded. The Committee was charged with putting in place a management scheme specific to that operation which contractually bound the developers, that is the state(s) whose area was being exploited and the superpowers. Such a management scheme was meant to specify: whether civil or criminal law applies to the project, any licensing, taxes and royalty arrangements, technical and safety specifications, monitoring proposals, emergency plans, reporting criteria and the circumstances under which a permit could be withdrawn. Under the scheme developers were granted secure tenure and the sole right to apply for a development permit in the future. The proposal was submitted to the Commission, to approve or veto.[174]

The Final Act of the Fourth Special ATCM on Antarctic Mineral Resources urged "their nationals and other States to refrain from Antarctic mineral resource activities as defined in the Convention pending its timely entry into force."[175] Against this background of negotiations it remained a moot point as to whether the moratorium was in force throughout the 1980s. One view states that with the adoption of CRAMRA the moratorium was no longer in effect and any state could have exploited the mineral resources. The opposing view argues that because a large segment of the ATCPs were not yet willing to sign and ratify CRAMRA then the moratorium was in continuance until a treaty was concluded. The negotiations themselves do not shed light on which version is correct.

Later, at the Vina del Mar Special Meeting, France, Italy and Germany put forth an informal proposal that the Parties should confirm in explicit terms that

the moratorium still held but Chile, the UK and the US rejected the proposal strenuously and vociferously. Francesco Francioni believes that the ban was not in force by the end of the decade but there is no evidence that any ATCP or other states began exploitation of the region.[176] At this point in time there was still a normative and regulatory void regarding mining since the rule and standards of behaviour had not yet been decided, let alone entrenched.

Joyner considers that CRAMRA did evince a strong environmental protection ethic as demonstrated by Article 4 that outlined the principles to be used in evaluating mineral activities, with decisions to be based on "sufficient information"[177] as to any potential unacceptable damage that might be caused by such activity.[178] However Joyner concedes that this formulation was broad enough to be open to multiple interpretations since the term "sufficient information" was imprecise at best.[179] Other critical terms utilised under the Convention were also hard to quantify in a meaningful way, for example, Article 4 and the definition of "significant adverse effects" or "substantial risk" when applied to mining activities.[180] Further, the Beeby proposal made no provision for the right of humanity as a whole to share in the mineral wealth of Antarctica.[181] Such shortcomings made the Convention an easy target for those stakeholders unhappy with the normative direction of the proposal or the impact on their interests.

Three views of differing states' interests were immediately apparent and were to have an impact on the chances of the convention being ratified. One was that for some states and groups the very existence of CRAMRA was seen as approval for mining Antarctica that they opposed. Secondly, the approval of CRAMRA would be seen as granting security of title to any potential claim that could impact on what some states regarded as their territory.[182] As a corollary to this view was the old fear that many of the sovereignty issues, frozen by the Antarctic Treaty, would erupt again potentially ruining the ATS. Thirdly, to achieve the requisite consensus, all Parties had to compromise their interests to some extent, leading to many states feeling aggrieved at the Convention itself.

Most of the delegates were happy that the long negotiations were finally over. The French Delegate Head and Chief Negotiator Jean-Pierre Puissochet, in his statement on the adoption of CRAMRA gave no hint of the furore that would develop later internally over France's position on the Convention, when he wished on behalf of the French government that CRAMRA enter into force in a short period of time.[183] He stated that in his opinion:

> The texts we have just adopted represent a happy balance between concern for the protection of the environment and the wish to allow, if it ever becomes necessary and possible, a reasonable exploration and exploitation of Antarctic mineral resources.[184]

CRAMRA was opened for signature on 25 November 1988 in New Zealand. However, out of the 33 eligible states only 9 states signed on immediately: the Soviet Union, New Zealand, Norway, Finland, Brazil, South Korea, South Africa, Sweden and Uruguay. The USA, the UK, Chile and Argentina promised to sign

as rapidly as possible. To reach the tipping point of ratification the Treaty needed at least 16 ATCPs to enter into force. Many states, however, were ambivalent about the Convention, concerned that the short-term rewards under the mooted Convention were not sufficient while for others, domestic opposition to mining the region was rising with potential deleterious impacts on in-state elections.[185]

ENGO OPPOSITION TO CRAMRA

The ENGOs observed this reticence and determined to drive a wedge between the ATCPs and prevent CRAMRA from being ratified. Environmentalists saw the purpose of the treaty as setting up procedures to exploit Antarctic resources more effectively and believed that the proposed twin objectives of orderly mineral exploitation and environmental protection were mutually exclusive. Further they were doubtful that the ATCPs could be relied on to put environmental protection ahead of economic gains from any race to exploit such resources, leading to a "slippery slope" of increased exploitation.[186] They worried that such a Treaty created a legal framework that would enhance investor confidence, leading to more exploration and development in the short term. Lastly, the ENGOs were concerned that CRAMRA opened the door for potential armed disputes over resource exploitation between the Parties to protect their interests, contrary to the nature of the ATS whose *raison d'etre* was to promote peace.[187]

Following the opening up for signature in June 1988 the ENGOs adopted a strategy of convincing certain states to refuse to sign or ratify CRAMRA and/or delay its implementation. They initially targeted the seven claimant states, Italy, West Germany, the USA and the Soviet Union, since if any claimant state or superpower failed to ratify the Convention it would lapse. Their tactics to achieve their aims were traditional and similar to their campaign to stop CRAMRA being negotiated. They again launched publicity campaigns through the media designed to influence domestic constituencies. They obtained signatures on petitions, lobbied domestic politicians, and gave evidence to legislative committees – all designed to increase the pressure on negotiators not to sign on.[188]

The two main ENGO groupings, ASOC and Greenpeace, maintained a preservationist approach arguing that a complete ban on mining in Antarctica was the only way to protect this fragile environment and that the region had to be designated a World Park or Preserve.[189] ENGOS such as Greenpeace attempted to frame the debate by appealing to the higher values of wilderness implicit in preservationism. Greenpeace argued that as far as it was concerned: "In all decision-making on Antarctica, preservation of the continent's wilderness values should be paramount."[190] Greenpeace's approach resonated with people who had an ideational affinity with the wilderness concept and feared that a unique wilderness was in danger of being lost. Greenpeace maintained that:

> The proposed mineral regime, if brought into operation, could allow the destruction of wilderness by a gradual, cumulative process, without any decision being made regarding protection of the overall character of the region.[191]

However, Greenpeace were quite willing to utilise interest-based arguments if it aided their cause by pointing out, for example, that a moratorium on mineral activities would defuse state territorial disagreements and increase the chance of peace in the region allowing scientific research to be better carried out unhindered.[192]

ENGOs were particularly active domestically in encouraging public debate about, and opposition to, CRAMRA in Australia and France, and in Belgium and Italy, where they sought to narrow what Robert Putnam refers to as the government's "win sets" and prevent ratification.[193] Both the Australian Conservation Foundation (ACF) and Greenpeace Australia lobbied politicians, created a national petition and letter-writing campaign, and talked to community groups, all the time highlighting the weaknesses of the Convention.[194] Initially the Australian Environmental Minister, Graeme Richardson, favoured signing the Convention because he personally believed that mining was inevitable. He publicly stated that modern drilling and shipping practices were so sophisticated that there would be no problems but a few days later the *Exxon Valdez* incident[195] undercut his argument, weakening his position with the Australian populace.[196]

This was just one of a spate of environmental problems that year that influenced global attitudes to CRAMRA. In Antarctica the Argentine supply ship *Bahia Paraiso* hit rocks on 28 January 1989 spilling 250,000 gallons of diesel fuel into the ocean and killing thousands of seabirds, penguins and krill. The ENGOs were able to harness global outrage at the wreck of the Argentine ship the *Bahia Paraiso* in Antarctic waters and the *Exxon Valdez* disaster to convince many people that damage to the fragile Antarctic environment would inevitably follow mineral activities there and needed to be prevented.[197]

At the same time as concerns were being raised over CRAMRA's economic worth to Australia, the domestic political landscape within Australia was altering. Politicians across the country scrambled to appear more 'environmental', prompting even the conservative federal opposition, which had showed little interest in environmental issues before, stating that Australia should not sign onto CRAMRA.[198] Polls indicated that environmental issues were important at both the state and national level and the concern peaked at the time CRAMRA was tabled in the Federal Parliament. With an ebbing of public and parliamentary support for signing the cabinet responded to the public mood and indicated it would not sign.[199]

Meanwhile in France, Jacques Cousteau, the oceanographer and national icon, campaigned strenuously against France signing onto CRAMRA. His Foundation had collected approximately 1.2 million signatures to petition the French government to 'Save the Antarctic'. Cousteau believed that the mining treaty increased the risk of oil spills and other environmental damage and that there was no need to pursue hypothetical mineral resources when humanity was currently experiencing a glut of such resources.[200] In April 1989 the French Prime Minister said – ostensibly because of the sinking of the *Exxon Valdez* – that France would not sign the Convention and the negotiations should be reopened. Thus France became the

first ATCP to openly question CRAMRA.[201] Given the need for consensus within the ATS this represented a real blow to the states hoping to ratify the Wellington Convention. However, it was still possible for CRAMRA to pass if the negotiations were reopened and France's concerns were satisfied.

Clark argues that France's decision to refuse to sign onto CRAMRA can be traced to its desire to be seen as a good international environmental citizen following the criticism it received for building an airbase in Antarctica by levelling a chain of islands as well as its Pacific nuclear testing programme.[202] The decision to forgo CRAMRA by France also had the added benefit of placating ENGOs and the French green vote at relatively little cost to itself.[203] Furthermore, as Willy Ostreng argues (supported by Peter Beck), the French support for a wilderness reserve was driven by a desire to protect their sovereign claims to Antarctica.[204]

Initially, as seen by the French negotiator's comments at the end of the CRAMRA, the French political elite were happy with the outcome of the negotiations. The French public, however, were heavily influenced by the passionate pleas of Jacques Cousteau, a national icon for decades. At the domestic level the French government was unable to build coalitions among disaffected groups strong enough to overcome Cousteau's opposition, thus shrinking the win set options open to the government, and by extension, to the negotiators. This domestic discord placed pressure on the French government to alter its international negotiating stance from conservation to preservation to satisfy domestic concerns. Doing so necessitated abandoning CRAMRA since it was never designed to promote, indeed was antithetical, to preservationist ideals.

Elliott is the only commentator to concede that there may have been an altruistic element at work as well in the French government's decision.[205] A further point which has been overlooked in most examinations of the topic is that the environmental beliefs of the newly elected socialist government of France helped constitute their government's identity. The new Environmental Minister Brice Lalonde was a founding member of the French Friends of the Earth. The French National Assembly was also upset that it had not been involved significantly in the CRAMRA negotiations, and the President of the Assembly, M. Fabius, argued in early April that France should not sign the Convention.[206] A more contextual understanding of France's decision not to sign must encompass this notion that the identity of the new French government included a strong environmental component that opposed damaging the environment, particularly the fragile and unique Antarctic biosphere.

At the same time the Australian cabinet was divided over whether to sign and the anti-CRAMRA faction in the cabinet was boosted by the French announcement.[207] Prime Minister Hawke of Australia found himself assailed from all sides by members of the Senate lobbying for and against the Convention, while Jacques Cousteau wrote to him personally seeking to dissuade him from signing the document. The French Prime Minister Rocard flew to Australia in person to outline the reasons behind France's decision not to sign. Even the Liberal opposition declared it was against CRAMRA. On 22 May 1989 the Australian cabinet stated it would not sign on.[208]

The Australian Prime Minister, Bob Hawke, in November 1989, put the case for his country's opposition to signing CRAMRA in the following terms:

> The most urgent and relevant action we can take is to ensure that this irreplaceable environment is never put at risk by mining. That is why Australia has decided not to sign the Minerals Convention. This position is based on two simple propositions. First, the Antarctic environment is extremely fragile and critically important to the whole global ecosystem. Second, mining in Antarctica will always be dangerous, and could be catastrophically so.[209]

Bob Hawke also referred to the recent *Exxon Valdez* sinking as one reason why Australia no longer supported CRAMRA in July 1989:

> The grounding of the *Exxon Valdez* in Alaska is testimony to the damage that an oil spill can do to such an environment. In Australia's view, mineral exploitation in Antarctica poses unacceptable risks to the Antarctic environment.[210]

Joyner argues that Australia's *volte-face* was due both to a domestic political desire to please the green vote and, at the global level, a desire to retain Australia's sovereign influence within the ATS.[211] Elliott echoes these charges when she maintains that from Australia's perspective CRAMRA was flawed, in that it left Australia with little authority over any mineral activity in the region. From Australia's perspective, CRAMRA also critically failed to clearly outline the rules governing decisions on claims. Nor did it demand that prospectors seek prior authorisation before commencing (although any prospecting had to carried out within the rules established by the Convention).[212] Elliott points out that both the Australian Treasurer Paul Keating and the Minister for Resources Peter Cook opposed CRAMRA because it did not guarantee a royalty payment scheme that they believed would not undermine Australian sovereignty, and because CRAMRA had no anti-subsidy provisions which would not put Australian mining firms at a competitive disadvantage.[213]

Elliott concedes however, that there was also a genuine commitment by the Government to environmental protection of the continent, for example, its prevention of the building of the Franklin Dam in Tasmania. Australia had long seen itself as an advocate of global environmental protection and in a number of forums, for example, whaling. It had consistently argued that Antarctic environmental protection would be best met with a comprehensive agreement rather than the piecemeal approach of CRAMRA.[214] Australia had been a leading advocate for just such an agreement, having first tabled one in 1983. It had been arguing before the Fifteenth ATCM that there was a need for an all-encompassing agreement.[215]

Joyner similarly notes that environmental concerns rather than financial considerations may well also have been crucial to Australia's decision not to sign onto CRAMRA, because there were four environmental disasters in polar waters in early 1989 that highlighted the fragility of the polar environment.[216] These ships'

accidents, combined with the campaigns of the ENGOs, seem to have heightened the Australian public's concern for protecting Antarctica, an issue that until then had not registered on the Australian political landscape.[217] Combining Australia's traditional conception of itself as an environmental advocate on the global stage, the ENGO campaign aimed at both the government and the populace and the newly recognised public concern for environmental issues. This made for a powerful troika of influences opposed to CRAMRA.

The Australian defection from CRAMRA was not well received by the other ATCPs who were quick to criticise the decision. They argued that it threatened the ATS as a whole.[218] On 18 August 1989 the French and Australian Prime Ministers issued a joint statement on Antarctica that cited environmental grounds for their decision:

> [i]n the light of their shared concerns about the Antarctic Minerals Convention and other factors affecting the environment in the Antarctic . . . [M]ining in Antarctica is not compatible with protection of the fragile Antarctic environment . . . the two countries will be proposing that the Treaty Parties negotiate a Comprehensive Environmental Protection Convention which will turn the Antarctic into a wilderness reserve.[219]

The main opponents to changes to CRAMRA took the view that Australia and France would eventually cave in to the united opposition of the other ATCPs but this was not to be the case. In fact other states were beginning to show their support for a world reserve, such as Belgium, India and Italy.[220] Of particular significance was the Soviet Union's decision to accept the French and Australian position. On 19 January 1990, at the World Forum on Environment and Development in Moscow, President Gorbachev told the assembled delegates that his country was "ready to participate in the survival of the Antarctic, of this world reserve, which is our common natural laboratory."[221]

In Britain, the Labour Party opposition, in defiance of longstanding bipartisan support on Antarctica, voted against the domestic legislation, approving the signing onto CRAMRA in the House of Commons in July 1989. The European Parliament also passed two resolutions pertaining to Antarctic protection and the economic significance of the region. The Belgian Parliament forbade any Belgian national or corporation from exploiting Antarctic mineral resources. The Italian Parliament passed a unanimous motion on the 28 September 1989 that bound the government "not to subscribe to and not to ratify the Minerals Convention and to support and promote the proposal to transform Antarctica into the first world natural park among the Consultative Parties of the Antarctic Treaty."[222]

By the time of the Fifteenth Consultative Meeting in Paris, France, in October 1989, only 15 states had signed onto CRAMRA and none had ratified it.[223] Thus the Wellington Convention never reached a tipping point where enough states agreed that a conservationist approach to Antarctic mining should be put in place. Concerns by the ATCPs over CRAMRA's ability to safeguard

the environment for future generations was critical.[224] The refusal of France and Australia to follow the usual protocols of consensus on any ATS business opened the door for a radical re-evaluation of both mining and the proper role of the Antarctic regime in environmental protection.[225]

The Australian and French governments submitted a joint proposal, in the form of two working papers, to the Fifteenth ATCM in October 1989, with a view to convening a Special Consultative Meeting to create this new Convention.[226] The proposal declared that there should be a ban on mineral activity and drew heavily on the ENGO approach.[227] The proposal argued that Antarctica should be designated a wilderness reserve and that the new Convention should take an all-embracing approach to environmental protection.[228] The proposal specifically referred to preserving Antarctica for its uniqueness. Both France and Australia, now acting as norm entrepreneurs for a preservationist approach, agreed in their working paper that: "The value of Antarctica's wilderness qualities is recognized by Consultative Parties. There is value in the preservation of these qualities for their own sake."[229]

Joyner argues that other ATCPs were 'stimulated' by this approach and seeing that CRAMRA was not going to succeed, Chile, New Zealand, the USA and Sweden submitted their own environmental proposals.[230] Opponents of the initiative, led by the USA and the UK however, argued that if Australia and France continued with their intransigent position then it could lead to a scenario where a moratorium crumbled in the face of determined opposition and there would be no rules to protect the region.[231] The US State Department was convinced that Australia would retreat from its decision if sufficiently pressured but failed to consider that Australia's, and France's, moral position now constituted their identity, and there was no 'going back'.[232]

Critics dismissed the wilderness idea as little different to the ENGOs' conception of a world park, which was probably correct. What the French and Australian governments meant by the term was never explained. Certainly it was a convenient rhetorical device to reinforce the notion that Antarctica should not be exploited but the positive dimensions of the idea were never developed. Rather the concept metamorphosed into the term "natural reserve-land of science" to show that scientific activity was still permissible and to put political distance between the proposal and the ENGOs' construction.[233]

Both the UK and the USA were adamant that a ban should not be implemented, while arguing that they had no intention of commencing mining operations in the short or medium term and were prepared to act as a blocking coalition against the French and Australian proposal. Rather they wanted to reserve the right to mine in the future. The USA went so far as to say that a minerals ban was not negotiable.[234] Both the USA and the UK[235] argued that any reserve should arise organically from negotiations but not be an element delimiting them. Japan and the Republic of Korea also opposed the concept to ensure mineral exploitation would be allowed under the framework of CRAMRA.[236]

Australia and France built their own veto coalition of states (Italy, India, Spain, Austria, Bulgaria and Greece plus Poland and Belgium, nearly all of whom were recent signatories) to support their proposal and oppose CRAMRA in the face of the considerable veto coalition led by the United States of America.[237] The preservationist coalition of states agreed at the XVth Consultative Meeting in Paris in 1989 to create a comprehensive system for the protection of the Antarctic environment and its ecosystems.[238] To achieve this goal, a Special Antarctic Treaty Consultative Meeting was held in November 1990 in Vina del Mar, Chile, to explore all proposals for the comprehensive protection of the Antarctic environment and its dependent and associated ecosystems.[239] This Special Meeting was the organisational platform that ENGOs, France and Australia were looking for to push their preservationist agenda. Now the task was to convince like-minded states to support the proposal and reach a tipping point.

Following the Fifteenth Meeting Australia and France continued lobbying other states for the nature park and a ban on exploitation, with particular emphasis on the Latin American countries and the United States. In Great Britain Greenpeace and the WWF instituted a public campaign designed to educate the British public about the issue and influence the UK's negotiating stance to support a World Park. In Germany a petition distributed by the WWF calling for a permanent ban on mineral exploitation garnered over 300,000 signatures. Jacques Cousteau met with the Prime Minister of New Zealand and the President of the United States in an effort to dissuade them from their support for CRAMRA.[240] The ENGOs knew that they now had an opportunity to resubmit the idea of a world park to what was a more receptive audience. ENGOs argued for the criticality of designating Antarctica a world park by posing the stark choice: leave a minerals gap in the heart of the ATS or negotiate a permanent mining ban.[241]

ENGOs argued that constituting Antarctica as a world park would set a precedent, since no other part of the globe had been declared an international reserve. They maintained that a [relatively] untouched wilderness would enable scientists to monitor worldwide environmental change. Further, it would create a pristine environmental laboratory for research as well as reduce the risk of oil spills (bearing in mind the recent spills from ships), or well blowouts that harmed commercial krill fishing offshore. It would also prevent the region from state exploitation, which fostered state animosity over resource allocation leading to conflict.[242] The growing strength and determination of those ENGOs with backgrounds in both science and politics, which pushed the world park concept, were critical in reframing the issues of mineral exploitation, which until then had been set by states, bureaucrats and scientific groups.[243] In effect they reframed the debate from exploitation vs. conservation to exploitation vs. preservation.

One of the leading ENGOs, Greenpeace, was quite clear that at the core of the World Park proposal it supported was "the primacy of 'wilderness values', and that the Antarctic species and their environment had an intrinsic aesthetic and scientific importance that must override all other considerations."[244] However, Greenpeace

was not above pandering to the interests of the ATCPs. Early in the proceedings Greenpeace realised that issues of sovereignty were critical and so stated:

> One can imagine a Protocol to the World Heritage Convention dealing specifically with Antarctica, which incorporates the creative approach of Article IV of the Antarctic Treaty regarding claims to sovereignty, and which includes all other principles of the Treaty. All nations could nominate the totality of their perceived 'rights, titles and interests' for 'protection status'.[245]

ENGOs arguing for the need to preserve Antarctica found kindred spirits in scientists who wished to make their views publicly known and built a strategic coalition with them. Scientists, particularly those involved in Antarctic research, from Great Britain, Germany and New Zealand, all signed petitions to the effect that Antarctica should be preserved.[246] Joyner argues this position was adopted because scientists were keen to keep inviolate the area as a "laboratory" to enable research to continue, rather than have Antarctica usurped by mining.[247] While they were not to play a significant role in this debate they neutralised the conservationist arguments put forth by SCAR scientists who had argued that a world park would limit scientific research, thereby strengthening the persuasiveness of ENGO arguments.[248]

In February 1990, after a prolonged campaign by both domestic and global ENGOs, New Zealand agreed that it would not sign CRAMRA and stated that it was open to the prospect of a long-term mineral exploitation ban. In July Prime Minister Palmer went further and stated the New Zealand position was now one of supporting a permanent ban. The acquiescence by New Zealand was important since it had, under Chairman Beeby, been the main driving force behind the CRAMRA negotiations. The UN General Assembly passed a Malaysia-sponsored resolution[249] which supported a world park that banned mineral activities and declared that the global community should be included in the negotiations. However this resolution was not accepted or even formally acknowledged by the ATCPs.[250] This global pressure, combined with the defections of key states, left the potential blocking states of the USA and the UK increasingly isolated and unable to convince defecting states of the need to sign onto CRAMRA.[251]

With the imminent collapse of CRAMRA, the Parties feared that a stampede of states attempting to gain mineral resources without caring about the impact on other states or the environment would badly impact on their interests in the region.[252] Member states had feared all along that if minerals were discovered and appropriate technologies developed then the rush to claim these resources could doom the entire Antarctic Treaty System. With the collapse of CRAMRA that fear was close to realisation. Thus member states, concerned about the viability of the entire Antarctica regime, were willing to consider the joint Australian/French proposal.

The idea of a world park, privileging preservation of the Antarctic environment, as promulgated by the ENGOs and given a fillip by the French and Australian initiative, had no traction until it became clear that CRAMRA was doomed. Thus

delegates either had to renegotiate the Treaty after six long years of negotiation or replace it with something new. Given the need to maintain the overall regime, member states were willing to entertain the concept of a world park because it met their current needs and carried forward many of the prohibitions specified in the Antarctic Treaty, such as no military or nuclear activities.[253]

WHY DID CRAMRA FAIL TO BE RATIFIED?

So, why did CRAMRA fail to gain acceptance by the ATCPs? Davor Vidas lists four reasons: the fear that any adoption of CRAMRA would alter the sensitive balance of sovereignty imposed by the Antarctic Treaty; the use of the UN General Assembly by Least Developed Countries to critique the current system; political pressure applied by ENGOs; and domestic policy considerations.[254] Certainly, in the case of Australia, it can be observed that sovereignty issues were of concern to the government, but there is no evidence that the concern was critical to the decision to preserve the region. The pressure applied by Least Developed Countries, fearful of missing out on any spoils from mining or just wanting to use the issue to embarrass developed states, certainly played a part in keeping the issue in the public eye but again was not critical to the decision of both Australia and France.

Porter and Brown agree with Vidas about the importance of environmental issues in domestic parliamentary elections and certainly this was an important factor in both Australia and France's decision not to sign the Convention. Environmental considerations did affect domestic election results.[255] An analysis, without a consideration of the moral context and the social actors, does not explain how or why such considerations became central however. There had been a change in the domestic French government that came to openly espouse both a socialist and environmental doctrine. Jacques Cousteau's campaign to preserve Antarctica, and the ability of his arguments to resonate with the French domestic populace were also critical factors. In Australia's case, similarly the domestic landscape had changed, with both a left-leaning Labor government and an electorate that had become more receptive to the environmental message transmitted by ENGOs.

Both individual leaders and populaces were persuaded that preserving Antarctica was the 'right' thing to do. Adopting such a preservationist position meant reconstituting both Australia's and France's global identity. Their international personas became increasingly bound up with being good global environmental citizens. Even if the initial impetus to defect was governed primarily or partly by sovereignty issues and material incentives, over time both states became increasingly convinced of the 'rightness' of their positions to the point where the sovereignty/material incentives disappeared into the background.

Further, ENGOs used moral persuasion techniques to convince domestic constituents and states of the necessity of preventing the ratification of CRAMRA. Their moral arguments stressed the fragility and wilderness aspects of the region and were successful because they were simple, easy to communicate, and able to appeal to "higher ideals" that resonated with state leaders and

domestic constituents. Their campaign tactic was to bombard member states with information combined with a strategy to link meetings to larger global concerns about Antarctic fragility and damage. This approach was crucial in both raising global public awareness of the issues and directly influencing government policy in critical states.[256]

ENGOs were thus able to sharpen this message by appealing to the strategic as well as moral interests of states. They argued that a moratorium on mineral activities would defuse state territorial disagreements and increase the chance of peace in the region, which would in turn allow scientific research, a core concern in the founding of the regime, to be better carried out. They utilised the fear of certain states that open and wide-ranging exploitation would be detrimental to their state interests in the short term and highlighted to domestic populaces that accidents were inevitable (such as the *Exxon Valdez*) and would damage the area. Even if people never intended to visit Antarctica, many people nonetheless liked the prospect of it being unsullied and the ENGOs tailored their message to appeal to this sentiment. The ENGOs made common cause with other like-minded states and scientists to nullify criticism of their solution and to ensure that their goal – the prevention of CRAMRA – would win acceptance.

THE NEGOTIATION OF THE MADRID PROTOCOL

The defeat of CRAMRA was not the end of the struggle. The debate now turned to what would replace it. The differing sides continued to offer their interpretations of what would be best for the Antarctic environment. On 16 March 1990, Australia and France prepared a *Revised Australian-French Paper on the Components of a Comprehensive Regime for the Protection of the Antarctic Environment and its Dependent and Associated Ecosystems* which argued that Antarctica should be designated a "nature reserve – land of science."[257]

The Eleventh Antarctic Treaty Special Consultative Meeting was held, in accordance with the provisions of Recommendation XV-1 adopted by all the Antarctic Treaty Consultative Parties in Paris in October 1989, in order to explore proposals to achieve a comprehensive environmental protection of Antarctica. On 16 October 1990, Australia, Belgium, France and Italy produced an *Indicative Draft of a Convention for the Comprehensive Protection of the Antarctic Environment* which again argued that Antarctica should be designated a "nature reserve – land of science," but that its protection should be outlined in a convention rather than a protocol.[258]

New Zealand responded on 25 October 1990 with its own *Draft Protocol to the Antarctic Treaty on Environmental Protection* that allowed "mineral resource activities" balanced against the protection of the region in an attempt to keep open the option of mining.[259] On 18 November 1990 New Zealand presented its *Introduction to the New Zealand Draft Protocol to the Antarctic Treaty on Environmental Protection* and *Draft Protocol to the Antarctic Treaty on Environmental Protection* for discussion prior to the Special Consultative meeting in Chile.[260] On the same day, the British put forth their draft *Environmental*

Protocol Supplementing the Antarctic Treaty that stressed in Section 2 that "Human activities in Antarctica shall avoid significant adverse impacts on the Antarctic environment and dependent and associated ecosystems."[261] The Draft Protocol left the door ajar for mining activities that did not *significantly* affect the region, however.[262] The USA presented its own *Draft Environmental Protocol Supplementing the Antarctic Treaty*, also on the same day. This also stressed the need to avoid significant impacts to the area, but still effectively allowed mining under controlled conditions.[263]

The Special Meeting opened at Vina del Mar from 19 November to 6 December 1990.[264] At the negotiations the ATCPs were divided into three warring camps. The first coalition comprised what came to be called the "group of four" (Australia, France, Belgium and Italy) and other like-minded states (such as New Zealand). It acted as preservationist norm proponents in arguing for a permanent moratorium to be put in place. A second grouping of the USA, Argentina and Chile argued a conservationist position that there should be a limited ban with the eventual allowance of CRAMRA to enter into force. The third coalition again put forth a similar conservationist position, where states such as the UK and Japan were against any such ban but favoured the entry into force of CRAMRA immediately.[265]

On 20 November 1990 there was an Outline submitted by Argentina, Norway, the UK, the USA and Uruguay of a Protocol on Environmental Protection Supplementing the Antarctic Treaty, the *Comprehensive Measures for the Protection of the Antarctic Environment and its Dependent and Associated Ecosystems: Outline of a Protocol Supplementing the Antarctic Treaty.* This again stressed, under section 8(b), that any "activities must avoid significant adverse impacts on the environment."[266] No actual mention was made of mining but again the Protocol would allow such actions if the collateral environmental damage was considered less than significant.

The Opening Statements by the various Heads of Delegations at the Eleventh special Consultative Meeting revealed the pressure the various states felt about the importance of the issue. The German address given by Dietrich Granow refers to the delegation having received thousands of letters from concerned German citizens (a tactic of the ENGOs) to pressure states demanding comprehensive protection for the Antarctic region. He remarked that globally people had become more conscious of the value of pristine environments and the need to preserve such areas.[267] Such remarks indicate that the campaign to pressure state negotiators by ENGOs putting pressure on domestic constituents appeared to have worked.

Australia submitted its own paper to the 11th special ATCM at Vina del Mar, Chile, 1990, titled *Protection of the Antarctic Environment and its Dependent and Associated Ecosystems: A Review of Existing Measures.* The Paper noted the piecemeal attempts at environmental protection over the years by the Parties and argued for a more comprehensive approach to the subject matter.[268] ASOC introduced a draft set of principles and objectives at the Vina del Mar (Chile) Meeting, designed as a model protection convention, but it was not accepted.[269]

At the first session in Chile, Rolf Trolle Andersen of Norway put forward an informal draft document that was accepted by the Parties as a "valuable basis" on which to proceed.[270] Delegates were prepared to use this draft but it was not considered a "negotiating text" as such. The USA and the UK, acting as a blocking coalition, were not prepared to move much from their stated negotiating position. However, in the face of continued international opposition the USA proposed, in a diplomatic note, a fixed-term moratorium that would require consensus amongst the ATCPs to extend it. In a similar vein, the UK, in March of 1991, indicated it would support a temporary moratorium to achieve a consensus decision.[271]

After the 1990 Special Consultative Meeting, the Group of Four continued to attempt to garner support for its position. They had identified eight other states who they hoped they could convince: India, New Zealand, Finland, Denmark, Greece, Austria, Romania and Ecuador. In January 1991 the four met in Paris to discuss their response to the Andersen draft and on the second day the eight states met with the four. These twelve states met again in March in Rome to consolidate the changes they proposed to make at the second Special Meeting with the aim of strengthening the environmental provisions, such as the environmental impact statements.[272] At this point it was clear that a tipping point had been reached and that the majority of states were firmly in the preservationist camp.

The second session took place in three parts in Madrid from 22 to 30 April, from 17 to 22 June, and from 3 to 4 October 1991.[273] For the first time many non-state groups were invited to participate at the Meeting (with certain restrictions) including:

- the Antarctic and Southern Ocean Coalition
- the Commission of the European Communities (CEC)
- the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- the International Union for the Conservation of Nature and Natural Resources
- the Intergovernmental Oceanographic Commission (IOC)
- the Scientific Committee on Antarctic Research
- the World Meteorological Organization (WMO).[274]

In Madrid many ENGOs had representatives on state delegations as advisers. For example, ASOC and Greenpeace members were part of the Australian delegation and Greenpeace was also on the official Danish party, while the Wilderness Society had personnel on the USA delegation. Many ENGOs were present as observers at meetings though they were excluded from Heads of Delegation Meetings. Further, many ENGOs monitored the proceedings from outside the official meeting and circulated various documents and information broadsheets, such as *ECO*.[275] For the first time the ENGOs' activities had enabled them to be accepted as part of the ATS, which positioned them to exert influence, both internally as well as externally, through the more traditional approach.

Andersen again was able to produce a second draft with input from the group of four.[276] The amendments to the draft document by the group of four included a reference to an Antarctic world park, adopted the language of the ENGOs, and called for the creation of an Antarctic "natural reserve, land of science."[277] However, the issue of a ban on mineral activity remained a sticking point. The USA initially proposed a temporary prohibition of 20 or 30 years. The intransigent group saw that inevitably CRAMRA would fail and began to accept that some form of ban would be implemented. At the same time the group who supported the ban began to see that they had to compromise and that a time limit, albeit of considerable length, would be the compromise position (Art 25, paras 2, 3).[278]

The Chair proposed a two-stage process to lift any future ban. After 50 years a majority of all parties, including a majority of ATCPs, could amend the protocol but it could only enter into force if ratified by three-quarters of the ATCPs, including all of the current ATCPs.[279] The compromise, which required a consensus to remove the ban and to adopt a further mineral regime, represented a clear victory for the environmental coalition.[280]

In April of that year we can see the Japanese and German governments bowing to the growing clamour to institute a minerals ban.[281] On 10 May the UK Prime Minister, John Major, decided to support PEPAT over the objections of his own bureaucrats in the Foreign Office and the Departments of Energy, and Trade and Industry. The USA refused to concede defeat and continued to be an effective blocking state, albeit now virtually alone.[282] Early in June, before the next session, the USA stated that it had a problem with the consensus requirement to lift a ban on a moratorium on mineral exploitation and wanted it changed to a three-quarters majority which any state could walk away from if the required majority was not met within three years.[283]

When the Madrid session reconvened on 17 of June the session was initially mired in controversy. ENGOs who had attended the second meeting were not given official invitations. The reason for this oversight remains unclear with perhaps Spain thinking that it did not need to send an invitation since the first invitation sent was meant to cover all subsequent meetings. Another view was that it was an attempt to limit ENGO interference in proceedings, but many ENGOs were able to attend as observers, including ASOC and the IUCN, while other environmental groups monitored events and broadcast it to the world to increase the pressure on delegates, who knew that their every word was being heavily scrutinised.[284]

The USA was still determined to play a spoiler role. In an effort to negate the USA, Australia led a group of 15 states at a closed session on 19 June where the group's displeasure with the USA and its intransigence was conveyed to the USA. The Session Chair proposed an amendment where a three-quarters majority would be needed to adopt an amendment to end the moratorium and where withdrawal provisions would apply to the protocol in its entirety.[285] Thus USA intransigence was able to win a "walk away" clause within the proposed Protocol on Environmental Protection (Article 25(5)(a)). The proposed Article allowed

any member-state to opt out (walk away) and exploit Antarctica's mineral wealth if the agreement was not ratified in five years. Further, it stated that for the first 50 years after PEPAT entered into force the ban could only be lifted if all ATCPs agreed. After 50 years the moratorium could be ended with the agreement of three-quarters of the ATCPs and then ratified by the same fraction of the ATCPs including all 26 of the current members.[286]

On the last day of the Meeting the USA informed the other delegates that its government wanted more time to consider the changes. The chance to sign the Proposal at the 30th Anniversary of the Antarctic Treaty was missed.[287] Global public reaction to this decision was highly critical, with the USA being seen virtually as a rogue state. The leaders of Australia, the European Community, the former Soviet Union and Japan went so far as to individually write to US President Bush expressing their displeasure at this tactic and the general negotiating position of the United States.[288] In the face of this level of criticism even a superpower must listen and on 3 July, the USA publicly announced it would sign PEPAT.[289] It is unclear why they acceded to the wishes of the other delegates in this matter. Perhaps the delegates realised that their negotiating position was doing more harm than good to their international reputation as a good environmental actor and was unsustainable.

Alternatively, the US negotiators may have realised it was better to cut their losses and negotiate for the exploitation of Antarctica at a future date. However, constructivism allows for another explanation. This is not interest-based, but rather related to the intersubjective nature of the regime itself. In this case, the norm of consensus decision-making had become such an ingrained part of the process that, once the USA was effectively isolated, it felt compelled to "follow the rules" and acquiesce to the overwhelming majority, rather than endanger the regime itself.

At the conclusion of the Madrid Sessions, the Representatives of the Consultative Parties, including the USA, adopted by consensus the *Protocol on Environmental Protection to the Antarctic Treaty*, known as the Madrid Protocol, of which four Annexes form the key documents, that of environmental impact assessment, conservation of Antarctic fauna and flora, waste disposal, and management and prevention of marine pollution.[290] Under the Protocol the Parties committed themselves to the comprehensive protection of the Antarctic environment (and the current constraints on mineral resource activity) and designated Antarctica as a natural reserve devoted to peace and science. It was agreed by the Parties that the harvesting of ice was still allowable if technologically feasible but the voluntary moratorium, in place since 1977, was to continue until ratification of the Protocol took place by all 26 ATCP.[291]

The Madrid Protocol was intended to supplement the Antarctic Treaty and under Article 4(1) neither modified nor amended the original treaty.[292] Rather it consolidated all previous environmental protection legislation and recommendations into a single legal instrument.[293] The protocol aimed, as per the Preamble, to provide "protection of the Antarctic environment and dependent and associated ecosystems."[294] The Preamble of the Madrid Protocol made no

mention of preservation but rather reaffirmed the "conservationist principles of the Convention on the Conservation of Antarctic Marine Living Resources."[295]

Despite the conservationist language, Article 2 of the Protocol saw the parties agree to, "the comprehensive protection of the Antarctic environment and dependent and associated ecosystems" and the region was further designated as a "natural reserve," dedicated to furthering the goals of peace and science in the area.[296] The eventual designation of the park as a nature reserve/land of science departed somewhat from the world park concept espoused by the ENGOs but still embodied many of the qualities of that ideal. The designation of Antarctica as a natural reserve under Article 2 had both symbolic value and legal force in that:

> it is functional to the norms of the Protocol and of the Annexes which concern the limitation of various freedoms of use, in relation, for example, to the protection of flora and fauna and to the operation of new norms on the subject of environmental impact assessment of any human activity in the Antarctic, even that of a scientific matter.[297]

Article 3 of the Madrid Protocol included language that explicitly referred to preserving the Antarctic environment. For example, Article 3(1) of PEPAT read:

> The protection of the Antarctic environment and dependent and associated ecosystems and the *intrinsic* [my italics] value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.[298]

The Protocol introduced new concepts for the southern polar region, among them aesthetics, wilderness values and geomorphological values (which until this time had been absent). While the term preservation was not explicitly mentioned the language of the section, with its reference to intrinsic values (including wilderness ideals), would seem to indicate clearly that preservationism was at the heart of the article, and that the standard of behaviour of all who visit Antarctica should conform to preservationist ideals. Article 3 was in many respects identical to Article 4 of CRAMRA except that the latter related only to mineral activity, while Article 3 was truly comprehensive. It applied to all human activity, mining or scientific.[299] The Madrid Protocol further created the Committee for Environmental Protection (CEP) of which every Party could be a member. It was tasked with overseeing compliance with the Protocol, but had no independent capabilities, enforcement capabilities or decision-making authority. Rather it provided advice and recommendations to ATCMs. States had to ensure compliance.[300]

Article 7 of the Madrid Protocol simply stated, with regard to minerals, that: "Any activity relating to mineral resources, other than scientific research, shall be prohibited."[301] When examined in isolation it appeared to place a permanent ban

on mining. But when read with subsequent provisions (Article 25) it was widely interpreted to have created a 50-year ban, though due to the US amendments, it was subject to review and potential revisions at the end of that period.

Two views of the Article 7 ban can be discerned here. One view was expressed by Tristan Garel-Jones, a UK Minister who argued that the Parties had no right to stop future generations accessing Antarctic resources, and that there might well be a need to exploit these resources when the ban time limit expired. This conservationist view seems to see the ban as locking away resources for "a rainy day." The other view is that Antarctica should be considered off limits in perpetuity to preserve the pristine nature of the continent, and that any mining is incompatible with the proper environmental protection of the region.[302] In the short to medium term the latter view has prevailed, with the possibility that the former may hold currency at the end of 50 years.

Article 7 renders the issue of sovereignty, and the state appetite for resources, moot in the short to medium term. The Article also has the effect of neutralising the developing states critique by acceding to their longstanding demand for such a ban.[303] Vidas argues that Article 7 was little different to CRAMRA's requirement that a consensus of ATCPs was required before mining could commence. However, given the conflict between the Parties on this issue it seems likely that, under CRAMRA, a state would sooner rather than later have been tempted to exploit Antarctic mineral resources.[304]

Chile argued that its understanding of Article 7 was that the term "mineral activities in all their phases" also outlawed prospecting for resources in the region and that this would seem to be the correct and accepted interpretation.[305] Thus no mineral exploring, prospecting or related activity can be carried out save for scientific purposes, which must by nature be small scale and subject to environmental impact assessment as per Article 8.[306]

As noted previously, Article 7 must be read in conjunction with Article 25 to determine the strength of the prohibition on mineral resource activity. Section 1 of Article 25 allows amendments to be made at anytime pursuant to Article XII of the Antarctic Treaty. Section 2 allows that after 50 years from the date of entry into force, any Party may convene a conference to review the operation of the protocol to date. Section 3 states that any modification or amendment moved at that conference must be adopted by a majority of Parties, and at least three-fourths (20) must be ATCPs as of 1991. Section 4 outlines that any change must be ratified by three-fourths of the ATCP and again must include all those Parties as of the adoption of the Protocol.[307]

This proposed "veto" of activities by any Party was of the greatest concern to the USA. The USA insisted that Article 25, Section 5, be altered to counter this.[308] Section 5(a) imposes an indefinite ban on mineral activity. If there is a change to the ban a legal regime must be established that: (1) clarifies whether mineral activity can occur; (2) imposes conditions under which such activity can occur; and (3) puts forward safeguards designed to protect the interests of all states as per Article IV of the Antarctic Treaty. Section 5(b), the so-called "walkout clause," was proposed by the USA with the aim of nullifying Section 4. It reads:

> if any such modification or amendment has not entered into force within 3 years of the date of its adoption, any Party may at any time thereafter notify the Depository of its withdrawal from this Protocol, and such withdrawal shall take effect two years after receipt of the notification by the Depository.[309]

The new wording to Article 25 maintained a nexus between the possible ending of the ban and the beginning of mineral exploitation by providing "an agreed means for determining whether, and, if so, under which conditions, any such activities would be acceptable" (Art. 25(a)). The intent of such a provision was to assuage the claimant states concerns that after the 50-year period there could be unilateral moves to exploit the mineral resources of Antarctica. To further reinforce this point the final wording of Article 25(a) contained a clause stating that any potential mineral regime "shall fully safeguard the interests of all states referred to in Article IV of the Antarctic Treaty and apply the principles thereof."[310] There has been a suspicion, particularly by ENGOs, that scientific research may well be a "Trojan horse" to allow mineral exploitation to continue post-moratorium.[311]

The question of whether "scientific activity" should take place within a "world park" is still an open one. Kelly Rigg seems to argue that Greenpeace's official position is that any scientific activity should be limited since it might be damaging. David Drewry maintains that, on balance, it would seem that the position held by Greenpeace and other ENGOs who have an interest in Antarctica is that science still has a place under the moratorium on commercial activity within the region.[312]

CONCLUSION

While the roles played by France and Australia were key in undermining the CRAMRA negotiations and the implementation of the Madrid Protocol, it is clear that the actions of the ENGOs on this issue played a large part also. ENGOs were successful in increasing the global public's awareness of the Antarctic issues and were able to mobilise public and political support to change states' support for CRAMRA.[313] The nature of the regime allowed ENGOs to gain increasing respect and legitimacy, based on their credible participation in the regime itself. This allowed them to act as effective advocates for their position of implementing a world park.[314]

The ENGOs framing of the issue as preserving a unique fragile wilderness circumscribed the terms of the debate. They successfully appealed to 'higher values', such as wilderness, that resonated with the populace and had an ideational affinity to the already embedded domestic norm of maintaining wilderness. They further exploited the fear of states that the regime could collapse, pitching them back into a situation where the strongest, most technologically advanced states would have a significant relative advantage. They also utilised the concern ATCPs felt that if Antarctica could no longer be managed by themselves, it would be opened up for all states to get a share. The ATCPs were aware that the UN was watching their negotiations and if any agreement was not perceived to be equitable or did not contain strong environmental provisions, then the matter might have been taken out of their hands and decided by the UN.

On 1 June 2016 the 29 ATCP members, at the instigation of the US, unanimously reaffirmed their commitment to the Madrid protocol on its 25th anniversary at the 39th Antarctic Treaty Consultative Meeting. The members noted their "firm commitment" to preserve the moratorium, "as a matter of highest priority." The member states also put forth the Santiago Declaration to "preserve and protect the Antarctic terrestrial and marine environments."[315]

The resolution was introduced in part to counter media narratives that the protocol would 'expire' in 2048 leading to a potential free-for-all rush to exploit Antarctic resources. However, as Claire Christian, Acting Executive Director of ASOC noted: "This resolution sends a clear message that this is not in fact the case and that Parties stand firm in their commitment that preserving the continent as a place of peace and science is more important than possible financial gain."[316]

Despite the reaffirmation of the importance of the Madrid Protocol there have been concerns that a number of states such as China and Russia are positioning themselves to take advantage of the post-2048 period, particularly if climate change renders the region easier to exploit. China, which has reserved the right to make a claim to Antarctic territory is building a fifth Antarctic research facility on the continent.[317] The Australian Strategic Policy Institute alleges that: "China has conducted undeclared military activities in Antarctica, is building up a case for a territorial claim, and is engaging in minerals exploration there."[318]

A 2005 report by the Polar Research Institute of China argued that exploiting the resources of Antarctica was "a matter of time." In 2013 the Chinese Arctic and Antarctic Administration stated that: "Regardless of how the spoils are divided up, China must have a share of Antarctic mineral resources to ensure the survival and development of its one billion population."[319]

China is a signatory to the Madrid Protocol and re-affirmed that commitment in a memorandum of understanding after the G20 summit in November 2014.[320] At the 2017 ATCP meeting, hosted by China for the first time, Vice Premier Zhang Gaoli stated: "There needs to be a proper balance between the protection and utilization of Antarctica in order to keep the environment green and sustain economic growth and cultural stability for mankind."[321] As Rothwell notes: "Ultimately anyone who is down there and has a significant presence would have an interest in Antarctic resources and that includes both the mineral resources but also the living resources by way of fisheries around the continent."[322]

However, it needs to be understood that even post-2048 the Antarctic mining ban does not 'expire' as such but would need some positive action by the ATCPs to allow such actions, which currently, given the support for PEPAT and the technological issues associated with mining Antarctica, appears highly unlikely.[323]

NOTES

1 Keith D. Suter, *World Law and the Last Wilderness* (Sydney: Friends of the Earth, 1980), 32.
2 Ibid., 33.

3 Geoffrey Larminie, "The Mineral Potential of Antarctica: The State of the Art," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, New York: St. Martin's Press, 1991, 80. The lowest temperature on Earth ever recorded (-128.6 ∞ F) was measured in 1983 at Vostok Research Station in the Eastern Antarctic interior. Christopher C. Joyner, *Antarctica and the Law of the Sea*, London: Martinus Nijhoff Publishers, 1992, 180.

4 Christopher C. Joyner, *Governing the Frozen Commons: The Antarctic Regime and Environmental Protection*, Columbia, SC: University of South Carolina Press, 1998, 2–7; Suter, *World Law and the Last Wilderness*, 20.

5 Evteev, "Antarctica and Its Place in the Contemporary Environmental Movement," in A. Jørgensen-Dahl and W. Østreng (eds), *The Antarctic Treaty System in World Politics*, London: Palgrave Macmillan, 1991, 147; Duncan French, "Sustainable Development and the 1991 Madrid Protocol to the 1959 Antarctic Treaty: The Primacy of Protection in a Particularly Sensitive Environment," *Journal of International Wildlife Law and Policy* (1999), 2 (3), 291–2; Suter, *World Law and the Last Wilderness*, 20.

6 Kelly Rigg, "Environmentalists' Perspectives on the Protection of Antarctica," in Grahame Cook (ed.), *The Future of Antarctica: Exploitation Versus Preservation*, Manchester: Manchester University Press, 1990, 69.

7 Robert Willan, David Macdonald, and David Drewry, "The Mineral Resource Potential of Antarctica: Geological Realities," in Grahame Cook (ed.), *The Future of Antarctica: Exploitation Versus Preservation*, Manchester: Manchester University Press, 1990, 25.

8 V. E. Fuchs, "Antarctica: Its History and Development," in Francisco Orrego Vicuna (ed.), *Antarctic Resources Policy: Scientific, Legal and Political Issues*, Cambridge: Cambridge University Press, 1983, 13–20.

9 John Warren Kindt, "A Regime for Ice-Covered Areas: The Antarctic and Issues Involving Resource Exploitation and the Environment," in Christopher C. Joyner and Sudhir Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 187–218, 194.

10 Suter, *World Law and the Last Wilderness*, 33.

11 Kindt, "A Regime for Ice-Covered Areas," 195.

12 States in the nineteenth century were initially keen to exploit the abundant living resources of the Antarctic region, for example krill, seals and whales. Exploitation of Antarctic resources centred initially around commercial sealing in the southern ocean. Susan J. Buck, *The Global Commons: An Introduction*, Washington, D.C.: Island Press, 1998, 46.

13 Willan, Macdonald, and Drewry, "The Mineral Resource Potential of Antarctica," 27.

14 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, Washington, D.C.: U.S. State Department, 2002, 387.

15 Emilio J. Sahurie, *The International Law of Antarctica*, The New Haven Studies in International Law and World Public Order, New Haven: New Haven Press, 1992, 425. Sahurie considers icebergs to be a mineral resource with more than 70 per cent of the globe's fresh water contained in the Antarctic icecap. However, his view is not in accordance with the majority of commentators nor do the states party to the Antarctic regime agree with this position. Sahurie, *The International Law of Antarctica*, 357.

16 Sahurie, *The International Law of Antarctica*, 433.

17 "Report of a Meeting of Experts Organised by the Fridtjof Nansen foundation on Existing Law Relevant to the Authorisation or Prohibition of Mineral Exploration for Commercial Purposes in the Antarctic Treaty Area, 30th May–10th June 1973,"

reprinted in W.M. Bush, *Antarctica and International Law: A Collection of Inter-State and National Documents* 1–3 vols, London: Oceana Publications Inc., 1982, 288.

18 Keith D. Suter, *Antarctica: Private Property or Public Heritage?* Leichhardt, N.S.W.: Pluto Press Australia, 1991, 46.
19 Sahurie, *The International Law of Antarctica*, 352.
20 Larminie, "The Mineral Potential of Antarctica," 83.
21 Ibid., 86.
22 Gareth Porter and Janet Welsh Brown, *Global Environmental Politics*, Boulder, CO: Westview Press, 1991, 88.
23 Larminie, "The Mineral Potential of Antarctica," 91.
24 Ibid., 80.
25 Ibid., 82.
26 Lawrence Susskind, *Environmental Diplomacy: Negotiating More Effective Global Agreements*, New York: Oxford University Press, 1994, 66.
27 Fuchs, "Antarctica: Its History and Development," 17.
28 United Nations Draft Agreement Providing for a Condominium over Antarctica (July 1948), reprinted in Bush, *Antarctica and International Law,* 464–5.
29 Lorraine Elliott, *International Environmental Politics: Protecting the Antarctic*, New York: St. Martin's Press, 1994, 28.
30 Ibid., 28–9; Alfred van der Essen, "The Origin of the Antarctic System," in Francesco Francioni and Tullio Scovazzi (eds), *International Law for Antarctica*, London: Kluwer Law International, 1996, 18. United Nations Draft Agreement for placing Antarctica under a United Nations Trusteeship (June 1948) reprinted in Bush, *Antarctica and International Law,* 461–3.
31 Joyner, *Governing the Frozen Commons*, 55; Chilean Statement Concerning the United States' Proposals to Internationalise Antarctica (28 Oct. 1948) reprinted in Bush, *Antarctica and International Law*, 385–6.
32 Suter, *World Law and the Last Wilderness*, 34. See Antarctic cases (U.K. *v.* Argentina, U.K. *v.* Chile) [1956].
33 van der Essen, "The Origin of the Antarctic System," 18–19.
34 Elliott, *International Environmental Politics*, 30; Marie Jacobsson, "The Antarctic Treaty System: Legal and Environmental Issues-Future Challenges for the Antarctic Treaty System," in G. Triggs and A. Riddell (eds), *Antarctica: Legal and Environmental Challenges for the Future*, London: The British Institute of International Comparative Law, 2007, 15.
35 Evteev, "Antarctica and Its Place in the Contemporary Environmental Movement," 148.
36 Maria Pia Casarini, "Activities in Antarctica before the Conclusion of the Antarctic Treaty," in Francesco Francioni and Tullio Scovazzi (eds), *International Law for Antarctica*, London: Kluwer Law International, 1996, 627–77, 676.
37 van der Essen, "The Origin of the Antarctic System," 19.
38 Carlos Rinaldi, "Scar in the ATS: Conflict or Harmony?," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, New York: St. Martin's Press, 1991, 153–60, 154–5.
39 van der Essen, "The Origin of the Antarctic System," 20.
40 Boleslaw A. Boczek, "The Soviet Union and the Antarctic Regime," *American Journal of International Law* (1984), 78 (4), 839.
41 French, "Sustainable Development and the 1991 Madrid Protocol to the 1959 Antarctic Treaty," 299.

42 Since 1983 countries party to the Treaty that are not Consultative Parties have been invited to take part in these meetings. However they cannot block any consensus decisions made by the Consultative Parties. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 1.
43 Porter and Brown, *Global Environmental Politics*, 89.
44 John Vogler, *The Global Commons : Environmental and Technological Governance* (2nd ed.), Chichester: John Wiley, 2000, 73.
45 Boczek, "The Soviet Union and the Antarctic Regime," 840.
46 Ibid., 840–41.
47 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 2.
48 *The Antarctic Treaty (1961)* reproduced in Elliott, *International Environmental Politics*, 215.
49 Article IX (1)(f). John Burgess, "Comprehensive Environmental Protection of the Antarctic: New Approaches for New Times," in Grahame Cook (ed.), *The Future of Antarctica: Exploitation Versus Preservation*, Manchester: Manchester University Press, 1990, 59; French, "Sustainable Development and the 1991 Madrid Protocol to the 1959 Antarctic Treaty," 300.
50 Christopher C. Joyner, "The Antarctic Legal Regime: An Introduction," in Christopher C. Joyner and Sudhir K. Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 1.
51 SCAR (initially the Special Committee on Antarctic Research, now the Scientific Committee) grew out of the global scientific community concern for Antarctica, building on the cooperation evident from the IGY and predates the Antarctic Treaty. Buck, *The Global Commons: An Introduction*, 58. A Special Committee recommended that ICSU create a committee to examine the advantages of further scientific research on Antarctica. Rinaldi, "Scar in the ATS: Conflict or Harmony?," 154. The primary purpose of SCAR is to design and coordinate Antarctic scientific research programmes. Generally, when SCAR receives a request for scientific advice, it refers the matter to one of its National Committees, *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 4. The status of SCAR is unusual. Many academics hold it to be an ENGO despite the quasi-governmental aspects of its makeup. More accurately SCAR is a scientific organisation and an IO, rather than a government organisation or an NGO. Richard A. Herr and W. Bruce Davis, "Antarctica and Non-State Actors: The Question of Legitimacy," *International Antarctic Regime Project, Fridtjof Nansens Institute* No. 4, 1–15, 8.
52 van der Essen, "The Origin of the Antarctic System," 25; Olav Schram Stokke, "The Relevance of the Antarctic Treaty System as a Model for International Cooperation," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, New York: St. Martin's Press, 1991, 358. The Antarctic convergence is "a belt around the continent at about 56 degrees–58 degrees south where the cold Antarctic surface water, flowing northwards, sinks beneath the warmer subantarctic water," Casarini, "Activities in Antarctica before the Conclusion of the Antarctic Treaty," 628.
53 Margeret Clark, "The Antarctic Environmental Protocol: NGOs in the Protection of Antarctica," in Thomas Princen and Matthias Finger (eds), *Environmental NGOs in World Politics: Linking the Local and the Global*, London: Routledge, 1994, 160.
54 The Antarctic Treaty (1961) reproduced in Elliott, *International Environmental Politics*, 218.
55 Joyner, *Governing the Frozen Commons*, 63.

56 Ibid., 64.
57 R. A. Falk, "The Antarctic Treaty System: Are There Viable Alternatives?," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, Basingstoke: Macmillan, 1991, 399.
58 Stokke, "The Relevance of the Antarctic Treaty System," 358.
59 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 384.
60 Rolf Trolle Andersen, "Negotiating a New Regime: How CRAMRA Came into Existence," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, New York: St. Martin's Press, 1991, 94; Sahurie, *The International Law of Antarctica*, xxiv.
61 Sahurie, *The International Law of Antarctica*, xxiv.
62 Ibid., 433.
63 Francesco Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," in Francesco Francioni (ed.), *International Environmental Law for Antarctica*, Milano: Giuffre Editore, 1992, 22.
64 Bush, *Antarctica and International Law*, 114.
65 Statement by the Minister for Air (Osborne) in Australia, Parliamentary debates, House of Representatives, vol. 29, 2, 116 (October 18, 1960). Report of a Meeting of Experts Organised by the Fridtjof Nansen foundation on Existing Law Relevant to the Authorisation or Prohibition of Mineral Exploration for Commercial Purposes in the Antarctic Treaty Area, 30th May-10th June 1973 reprinted in Bush, *Antarctica and International Law*, 288.
66 Porter and Brown, *Global Environmental Politics*, 88.
67 Sahurie, *The International Law of Antarctica*, 433–4.
68 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 473.
69 Indeed, further treaty instruments decided upon by the Parties have had an environmental focus. These include the *Convention for the Conservation of Antarctic Seals* 1972, the *Convention on the Conservation of Antarctic Marine Living Resources* 1980, the *Convention on the Regulation of Antarctic Mineral Resource Activities* 1988, and the *Protocol on Environmental Protection to the Antarctic Treaty* 1991.
70 Francesco Francioni, "Legal Aspects of Mineral Exploitation in Antarctica," *Cornell International Law Journal* (1986), 19, 163.
71 Sahurie, *The International Law of Antarctica*, 434.
72 *The Future of the Antarctic: Background for a Second UN Debate*, Greenpeace International, 1984, 13.
73 Christopher C. Joyner, "The Evolving Minerals Regime for Antarctica," in Christopher C. Joyner and Sudhir K. Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 132.
74 Suter, *World Law and the Last Wilderness*, 25.
75 Elliott, *International Environmental Politics*, 106; Joyner, "The Evolving Minerals Regime for Antarctica," 132–3.
76 Francioni, "Legal Aspects of Mineral Exploitation in Antarctica," 164.
77 Buck, *The Global Commons: An Introduction*, 53; Gareth Porter, Janet Welsh Brown, and Pamela S. Chasek, *Global Environmental Politics* (3rd ed.), Dilemmas in World Politics, Boulder, CO: Westview Press, 2000, 90. The USA historically had seen Antarctica as a region to exploit for its wealth. J. R. Rowland, "The Treaty Regime and the Politics of the Consultative Parties," in Christopher C. Joyner and Sudhir K. Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 17.

78 Boczek, "The Soviet Union and the Antarctic Regime," 852.
79 Elliott, *International Environmental Politics*, 108–9.
80 Herr and Davis, "Antarctica and Non-State Actors," 7–9.
81 Lee Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," in Christopher C. Joyner and Sudhir Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 33–64, 36.
82 Ibid.
83 The International Union for the Conservation of Nature is a global organisation whose primary membership are associations with a science-based creed. This scientific basis has stood it in good stead in its dealings with other groups associated with Antarctica. It has worked with SCAR on a number of joint projects and was also the first ENGO to be granted observer status (1987 XIV Meeting). It has attended every ATCM since. Herr and Davis, "Antarctica and Non-State Actors," 10.
84 A similar idea was raised at the first ATCM in 1961 by the UK delegation which promoted the idea of Antarctica as a "natural reserve." This appears to have been officially ignored however, until it was revived by ENGOs. Joyner, *Governing the Frozen Commons*, 175.
85 James N. Barnes, "Legal Aspects of Environmental Protection in Antarctica," in Christopher C. Joyner and Sudhir K. Chopra (eds), *The Antarctic Legal Regime*, Dordrecht: Martinus Nijhoff Publishers, 1988, 256–7; Porter and Brown, *Global Environmental Politics*, 89.
86 "The Future of the Antarctic: Background for a Second UN Debate," Appendix 7.
87 Porter and Brown, *Global Environmental Politics*, 89.
88 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 256.
89 Antarctic Treaty Consultative Meeting, *Report of the Ninth Consultative Meeting*, London: 1977, 22.
90 Elliott, *International Environmental Politics*, 113.
91 Suter, *Antarctica: Private Property or Public Heritage?* , 46.
92 Deborah Shapley, *The Seventh Continent: Antarctica in a Resource Age*, Washington, D.C.: Johns Hopkins University Press, 1985, 158.
93 Elliott, *International Environmental Politics*, 113; Shapley, *The Seventh Continent*, 159–60.
94 Report of the working group on legal and political questions of the Report of a Meeting of Experts Organised by the Fridtjof Nansen Foundation on Existing Law Relevant to the Authorisation or Prohibition of Mineral Exploration for Commercial Purposes in the Antarctic Treaty Area, reprinted in *U.S. Policy with Respect to Mineral Exploration and Exploitation in the Antarctic*, ed. U.S. Senate Sub-committee on Oceans and International Environment of the Senate Committee on Foreign Relations (Congressional record of hearing, 94th Congress, 1st session, 15th May, 1975), 74.
95 Francioni, "Legal Aspects of Mineral Exploitation in Antarctica," 165.
96 Report of a Meeting of Experts Organised by the Fridtjof Nansen Foundation on Existing Law Relevant to the Authorisation or Prohibition of Mineral Exploration for Commercial Purposes in the Antarctic Treaty Area, 30th May-10th June 1973 reprinted in Bush, *Antarctica and International Law*, 289.
97 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 256.
98 Joyner, *Governing the Frozen Commons*, 176.
99 Shapley, *The Seventh Continent*, 160.
100 Elliott, *International Environmental Politics*, 114–15.

101 Ibid., 115. Despite their negotiating position desiring mining the US was conscious of being perceived as a good global citizen and had refused a prospecting application in 1975 citing that there were no procedures to grant rights to Antarctica. It had also dissuaded domestic oil companies from conducting surveys of Antarctica. Rigg, "Environmentalists' Perspectives on the Protection of Antarctica," 77; Sahurie, *The International Law of Antarctica*, 435.
102 "Editorial," *SCAR Bulletin* (1981), September, no. 69, 98–100.
103 Antarctic Treaty Consultative Meeting, "Report of the Ninth Consultative Meeting," 12 at para. 4.
104 Ibid., 13.
105 Lorraine M. Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment: Australia and the Minerals Convention*, Australian Foreign Policy Papers, Canberra, ACT: Australian Foreign Policy Publications Programme Dept. of International Relations Research School of Pacific Studies Australian National University, 1993, 21; "The Future of the Antarctic: Background for a Second UN Debate," 14.
106 Suter, *Antarctica: Private Property or Public Heritage?*, 46.
107 Antarctic Treaty Consultative Meeting, "Report of the Ninth Consultative Meeting," 24.
108 Ibid.
109 Ibid., 26.
110 Ibid., 31, 43.
111 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 469.
112 Ibid., 444.
113 Ibid., 446.
114 Ibid.
115 Ibid., 436.
116 Ibid.
117 Ibid., 384.
118 Mr Merwyn Norrish of New Zealand Statement to the ATCPs Antarctic Treaty Consultative Meeting, *Report of the Tenth Consultative Meeting*, Washington: 1979, 77; Mr Rene Lustig of France's Statement to the ATCPs, *Report of the Tenth Consultative Meeting*, 75.
119 Recommendation X-1, Antarctic Treaty Consultative Meeting, *Report of the Tenth Consultative Meeting*, 11–13.
120 Shapley, *The Seventh Continent*, 162.
121 Porter and Brown, *Global Environmental Politics*, 89–90.
122 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 36.
123 Ibid., 37.
124 Ibid., 36.
125 Ibid., 38.
126 Ibid.
127 Ibid., 59. The Antarctic Project's brief is to hold states morally and politically accountable for their stewardship of Antarctica. It monitors and lobbies domestic and global forums which deal with Antarctica. Suter, *Antarctica: Private Property or Public Heritage?*, 134.
128 Clark, "The Antarctic Environmental Protocol," 165. ASOC has remained a formal observer at all ATCMs and its members are sometimes members of state delegations. ASOC publishes *ECO*, a daily newspaper detailing updates on negotiations at major global environmental conferences, which allows delegates to stay aware

of significant developments in negotiations. *ECO* was originally produced by FoE and the *Ecologist* in 1972 at the Stockholm Conference. Rather than advocating the views of any one state, it provides the position of the ENGO community. Paul Kevin Wapner, *Environmental Activism and World Civic Politics*, Albany, NY: State University of New York Press, 1996, 135. It also monitors state compliance with their agreed obligations and publicises infractions such as the one where France built an airstrip in Terra Adelie in contravention of the Treaty. Buck, *The Global Commons : An Introduction*, 66.

129 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 39.

130 Ibid.

131 Herr and Davis, "Antarctica and Non-State Actors," 10–11.

132 Clark, "The Antarctic Environmental Protocol," 168.

133 Andersen, "Negotiating a New Regime," 94–95.

134 Antarctic Treaty Consultative Meeting, *Report of the Eleventh Consultative Meeting*, Buenos Aires: 1981, 590–92.

135 Ibid.

136 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 434.

137 Francesco Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," *Texas International Law Journal* (1993), 28, 48.

138 Sahurie, *The International Law of Antarctica*, 438–42.

139 C. D. Beeby, "An Overview of the Problems Which Should Be Addressed in the Preparation of a Regime Governing the Mineral Resources of Antarctica," in Francisco Orrego Vicuna (ed.), *Antarctic Resources Policy: Scientific, Legal and Political Issues*, Cambridge: Cambridge University Press, 1983, 192, 96. In 1983 Malaysia moved to put the issue of Antarctica and its resources on the UN General Assembly's agenda. On 15 December 1983 at the 38th Session of the UN the General Assembly requested that the Secretary General study all aspects of Antarctica and put on the 39th Session Agenda the topic of the Question of Antarctica which affirmed that humanity as a whole, not just the ATCPs, needed to decide the future of Antarctica. "The Future of the Antarctic: Background for a Second UN Debate," Appendix 5.

140 Herr and Davis, "Antarctica and Non-State Actors," 11–12.

141 Lynton K. Caldwell, *International Environmental Policy: Emergence and Dimensions* (2nd ed.), Duke Press Policy Studies. Durham, NC: Duke University Press, 1990, 299. Chris Beeby, the Chair of the CRAMRA negotiations, supports this contention. While Recommendation XI-1 asks the Parties to act with urgency to create a minerals regime it does not necessarily flow that the Parties believe that large-scale exploitation and enormous economic benefits were likely to occur. Beeby, "An Overview of the Problems Which Should Be Addressed in the Preparation of a Regime Governing the Mineral Resources of Antarctica," 191.

142 Porter and Brown, *Global Environmental Politics*, 89–90.

143 David A. Colson, "The United States Position on Antarctica," *Cornell International Law Journal* (1986), 19, 297.

144 Porter and Brown, *Global Environmental Politics*, 90.

145 Elliott, *International Environmental Politics*, 121; Suter, *Antarctica: Private Property or Public Heritage?*, 52. At the time of the first meeting in 1982 they were Argentina, Australia, Belgium, Chile, France, West Germany, Japan, New Zealand, Norway, Poland, South Africa, the USSR, the UK and the USA. Over the course of proceedings they were joined by states which had been granted consultative status, namely Brazil, China, East Germany, India, Italy and Uruguay. States that were not

party to the proceedings were also invited to attend and Austria, Bulgaria, Cuba, Czechoslovakia, Denmark, Ecuador, Finland, Greece, Hungary, the Republic of Korea, the Netherlands, Papua New Guinea, Peru, Romania, Spain and Sweden all accepted the invitation and attended sessions of the negotiations. Suter, *Antarctica: Private Property or Public Heritage?*, 52.

146 Francioni, "Legal Aspects of Mineral Exploitation in Antarctica," 178–9.

147 Andersen, "Negotiating a New Regime," 96–7.

148 Further sessions were held in: Wellington, 17–28 January 1983; Bonn, 11–22 July 1983; Washington DC, 18–27 January 1984; Tokyo, 23–31 May 1984; Rio de Janeiro, 26 February–12 March 1985; Paris, 23 September–6 October 1985; Hobart, 14–25 April 1986; Tokyo, 27 October–12 November 1986; Montevideo, 11–20 May 1987; Wellington, 18–29 January 1988. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 432.

149 Ibid. Argentina, Australia, Belgium, Brazil, Chile, China, France, German Democratic Republic, Federal Republic of Germany, India, Italy, Japan, New Zealand, Norway, Poland, South Africa, USSR, UK, USA and Uruguay participated in the session. On the invitation of the Consultative Parties, Representatives of 13 Contracting Parties to the Antarctic Treaty that are not Consultative Parties, Bulgaria, Canada, Czechoslovakia, Denmark, Ecuador, Finland, Greece, Republic of Korea, Netherlands, Papua New Guinea, Peru, Romania and Sweden, also participated in the session.

150 Francisco Orrego Vicuna, "The Definition of a Regime on Antarctic Mineral Resourcs: Basic Options," in Francisco Orrega Vicuma (ed.), *Antarctic Resources Policy: Scientific, Legal and Political Issues*, Cambridge: Cambridge University Press, 1983, 201.

151 Rowland, "The Treaty Regime and the Politics of the Consultative Parties," 29.

152 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 257. Greenpeace became involved in the protection of the Antarctic in 1983 just after the CRAMRA negotiations began. It put in an enormous amount of resources into the campaign even going so far as to create its own scientific station – World Park Base – which acted as if it was any other scientific mission created by an ATCP. Herr and Davis, "Antarctica and Non-State Actors," 11.

153 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 39.

154 "The Future of the Antarctic: Background for a Second UN Debate," Appendix 7, 3. The IUCN General Assembly in 1985 passed a slightly amended document with substantially the same point. Barnes, "Legal Aspects of Environmental Protection in Antarctica," 258.

155 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 39.

156 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 257.

157 "Antarctic Mineral Regimes, Beeby's Slick Solution," *ECO* (1983), 23 (1), 1.

158 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 265.

159 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 39; Rowland, "The Treaty Regime and the Politics of the Consultative Parties," 29; Wapner, *Environmental Activism and World Civic Politics*, 135. By 1990 the strategy was so successful that ASOC was asked as a group to be present at the 1990 Special Meeting as an expert party and has attended all subsequent ATCMs in that guise. Herr and Davis, "Antarctica and Non-State Actors," 10–11.

160 Sahurie, *The International Law of Antarctica*, 458.

161 Kimball, "The Role of Non-Governmental Organizations in Antarctic Affairs," 39–40.

162 Christopher C. Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, New York: St. Martin's Press, 1991, 167–8.
163 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 434.
164 Ibid., 387. On a curious note the Special Meeting Delegates argued that the definition of mineral resources, as defined in Article 1(6) of the Convention, excludes ice and opened the door for the harvesting of that resource if it became feasible in the future. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 434.
165 Ibid., 387.
166 Joyner, *Antarctica and the Law of the Sea*, 163.
167 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 385.
168 Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 166.
169 Ibid., 166–67.
170 Joyner, *Governing the Frozen Commons*, 76.
171 Vogler, *The Global Commons*, 87.
172 Porter and Brown, *Global Environmental Politics*, 90–91.
173 Shapley, *The Seventh Continent*, 164–5.
174 Ibid., 165–6.
175 W. M. Bush, *Antarctica and International Law: A Collection of Inter-State and National Documents*, London: Oceana Publications Inc., 1994, 1.
176 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 66–7.
177 This test required that before mineral exploitation could occur, sufficient information had to be gathered by decision-makers to determine whether unacceptable damage would be done to the Antarctic environment. Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 166.
178 Joyner, *Antarctica and the Law of the Sea*, 164.
179 Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 166.
180 Vogler, *The Global Commons*, 87.
181 Shapley, *The Seventh Continent*, 166.
182 Vogler, *The Global Commons*, 87.
183 Bush, *Antarctica and International Law*, 4.
184 Ibid., Booklet AL88E, D. AL02061988D, p. 4.
185 Suter, *Antarctica: Private Property or Public Heritage?*, 57.
186 Porter and Brown, *Global Environmental Politics*, 91.
187 Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 170–72.
188 Elliott, *International Environmental Politics*, 163–4.
189 "The Future of the Antarctic: Background for a Second UN Debate," 1; Clark, "The Antarctic Environmental Protocol," 169.
190 Suter, *Antarctica: Private Property or Public Heritage?*, 134.
191 "The Future of the Antarctic: Background for a Second UN Debate," 23.
192 Ibid., 21–2.
193 Laurence Cordonnery, "The Implementation of the Protocol on Environmental Protection to the Antarctic Treaty: The Interplay between Law and Environmental Management," University of Tasmania, 1997, 10–11; Putnam, "Diplomacy and Domestic Politics: The Logic of Two-Level Games," 454. Putnam refers to "win sets" as the set of all negotiated agreements that could gain acceptance and be ratified. The larger the win sets the more the likelihood of it being ratified. The converse also applies. Traditionally done by governments, to achieve their own goal of ratification

of an agreement, they seek to expand each other's win sets through activities such as financial aid and persuading leaders of the necessity or contacting opposition parties. Robert D. Putnam, "Diplomacy and Domestic Politics," 454. Putnam, Robert D. (1988), "Diplomacy and Domestic Politics: The Logic of Two-Level Games," *International Organization* (1988), 42 (3), 427–60, 454.

194 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 31.

195 On March 24 the *Exxon Valdez* hit a reef in the Prince William Sound, off the coast of Alaska, and 11 million barrels of crude oil spilled into the sea creating a 45-mile pollution zone that killed thousands of marine creatures. Clark, "The Antarctic Environmental Protocol," 171; Rigg, "Environmentalists' Perspectives on the Protection of Antarctica," 71.

196 Clark, "The Antarctic Environmental Protocol," 171.

197 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 49.

198 Suter, *Antarctica: Private Property or Public Heritage?*, 62–63.

199 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 40.

200 Suter, *Antarctica: Private Property or Public Heritage?*, 63.

201 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 31.

202 Clark, "The Antarctic Environmental Protocol," 170.

203 Ibid.; Suter, *Antarctica: Private Property or Public Heritage?*, 63.

204 Willy Ostreng, "The Conflict and Alignment Pattern of Antarctic Politics. Is a New Order Needed?," in Arnfinn Jorgensen-Dahl and Willy Ostreng (eds), *The Antarctic Treaty System in World Politics*, (New York: St. Martin's Press, 1991), 443.

205 Elliott, *International Environmental Politics*, 170.

206 Ibid. The Parliamentary Committee examining CRAMRA went even further and recommended other avenues of approach rather than the Convention and proposed legislation to make it illegal for French nationals to participate in Antarctic mineral activity. Elliott, *International Environmental Politics*, 170.

207 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 31.

208 Clark, "The Antarctic Environmental Protocol," 171.

209 R. J. L. Hawke, "Antarctica's Future - Speech by the Prime Minister to the 16th National Conference of the Australian Institute of International Affairs, 18 November 1989," *Department of Foreign Affairs and Trade: The Monthly Record* (1989), 60 (11), 627.

210 R. J. L. Hawke, "Our Country, Our Future: Statement on the Environment by the Prime Minister of Australia," Canberra: Australian Government Publishing Service, Canberra, 1989, 26.

211 Joyner, *Governing the Frozen Commons*, 150.

212 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 25–7.

213 Elliott, *International Environmental Politics*, 168.

214 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 39.

215 Elliott, *International Environmental Politics*, 169.

216 Joyner, *Governing the Frozen Commons*, 150.

217 Elliott, *International Environmental Politics*, 167.
218 Ibid., 166.
219 R. J. L. Hawke and M. Rocard. *Joint Statement on International Environmental Issues Agreed by Prime Ministers Hawke and Rocard*, Canberra, 18 August 1989, p. 1, reprinted in Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 50.
220 Ibid., 49.
221 Elliott, *International Environmental Politics*, 184.
222 Burgess, "Comprehensive Environmental Protection of the Antarctic," 55.
223 Elliott, *International Environmental Politics*, 179.
224 Cordonnery, "The Implementation of the Protocol on Environmental Protection to the Antarctic Treaty," 11.
225 Vogler, *The Global Commons*, 77–8.
226 A Joint Australian-French Proposal in the form of a Paper Including a Draft Recommendation for ATCM XV: Working Paper Submitted By Australia and France (XV ATCM/WP/2), Franco-Australian Draft Working Paper of Possible Components For A Comprehensive Convention for the Preservation and Protection of Antarctica: Working Paper submitted by Australia and France (XV, ATCM/WP/3). Antarctic Treaty Consultative Meeting, *Report of the Fifteenth Consultative Meeting*, Paris: 1989, 220–29.
227 Wapner, *Environmental Activism and World Civic Politics*, 137.
228 Antarctic Treaty Consultative Meeting, *Report of the Fifteenth Consultative Meeting*, 220–29.
229 Ibid., 220.
230 Joyner, *Governing the Frozen Commons*, 150.
231 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 52.
232 Elliott, *International Environmental Politics*, 179.
233 Ibid., 176–77.
234 Ibid., 175.
235 The UK was heavily committed to mining Antarctica and was the only state to have passed an Act of Parliament to allow British corporations to begin commercial activities. Suter, *Antarctica: Private Property or Public Heritage?*, 66.
236 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 61.
237 Cordonnery, "The Implementation of the Protocol on Environmental Protection to the Antarctic Treaty," 11.
238 Recommendation XV-1, Antarctic Treaty Consultative Meeting, *Report of the Fifteenth Consultative Meeting*, 6.
239 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 481.
240 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 57–8.
241 Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 176.
242 Barnes, "Legal Aspects of Environmental Protection in Antarctica," 266; Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 175.
243 Clark, "The Antarctic Environmental Protocol," 180.
244 Vogler, *The Global Commons*, 82.
245 "The Future of the Antarctic: Background for a Second UN Debate," 25.
246 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 58–9.

247 Joyner, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?," 167.
248 Elliott, *International Environmental Politics*, 195.
249 *Question of Antartica (Agenda Item 70)*, Forty-fourth session, A/C.1/44/L.69.
250 Cordonnery, "The Implementation of the Protocol on Environmental Protection to the Antarctic Treaty," 4–5.
251 Elliott, *International Environmental Politics*, 184–6. At the same time the chief advocate for CRAMRA, the USA, was having its official negotiating position undermined by domestic Congressional dissent. On 26 September 1989, 10 US senators led by Senator Al Gore put forth a Joint Resolution that called on the US to start negotiations on a new Convention with the aim of protecting Antarctica by declaring the region a global ecological commons. Congressional Record, Senate, Washington D.C., 26 September 1989, S11, 906–8. In February 1990 Representative Conte introduced to the US House of Representatives a bill that would prevent US exploitation of Antarctica and would have bound US negotiators to work towards banning mineral exploitation and preserving the area in perpetuity. The US Antarctic Protection Act 1990 H.R. 3977, December 1990, Burgess, "Comprehensive Environmental Protection of the Antarctic," 56, Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 2. As per Putnam's analysis, these actions undercut the US negotiating position making it difficult for the government to satisfy these domestic pressures while arguing that the official US position had broad support at home.
252 Sahurie, *The International Law of Antarctica*, 425.
253 Clark, "The Antarctic Environmental Protocol," 173.
254 Davor Vidas, "Entry into Force of the Environmental Protocol and Implementation Issues: An Overview," in Davor Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, Boston, MA: Kluwer Academic Publishers, 2000, 3.
255 Porter and Brown, *Global Environmental Politics*, 92.
256 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 143; Vogler, *The Global Commons*, 82.
257 W. M. Bush, *Antarctica and International Law: A Collection of Inter-State and National Documents*, London: Oceana Publications Inc., 1992, 5.
258 Ibid., 24.
259 Ibid., 42.
260 Ibid., 1–4.
261 Ibid., 4.
262 Ibid., 4–13.
263 Ibid., 13.
264 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 471. Representatives of the Antarctic Treaty Consultative Parties, Argentina, Australia, Belgium, Brazil, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, The Netherlands, New Zealand, Norway, Peru, Poland, the Republic of Korea, South Africa, Spain, Sweden, the USSR, the UK, the USA and Uruguay all attended. Mr Oscar Pinochet de la Barra, Head of the Delegation of Chile, acted as Chairman for this first session Report. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 471.
265 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 67. For example, the Opening Statement by the Head of the US Delegation, E. U. Curtis Bohlen, revealed that the US was still committed to putting in place a new mineral agreement and, as a concession, was willing to ban mineral activities until one was agreed. Reprinted in Bush, *Antarctica and International Law*, 63.

266 Bush, *Antarctica and International Law*, 56.
267 Ibid., 60.
268 Ibid., 20–33.
269 Clark, "The Antarctic Environmental Protocol," 174.
270 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 50.
271 Elliott, *International Environmental Politics*, 191.
272 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 65; Elliott, *International Environmental Politics*, 191–2.
273 The Madrid Session was chaired by Mr Carlos Blasco Villa, Head of the Delegation of Spain. Representatives from all the Consultative Parties took part in the Madrid Session, Argentina, Australia, Belgium, Brazil, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, The Netherlands, New Zealand, Norway, Peru, Poland, South Africa, Spain, Sweden, the USSR, the UK, the USA and Uruguay. At the invitation of the Consultative Parties to the Antarctic Treaty, representatives from all of the Contracting Parties which were not Consultative Parties, also attended: Austria, Bulgaria, Canada, Colombia, Czechoslovakia, Cuba, Denmark, Greece, Guatemala, Hungary, the Democratic Peoples Republic of Korea, Papua New Guinea, Romania and Switzerland. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 472.
274 Ibid.
275 Clark, "The Antarctic Environmental Protocol," 176.
276 Elliott, *International Environmental Politics*, 192.
277 *Draft Convention for the Comprehensive Protection of the Antarctic Environment*, 16 October 1990, article 3, paragraph 2, reprinted in Bush, *Antarctica and International Law*, supra note 14, 17.
278 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 67–68.
279 Elliott, *International Environmental Politics*, 192.
280 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 68–9.
281 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 66–7; Elliott, *International Environmental Politics*, 193.
282 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 65.
283 Ibid., 67.
284 Clark, "The Antarctic Environmental Protocol," 176.
285 Elliott, *International Environmental Politics*, 193.
286 Clark, "The Antarctic Environmental Protocol," 177.
287 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 67; Elliott, *International Environmental Politics*, 193.
288 Clark, "The Antarctic Environmental Protocol," 177.
289 Elliott and Australian National University. Australian Foreign Policy Publications Program, *Protecting the Antarctic Environment*, 67–8.
290 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 473. The final Act of the Special Consultative Meeting was adopted whereby the Protocol would be

opened for signature in Madrid on 4 October 1991, and thereafter in Washington D.C. until 3 October 1992. Elliott, *International Environmental*, 194. The Fifth Annex was adopted under Recommendation XVI-10 at the XVIth Antarctic Treaty Consultative Meeting on 17 October 1991 in Bonn. Annex V entered into force on 24 May 2002. The US signed the Protocol on 4 October 1991 and the Senate consented to ratification on 7 October 1992. *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 473.

291 *U.S. State Department Handbook of the Antarctic Treaty System 2002*, 474, Elliott, *International Environmental Politics*, 194.

292 Vidas, "Entry into Force of the Environmental Protocol and Implementation Issues: An Overview," 5.

293 Joyner, *Governing the Frozen Commons*, 80.

294 *Protocol on Environmental Protection to the Antarctic Treaty*, Doc XI ATSCM/2, 21 June 1991, adopted 4 October 1991 "Final Report of the Eleventh Antarctic Treaty Special Consultative Meeting," Spain: 1991.

295 Joyner, *Governing the Frozen Commons*, 81.

296 *Protocol on Environmental Protection to the Antarctic Treaty*, The Antarctic Treaty Committee for Environmental Protection website, available at: http://www.cep.aq/default.asp?casid=5074.

297 Francioni, "The Madrid Protocol on the Protection of the Antarctic Environment," 17.

298 *Protocol on Environmental Protection to the Antarctic Treaty.*

299 Laura Pineschi, "The Madrid Protocol on the Protection of the Antarctic Environment and Its Effectiveness," in Francesco Francioni and Tullio Scovazzi (eds), *International Law for Antarctica*, London: Kluwer Law International, 1996, 262.

300 Joyner, *Governing the Frozen Commons*, 79.

301 *Protocol on Environmental Protection to the Antarctic Treaty.*

302 French, "Sustainable Development and the 1991 Madrid Protocol to the 1959 Antarctic Treaty," 326–7.

303 Vidas, "Entry into Force of the Environmental Protocol and Implementation Issues: An Overview," 4.

304 Ibid., 1.

305 Bush, *Antarctica and International Law*, 24.

306 *Protocol on Environmental Protection to the Antarctic Treaty.*

307 *Protocol on Environmental Protection to the Antartic Treaty*, Committee for Environmental Protection, available at: https://www.ats.aq/documents/recatt/Att006_e.pdf

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Chapter 4

Tropical timber

INTRODUCTION

The ongoing destruction of tropical forests and what this may entail for species diversity and climate change poses unique challenges for decision-makers.[1] In the last 50 years an enormous body of scholarly and popular writing, combined with global public support, has championed the need for rainforest preservation and/or conservation but without much success, given the continued logging occurring on the ground.[2] Conservationists have tended to favour creating a system of protected areas, for example, nature reserves, through either a zoning idea where different regions are specified for particular activities, or by a system where multiple usage of all areas is allowed.[3] The concept of sustainable development has been incorporated into the debates on forests and Sustainable Forest Management (SFM) and generally conservationist ideals have become accepted terms in the global forestry discourse since the 1992 Rio Summit.[4]

Alternatively, the most common solution espoused in the North to save the tropical rainforests is the preservationist approach, that is, designating large swathes of forested land as forest reserves not to be logged. The argument is made that deforestation is proceeding at such a pace that it outstrips efforts to regenerate the forest and that it is critical to preserve the biodiversity of such forests.[5] This preservationist approach to tropical forests "seeks to protect internationally recognized forest resources by setting standards of harvesting and control. Nations designate forest areas within their territory for inclusion in the international list of protected areas."[6] Rather preservationist approaches to tropical forests have become marginalised and conservationism has become dominant in the global tropical timber discourse.[7]

International efforts to protect tropical forests have been a relatively recent phenomenon since forest management was considered an internal sovereign affair. In the 1970s the only global text even tangentially related to forests was the *Ramsar Convention* (adopted in 1971 and put into effect in 1975) that aimed to protect wetlands of global significance and their waterfowl.[8]

In the eyes of many observers, the body charged with governing the tropical timber regime, the International Tropical Timber Organization (ITTO) has been derelict in protecting tropical forests. The body's emphasis on tropical timber rather than tropical forest management has seen it time and time again prioritise the global timber industry. This chapter will critically examine the role played by forests; the issue of global deforestation and tropical timber logging; the development of the ITTO and the International Tropical Timber Agreement (ITTA) it operates under; its inability to bridge discord by its member states and its refusal to include other entities, in particular ENGOs within its deliberations; and the reasons why the ITTO has become a failed organisation unable to carry out its primary mission to foster SFM in tropical forests.

THE ENVIRONMENTAL ROLE OF TROPICAL FORESTS

Virtually all stakeholders agree that forests perform vital environmental functions including the absorption of solar radiation, the production of oxygen, the stabilisation of soils, the maintenance of an environment conducive to speciation, and the release back into the atmosphere of water vapour which creates further rainfall in other areas.[9] Tropical forests also act as global carbon sinks for carbon dioxide (CO2). Forests absorb and hold a large part of humanities' fossil fuel consumption. The clearing and burning of forest cover releases the carbon sequestered within them leading to elevated levels of carbon dioxide in the atmosphere.[10]

Almost one quarter of the world's rainforests are to be found in the states of Indonesia, Malaysia, Papua New Guinea, the Philippines and Thailand.[11] Tropical rainforests cover less than 2 per cent of the Earth's surface yet contain between 40 and 50 per cent of all known life forms, perhaps as many as 10–50 million species of plants, insects and animals.[12] Only one in five species inhabiting rainforests has even been identified and catalogued. These regions are also potentially immense silos of biological, medical and pharmaceutical resources that potentially could aid millions if preserved. Thousands of animal species and up to 15 per cent of plant species there are threatened with not just exploitation but extinction.[13] Destroying tropical forests involves the destruction of potentially valuable genetic reservoirs that could potentially provide humanity with new and improved foods, drugs and medicines.[14]

TROPICAL FOREST DEFORESTATION

It is nigh on impossible to accurately reflect the rate of deforestation that has occurred. Such rates as are cited should be treated with scepticism since definitions of deforestation tend to vary, collected data is imprecise and subject to different interpretations, and rates of deforestation can fluctuate wildly from year to year.[15] However, the data on deforestation can provide an overall picture, fuzzy though it may be, of the size and scope of the phenomenon. Certainly,

humans have always exploited the resources of tropical forests. However, given increased human populations and/or technologies, the scale and rate of exploitation have reached the point where tropical forests are threatened globally. At the dawn of the nineteenth century, it is estimated, there was about 3.5 billion hectares of forests in tropical states.[16] Throughout the nineteenth century economically viable forests were cut down for either fuel or building material to feed the burgeoning industrial economies.[17]

In the 1920s and 1930s, international journals devoted to forestry catalogued the increasing rate of destruction of tropical forests, but the issue was not accorded a high priority by states at that time, which assumed that forests were so large and plentiful that humans could draw resources from them for centuries before there would be a problem.[18] With the end of World War II and the rise of decolonisation, forests were opened up to global industrial exploitation. Such practices suited both the state-building goals of the newly independent states as well as the burgeoning craving for tropical timber in Japan and the West.[19] The drive to exploit tropical forests began in earnest in the late 1950s and gained momentum in the 1960s with forest being seen as having less value compared to cleared land's potential use for agriculture.[20]

It is estimated that between 1964 and 1984 half of every tree ever harvested by humans was cut down.[21] There is general agreement that annual depletion rates in the late 1970s, that ranged from 76,000 to 100,00 km^2, with a further 100,000 km^2 are grossly disrupted.[22] By 1976 the scope of the problem was beginning to be understood by global international organisations. The FAO publication *Unasylva*, published in 1976, concluded that the rate of tropical forest deforestation was 11 million hectares annually.[23]

In 1980 a further study by the FAO estimated that, worldwide, deforestation was occurring at the rate of 114,000 square kilometres every year.[24] Deforestation figures compiled during the 1980s indicate that harvesting occurred at 16.9 million hectares per annum during the 1980s at an annual deforestation rate of 0.9 per cent, and since 1980 annual rates of deforestation have nearly doubled, from 0.58 per cent to 1 per cent or approximately 17.1 million hectares per year.[25] By 1990 global deforestation was estimated to be 1,715 million hectares approximately with an estimated 38 per cent of this area considered to be tropical rainforests (656 million hectares).[26]

In 2010, FAO figures showed that approximately 13 million hectares annually of forests were cut down or lost to natural causes each year between 2000 and 2010 compared to 16 million hectares lost annually in the 1990s.[27] Deforestation increased 53 per cent between 2001 and 2012, from approximately 69,000 square kilometres annually to 79,000 square kilometres per year.[28] Seventy-nine per cent of the deforestation that occurred between 2012 and 2012 was in South America and Southeast Asia.[29] Tropical forest loss in 2017 was 15.8 million hectares (39 million acres), an area approximately the size of Bangladesh.[30] The 2017 total was second only to 2016, till then the worst-ever year of tropical forest loss with 41.7 million acres (16.9 million hectares).[31] While we can quibble about the precise rate it is clear that tropical forest degradation is an ongoing,

serious problem.[32] If current rates of deforestation continue it is estimated that tropical rainforests will cease to exist within a century.[33]

CAUSES OF TROPICAL FOREST DEFORESTATION

Which actors and what factors have caused the rapid deforestation of tropical forests? Opinions vary with many global development agencies and intergovernmental bodies blaming poverty while many ENGOs attribute the problem to TNCs and the excessive consumption of developed states.[34] Both sides have a point and the interlocking problems make it impossible to discern one primary cause. The two principal organisations examining deforestation, the ITTO and the FAO, tend to blame agriculture and development policies, excessive fuelwood gathered, overgrazing, fires, overexploitation of timber and poor harvest practices, in that order, for the depletion of forests.[35] Logging is considered to be a merely a factor that "aggravates changes in forest cover."[36] Sing Chew argues that many of these factors are not so much causes but symptoms of other social, economic and political trends created by state policies, the global division of labour and capitalism, which are not taken into consideration within such reports.[37]

However, ENGOs and other observers maintain that logging is the primary cause of forest loss and damage.[38] The World Resource Institute in 1997 reported in *The Last Frontier Forests: Ecosystems and Economies on the Edge* that logging was a moderate to high threat to 50 per cent of the remaining forest in Asia, 69 per cent in South America and 79 per cent in Africa.[39] In 1995 Nigel Dudley, Jean-Paul Jeanrenaud and Francis Sullivan in *Bad Harvest: The International Tropical Timber Trade and the Degradation of the World's Forests* argued that "far from being a negligible cause, the timber trade is the primary cause of forest degradation and loss in many of the remaining natural forests."[40]

Such forest exploitation has been carried out by governments or by corporations or individuals licensed by the state.[41] States have gone ahead with "development" programmes that emphasise forest conversion regardless of the medium- to short-term consequences citing as a rationale a higher moral duty to help lift their citizens out of poverty. Tarlock believes that the currently unsustainable levels of forest felling have their foundations in the 1960s when South and Central American states utilised foreign loans to "develop" their forests for mineral extraction, cattle ranching or sowing export crops and such approaches have become the norm across the globe.[42]

To understand more fully the policy debate within the ITTO one must be cognisant of the concerns the producer states have had about the Organization limiting their economic development to satisfy developed states' domestic popular opinion.[43] This fear influences the way developing states deal with the North and limit the ITTO's ability to implement environmental programmes. Northern environmental values are deemed antithetical to Southern development priorities. Indeed, the evidence suggests that the most important norm influencing the behaviour of producer states is the norm of development. Undoubtedly, government policy to pursue economic development has been one of the root causes of

extensive deforestation in Lesser Developed Countries (LDCs).[44] For developing states, which are the bulk of the timber-producing states, the alleviation of poverty by government-sponsored development has been the overriding objective.[45]

The LDCs aspire to the same level of development enjoyed by many Northern states.[46] Developing states argue, with some justification, that developed states built their material wealth by extracting their own forests, and developing nations are utilising the same approach.[47] From the perspective of Southern states, concerns about intergenerational equity are far less pressing than improving the welfare of current generations through development paid for by timber exports.[48] For many LDCs, the primary purpose of state-owned forests is to provide industries with raw material and in the long term to provide potential exports.[49] However, it is not just the felling of trees for export revenues that has created deforestation. Once timber extraction has begun, bulldozers and cranes move in and forestland opens up to the agricultural or urban development that is seen as essential to producer states' economic development.[50]

The ENGOs understand very well the link between state development policies and tropical deforestation and the restrictions it imposes on the ITTO. The WRM argue in their *Declaration of the World Rainforest Movement: An Emergency Call to Action for the Forests and their Peoples* that:

> Deforestation is the inevitable result of the current social and economic policies being carried out in the name of development. Such destructive projects and policies include; plantations, both for industrial forestry and for export crops; ranching schemes; dam projects; commercial logging; mining and industry; the dispossession of peasants and indigenous peoples; colonization schemes; highways into forested areas; pollution; tourism.[51]

High levels of foreign-owned debt have placed some LDCs in invidious positions that force them to agree to strictures placed on them by IOs such as the World Bank. Consequently, to meet crippling interest payments LDCs are forced to ignore or cheat the tropical timber regime and exploit their forests at an ever-greater rate.[52] The debt crisis of the 1980s particularly exacerbated the political situation leading to many developing states becoming dependent upon the revenue from timber exporting to repay debts owed to developed states.[53] The twin lash of both domestic and global pressure to develop only reinforced global tropical deforestation as a way to appease domestic and international constituencies. Without an understanding of this context it is difficult to understand fully the actions of producer states within the ITTO.

The global tropical timber trade is a critical source of foreign exchange earnings for several states that traditionally have a poor export record.[54] Despite the attempts by the ITTO and the FAO to blame other factors, timber production has traditionally been, and is likely to remain in the short-term, the primary resource usage of the forest.[55] The global trade in tropical timber is over a century old and has experienced both peaks and troughs. Jan Laarman estimates that after World War I exports in tropical timber rose throughout the 1920s peaking

in either 1929 or 1930. The Great Depression and World War II limited tropical timber exports but after the war an uninterrupted export expansion occurred which dwarfed all previous export growth, with serious consequences for the tropical rainforests that supplied the timber. Exports rose from an annual average of 2.8 million cubic metres in 1946–50 to 66.6 million cubic metres by 1976–80, a factor increase of 24. We can observe further export growth in absolute terms during every five-year period until 1980.[56]

The reasons for this increase range from, on the demand side, the increase in income and population in states like the US and Japan that led in turn to an increased demand for tropical timber. On the supply side, increased technological advances in mechanised logging and timber transportation have enabled the cutting of forests that hitherto were considered economically unfeasible.[57] Laarman estimates that from 1900 to 1980 almost 1.2 billion cubic metres of tropical hardwood were logged and exported.[58] The major tropical timber exporting nations in this period were Indonesia, Malaysia, Cote d'Ivoire, Brazil, Gabon, and the Congo.[59]

In the latter half of the 1960s, global logging accelerated to the point that exploitation was so great that forest managers were unable to control it. Large swathes of forests were razed globally, particularly in Southeast Asia, with little effort to conserve forests for intergenerational needs.[60] Problematically, forests were only considered valuable for the timber and carbon, leading to a disincentive to promote sustainable practices.[61] There were some producer states, like Brazil and Indonesia, whose governments foresaw long-term problems, and attempted unilaterally to ban the export of logs from their reserves in the 1970s and 1980s. Brazil imposed such a moratorium in the 1970s and Indonesia put up restrictions in 1980 and a total ban in 1985, neither of which lasted due to pressure from organisations like the International Monetary Fund (IMF).[62] Ironically these states have proven over the years to be two of the greatest resisters to enacting change within the ITTO. Despite these attempted control mechanisms, it is generally considered that the logging industry went through a boom during the 1980s and 1990s with record exports and profits.[63]

The global tropical timber industry continues to be big business in the twenty-first century. In 2010 production of tropical timber was 141.5 million cubic metres but was forecast to drop to 137.7 million cubic metres.[64] By 2011 the amount of forests within producer states under SFM had reached 53 million hectares.[65]

The ITTO has released the most recent Biennial Review and Assessment of the World Timber Situation 2015–2016, which showed there was a slowdown in the global trade in tropical wood products for those two years due to supply constraints in major producer countries (particularly Myanmar and Malaysia), and decreasing demand in China for tropical timber but that the quantity sold is still unsustainable. The imports of tropical hardwood logs by the ITTO members was 16.9 million m^3 in 2015 which was down by 13 per cent from a peak in 2014, when the Chinese appetite for tropical timber was extremely high. The trend continued in 2016 with log import volumes declining by 3 per cent to 16.3 million m^3. This was due to a decline in imports by India and Vietnam

from Myanmar, which had imposed stringent log export restrictions in 2014. China accounted for 59 per cent of the total ITTO imports in 2015 and 63 per cent in 2016 and was the number one importing state. In good news, key producer countries in Asia and the Pacific such as Cambodia, Indonesia, Lao PDR, the Philippines and Thailand put in place log export restrictions. However, producer states still exported 12.3 million m^3 of tropical logs in 2015, which amounted to three-quarters of all global exports. Shipments from Papua New Guinea, the largest exporter, was 3.6 million m^3 in 2015, which primarily went to China (87 per cent).[66]

As regards the tropical sawnwood trade China and, to a lesser extent, Thailand and Vietnam are currently the major importers. Cameroon, Malaysia and Thailand are the major exporters of this wood product. ITTO producer states exported 9.5 million m^3 of tropical sawnwood in 2015, which was 88 per cent of global exports of tropical sawnwood. China's imports of this product grew from 5.1 million m^3 in 2015 to 6.6 million m^3 in 2016. Thailand remains the top-ranking exporting state of tropical sawnwood (mostly plantation rubberwood) in 2015, of which 99 per cent went to the Chinese market. The global trade in tropical plywood has plunged over the last decade to 5.1 million m^3 in 2015. Japan dominates this market (30 per cent of total ITTO imports in 2015) but the total has decreased due to substitution by Japanese domestic plywood manufacturers, upward price pressures on imported tropical plywood, currency fluctuations, and weaker Japanese domestic demand for tropical plywood. Indonesia and Malaysia are the main exporters of tropical plywood, although Malaysia's exports fell by 19 per cent in 2015, to 2.5 million m^3, due to limited raw materials and lower demand and prices in Japan.[67]

Both producer and consumer states have vested interests to continue the clear-felling of tropical forests at unsustainable levels to ensure that demand for tropical timber remains high and supply costs low.[68] Producer and consumer states' governments are well represented as board members and shareholders among the TNCs who specialise in logging, with their corporate headquarters in the USA, Japan, Germany, France, Finland, Sweden, Indonesia and Malaysia.[69] The developed world has also had its "hand on the chainsaw" through its principal role in the international tropical timber trade, and the exploitation of forests by timber TNCs, and its voracious appetite for timber resources.[70]

BUILDING AN INTERNATIONAL TROPICAL TIMBER REGIME?

With the problems of tropical forest destruction so well publicised globally for decades there was an inevitable demand for a regime to protect the tropical forests. The genesis of the International Tropical Timber Agreement and its concomitant Organization can be found not in individual states choosing to come together to overcome a mutual problem but rather from within the United Nations Conference on Trade and Development (UNCTAD). UNCTAD was dedicated to the ideal of restructuring historical patterns of global trade to enable

lesser-developed states to participate and derive greater benefits. It sought to pursue this goal through trade in tropical timber. The fact that states did not voluntarily come together to combat deforestation is significant and helps to understand the truculence and evasion shown by both producer and consumer states associated with the tropical timber regime.[71]

In November 1966, an UNCTAD/FAO Working Party on forest and timber products recommended that a tropical timber bureau be created. At a subsequent meeting in September 1968 the idea was revisited and again it was proposed that such an entity be established. At this time, the only preoccupation was that of trade and the bureau was meant to collect and exchange data on markets and on the uses of timber products.[72] The UNCTAD proposal languished for the next eight years due to stakeholder concerns that any such organisation might be too bureaucratic, or alternatively, that it should have a wider brief than just tropical timber and should apply to all timber. The timber companies were especially concerned that such an entity would participate in commercial activities, possibly limiting their activities.[73]

Following the Stockholm Conference in 1972 there was a flurry of global activity on the issue of tropical forest protection. In 1974 the IUCN held conferences on the topic of *Guidelines for Tropical Forest Management* in Caracas, Venezuela and Bandung, Indonesia. The conference recommendations were embodied in the *Ecological Guidelines for Development in Tropical Rain Forests.*[74] In July 1974 the idea to establish a tropical timber bureau was reinvigorated by the International Trade Centre (ITC), which commissioned a study to create such an entity for export producing states. Although there is no direct evidence linking the renewed global interest in the issue of tropical timber protection to the desire to create a tropical timber organisation it can be reasonably stated that it helped create a more favourable climate for such an entity, even though the timber states were not driving the issue.[75]

The eventual report revealed there was approval for such an organisation among producer states but that importing states should also be part of any accord. The authors thought the bureau's functions should be:

- to stimulate demand for, and further the use of tropical timber, including the lesser-known species and the products manufactured therefrom;
- to collect, collate and disseminate technical information on various tropical timbers warranting promotion and carry out appropriate market development programmes in light of the requirements of the import markets and the existing facilities for these types of work;
- to develop channels for, and maintain, the free exchange of market intelligence and technical knowledge between importing and producing companies.[76]

A further complicating factor to be borne in mind when examining the creation of the tropical timber regime was the price of commodities in the 1970s and the desire of producer states, mostly developing states, to extract a higher price

for their resources. Following the success of the Organization of the Petroleum Exporting Countries (OPEC) cartel in 1973–74, many LDCs felt that cartels could enable states to control commodity prices and thus increase their power relative to developed states.[77] The issue of resource prices on the global market had been simmering since 1964 but UNCTAD had been unable to convince developed states of the necessity to improve the current order, which advantage the producer states in terms of their export revenues. Coupled with this changing global resource pricing order were new perceptions of appropriate resource usage and environmental protection and the end to a commodities boom cycle in 1972. UNCTAD and the G77 states believed that these factors could lead to developed states changing their attitudes towards commodity agreements and global regulation resulting in higher prices for raw materials, greater development, and a decrease in global poverty.[78]

To promote this change in the global commodity order UNCTAD, led by Gamani Corea, the Sri-Lankan Secretary-General of UNCTAD, created the Integrated Program for Commodities (IPC) to encourage International Commodity Organisations to be set up, focusing on resources such as tea and rubber.[79] From 1974 until 1979, the IPC sought to restructure the global resource order to enable LDCs to derive a greater percentage of wealth from commodity trading.[80] Tropical timber was a late addition to the set but was one of the few resource issues to actually conclude negotiations and create a commodities agreement.[81] Thus when examining the tropical timber regime it must be borne in mind that it was not created to conserve/preserve tropical forests: rather it was designed to facilitate the orderly extraction of tropical *timber*.[82] States' interests in this regime have always been perceived as tied to the issue of timber production and marketing, with forestry protection at best a secondary consideration.

Against this backdrop, and to promote UNCTAD's mission, negotiations for a tropical timber agreement (which eventually became the ITTA), began in 1976 with a series of preparatory meetings that were to last six years.[83] While states were not willing to drive the process, IOs were keen to pressure the states to achieve a regime that would better conserve tropical forests.[84] UNCTAD, which was still keen to create a regime under its aegis, organised the first of a series of Preparatory Meetings on Tropical Timber in May 1977.[85] At this time states, whether producers or consumers, perceived no real benefit in participating in such a body although producer states were still open to a tropical timber regime if it suited their desires for a continuing tropical timber trade.[86]

The First Preparatory Meeting in May 1977 on tropical timber dealt with questions of issue definition and the scale and the scope of problems in the tropical timber industry.[87] Consistent with their previous approach, delegates of both producer and consumer states were concerned to promote investment in the industry to ensure the long-term supply of tropical timber stocks. At the Second Meeting (24–28 October 1977), producer states outlined a set of recommendations designed to minimise market and price instability, again focusing on their interest in maximising timber exports. Consumer states, with the same desire

for a steady supply, were also amenable, and agreed to study the proposal and continued their examination, up to and including the Third Meeting (23–27 January 1978).[88]

Delegates to the Fourth Preparatory Meeting (31 July–4 August 1978) agreed that four issues would be included in a possible global agreement on the harvesting of tropical timber: reforestation and forest management, higher levels of processing within producing states, research and development, and market fluctuation. The participants also requested that the secretariats of the FAO and UNCTAD, working with any relevant body, create a draft document encompassing the above points.[89] The Fourth Meeting also marked a seminal moment as it was the first time that environmental considerations in relation to tropical timber were discussed. Duncan Poore notes that this shift in focus was due to the dawning recognition, in the late 1970s, of a global consciousness of the high rates of deforestation globally, and the lack of reforestation projects to deal with the problem.[90] Despite these environmental concerns there appears no evidence that states saw it as critical to their interests to deal with the problem of global deforestation at this time, preferring to focus on commodity trade issues.

The draft report was duly presented at the Fifth Meeting (22–26 October 1979) but the members were unable to complete their consideration of the text. Again environmental issues were discussed peripherally, with much of the documentation on the issue focusing on reforestation and forest management.[91] The decision was taken to reconvene the following year and the following reports were annexed to the meeting report: the Chair's draft recommendations, the producer states' draft conclusions and recommendations from the consumer states submitted by the United States.[92] The consumer states were adamant that the key to any agreement from their perspective was the assurance of a continuous supply of tropical timber.[93]

At the second session of the Fifth Preparatory Meeting (7–18 July 1980) the Chair observed that the three draft agreements were substantially close enough to have allowed the FAO and UNCTAD secretariats to prepare five studies on three of the four elements that it had been agreed could underpin any potential agreement. A further factor that had an impact on the negotiations was that of the parallel negotiations to create a Common Fund. During the break between the two sessions, negotiations had been concluded on the Common Fund. This removed one potential obstacle to the creation of a tropical timber agreement: the need for financial arrangements to assist commodity development.[94] Critically, however, a proposal to create a reforestation fund was rejected by the International Bank for Reconstruction and Development (IBRD), a branch of the World Bank, which argued that such a fund was unnecessary as the IBRD would provide needed funds for forest regrowth and management. Poore considers this failure to access a secure source of untied funds to be a major flaw of the proposed organisation because it removed a potential source of influence in favour of conservationist aims (that is, funding could have been made conditional on conformity with certain conservation guidelines).[95]

The problematic solving of the overarching financial issues opened the door for discussions to move from the general to the specific. The meeting concluded with the following recommendations:

- On the issue of research and development the criteria for the selection of projects was approved and the task of developing a list of research and development projects was delegated to an intergovernmental group of experts.
- The group agreed that there was a need to improve market intelligence and requested that the secretariats of the FAO and UNCTAD create a report on the subject and delegate to an intergovernmental expert panel the task of creating proposals for the next meeting.
- The delegates recognised that financing would be essential to ensure reforestation projects would succeed and asked that the secretariats of UNCTAD, FAO and the World Bank prepare a paper on the issue for the sixth meeting.[96]

That Sixth Meeting occurred from 1–11 June 1982 where it was agreed that the preparatory phase was at an end and that the basic elements to an international tropical timber agreement was in place. Consensus was achieved and an instrument was created which had as its foundation the following summarised sections which emphasised the need for cooperative ventures if the regime was to succeed:

(1) Individual research and development projects that had been drafted drawing on the 42 project profiles already examined (e.g. wood utilisation, forest development) would be selected by a designated producer/consumer body for implementation within the framework of a proposed agreement.
(2) The various proposals such as monitoring and evaluating data to improve market intelligence meet the threshold test for an international agreement.
(3) Cooperation between producing and consuming states should cover issues such as technology transfers, training, the encouragement of investment and the creation of joint ventures. Such activities would be monitored by the new body created and would have a mandate to solve any problems in cooperation with any other competent entity.
(4) Producer states and consumer states should cooperate to ensure a regular review of national and international support with a view to encouraging increased technical assistance for national reforestation and forest management programmes. Further, there was a need to review the future requirements of international trade in industrial tropical timber products and identify and evaluate potential schemes to satisfy the need for industrial timber.[97]

The institutional requirements of such an arrangement was not considered at the meeting due to lack of time so a further meeting was called from 29 November

until 3 December. The Japanese delegation put forward their own draft articles for an international agreement based on previous agreements on rubber and jute but no other state saw fit to do so.[98] At the end of discussions the Members agreed to create the International Tropical Timber Organization (ITTO).[99] The ITTO was designed as an autonomous entity with a mandate to administer the agreement and oversee its operation. The meeting also decided the organisational structure and organs of the ITTO. Two categories of members were set up, producers and consumers, but the exact definition of these categories was left open. Lastly the delegates decided on a definition of the term "tropical timber."[100]

Poore argues that one can observe an evolution over the course of the Preparatory Meetings, from concerns over how best to improve tropical timber supplies and market intelligence to grappling with the vexed questions relating to conservation of forests. However, the issue of preserving such forests appears to not have been discussed, nor was it a consideration. Poore believes that ecological values were to gradually become embedded over the course of the discussions and eventually formed a bedrock part of the proposed ITTO.[101] However, he does not identify which actors/states held such beliefs, nor can it be ascertained under what conditions such environmental concerns would manifest in practice. Certainly, environmental issues were discussed but the evidence suggests they were only ever secondary concerns. It is highly debatable, given the subsequent performance of the ITTO, that such ecological concerns were critical to states' interests let alone internalised to the point where states considered such issues automatically.

A Conference on Tropical Timber was convened on 14 March 1983 in Geneva, Switzerland. By the end of the first session, 31 March, delegates from 70 countries (36 producers and 34 consumers accounting for 98 per cent of the tropical timber trade) had agreed to 37 of the 43 articles.[102] Problematic issues were the location of the headquarters of the new organisation (Belgium, France, Greece, Japan, the Netherlands and the UK all vied to host the ITTO).[103] Also, the number of committees to be established proved to be a sticking point. The Chair offered three (Economic Information and Market Intelligence, Reforestation, and Forest Management and Processing) while the consumer states argued that only two were necessary. A more important difference was over the definition of tropical timber for the purposes of the agreement, with producer states focusing on production and resource management, and consumer states wishing to privilege issues of trade.[104]

THE ENGOS AND THE TROPICAL TIMBER REGIME

ENGOs across the globe, at many levels of government, sought to halt or decrease the rate of tropical forest deforestation. The ENGOs which were most active during the 1987–1994 period, when the ITTO was created and finding its footing, were the International Institute for Environment and Development (IIED), Survival International (SI), Friends of the Earth (FoE) and the World Wildlife Fund (WWF).[105]

It would be a mistake to presume that the environmental movement is a monolithic bloc when it comes to protecting tropical forests, as differing ENGOs espousing differing environmental positions are sometimes in competition with each other. The most radical ENGOs seek a preservationist outcome for tropical forests such as Greenpeace, a relatively late joiner to the issue of tropical forestry, which argues that states should add more land to existing forest reserves. To achieve this goal, it set up tropical forest units within its own organisation dedicated to lobbying governments to achieve its goal.[106]

However, Greenpeace, unlike in other global environmental regimes, was a limited actor in the ITTO. It had other campaign priorities at the time, such as Antarctica and whaling. As one of the more prominent international ENGOs, its failure to take a leadership role in this issue, combined with strong resistance from states determined to harvest and consume tropical timber, meant that preservation did not have a strong advocate within the ITTO. Other ENGOs, arguing a more hardline preservationist stance, found themselves excluded from the inner sanctum of the negotiations, and to date have been unable to influence the normative direction of the ITTO, which has confined itself to a debate between exploitation and conservation.[107] In general, preservationist-leaning ENGOs have not been able to link their arguments to higher values such as the beauty, uniqueness, and the fragility of the tropical forests, in a way that resonates meaningfully within producer states.

The ENGOs that have argued for the conservation of tropical forests (traditional groups found principally in the United States, such as the WWF and FoE) are far more vocal within and without the ITTO. These organisations are willing, at least initially, to work with producer and consumer states, and their proposals call for improvements in efficiency such as modernising logging machinery, and management practices to make the process more sustainable.[108] The ENGOs willing to work within the system to achieve their objectives can be contrasted with those groups like Greenpeace which had grown accustomed to using outsider tactics to further their goals.[109]

This fracturing of the ENGO movement over goals, strategies and tactics is one key reason why the ENGOs have been unable to influence the ITTO's development. No clear leader has emerged to guide the ENGOs, as Greenpeace did in the whaling regime nor have ENGOs been able to coalesce around a single idea to put forward a united front, as ASOC did within the ATS. This has severely limited the ENGOs' ability to act as norm advocates and is one of the chief reasons for the failure of the more radical environmental norms to take root in the tropical timber regime.

Despite their internal disagreements about how to approach the embryonic organisation, the ENGOs initially were all hopeful that, despite its apparent limitations, the ITTO could eventually become a force for environmental protection. The ENGOs supported the newborn ITTO for two reasons. Firstly, the ENGOs saw it as a vehicle to potentially curb the excesses of the logging TNCs. Secondly, they were committed to the idea of sustainable logging and hoped such an aim could be achieved through the ITTO.[110] ENGOs were able to argue successfully

at the Preparatory Meetings that the dominant frame of tropical timber should be reframed from a resource and development issue focused only on timber extraction to one of overall forest conservation. However, such concerns were reflected in the final treaty text wording as aspirational goals for the new organisation.[111]

In many ways, the ITTO owes its existence to the ENGOs (and IOs like UNCTAD) for without their belief in its potential, it might never have materialised (given the still apparent disinterest of tropical timber states). Despite the lack of enthusiasm for a completed regime the UNCTAD Conference reconvened from 7–18 November 1983 in Geneva where the decision to adopt the International Tropical Timber Agreement was taken by delegates. This occurred despite there being a number of outstanding issues like where the new organisation should be situated.[112]

No explanation has been proffered in the official records as to why states agreed at this point in time to adopt the ITTA. It appears producer and consumer states were prepared to cooperate and become involved in the ITTO to ensure that the smooth business cartel they had created ran smoothly. For consumer states the ITTO would ensure a steady supply of timber products, while for producer states it would help ensure a steady stream of export dollars. In the case of the producer states, for example, there was an assumption by governments that increasing the export of timber commodities would lift domestic income and raise the living conditions of all the people.[113] Developing states' elites understood that one pathway to quickly developing was to exploit their abundant forests, and this certainly did affect their perception of the ITTO as a potential brake on their operations.[114]

Radoslav Dimitrov's work provides a possible explanation for the behaviour of both producer and consumer states and why they participated in the ITTA negotiations. For states the "normative logic of appropriateness" requires states to participate in regime negotiations.[115] He postulates that states needed to be seen actively engaging with environmental problems. No state can afford the opprobrium directed at it for not being seen to do something about deforestation.[116] This was particularly true at the time of the creation of the ITTO, as the global ENGO movements of the 1970s worked hard to publicise the problem of global deforestation.[117] At this point the global significance of tropical forests was becoming increasingly appreciated by developed state populations as part of an overall concern that was growing about global environmental problems such as resource supplies and the loss of global biodiversity.[118] While such growing ecological awareness was mostly limited to developed states it is reasonable to surmise that both producer and consumer states felt pressure to be at least seen to be tackling this issue in a concrete way by attending negotiations and agreeing to a draft document. Such a strategy avoided reputational costs and potential shaming as poor environmental actors.[119]

Despite producer and consumer states having concluded a draft for ratification and signing, their continued indifference to the ITTA being passed meant that the earliest date for definitive entry into force, 1 October 1984, was not met. By early 1985 there was concern that the date for "provisional entry into force" would pass without an agreement being ratified. While the consumer

states willing to agree to the ITTA's provisions were nearly unanimous in their approval of the draft (only Spain and Italy did not sign and ratify at this stage), gaining the acquiescence of the producer states proved more problematic. By mid-February 1985 only six states (Liberia, Indonesia, Gabon, Honduras, Bolivia and Malaysia) had signed and only Indonesia and Malaysia had ratified the agreement. At least eight more instruments were required to be lodged, otherwise the Agreement could not enter into force.[120]

When in 1985 it appeared that the Agreement was in trouble, with no states ratifying the text by the agreed deadline, the IIED organised a conference in March in London. This brought together key states (Japan, the UK, Malaysia, Indonesia, Brazil and the Netherlands) plus industry representatives, to promote the entity and to encourage ratification.[121] At the end of the seminar, after much debate, the conference participants agreed to a Statement to be sent to all state participants.[122] The statement read in part:

> This seminar, convened to explore the implications of the Agreement for the relationship between the utilization and conservation of the tropical forest resource, confirmed that these need not be contradictory goals . . . The benefits derived from the trade, however, could greatly contribute to the management and conservation of the resource which in turn ensures the sustainability of economic and social development.
>
> Nevertheless, despite the consensus as to the potential value of the agreement, the seminar noted with grave concern that the requirements for entry into force have still not been met . . . The seminar urges everyone concerned to do all in their power to see that the Agreement enters into force . . . The seminar stresses that the ITTA can rightly be regarded by the whole international community as a major success for international cooperation and solidarity.[123]

Interestingly, and indicative of the thinking of states at this time, the Seminar participants seemed to believe that the global logging trade played virtually no part in the rising rates of deforestation. Rather, an argument was outlined that the trade could only be a boon to conservationist activities in tropical forests. Despite this rather peculiar position the ENGOs such as the IUCN, the IIED and the WWF were sufficiently enthused about the potential of an ITTA that they used their domestic state affiliates to encourage states to sign on to the agreement. Japan, in particular, was active in promoting the potential of such an agreement to South American states, especially the critical state of Brazil. To the surprise of the ENGOs the conference was successful, and enough ratifications were deposited in New York by the 31 March deadline to enable UNCTAD to call the first meeting of the ITTO in June 1985.[124] This initial Agreement came into force on 1 April 1985 for an initial period of five years. It was extended twice, for two-year periods.[125]

Why states were willing to sign on is still an open question. Certainly, the producer states saw merit in obtaining funding but it is also likely that they realised that such an organisation was inevitable and wished to ensure control of such

an entity. Japan fought very hard for the new ITTO Secretariat to be situated at Yokohama, and with the lobbying aid of the WWF, IUCN and FoE-UK in consumer states, the proposal was eventually agreed to by all the negotiating states.[126] The main producer and consuming states also ensured that they maintained financial control of the fledgling entity. For example, in 1989 just over 50 percent of the ITTO's annual budget was sourced from Japan, Brazil, Indonesia, Malaysia, the USA and Korea, all of which were heavily involved in the tropical timber trade.[127]

However, for all states, given the global awareness of the issue of tropical deforestation, there was pressure to be seen to be addressing this issue, and the ITTA allowed them the greatest latitude to continue "business as usual" while arguing that they were aiming to conserve tropical forests. That is, despite agreeing to the ITTA, the member states, as shall be seen in the rest of the chapter, continued to flout many of its provisions. Since there are no enforcement provisions in the Agreement, states have continued their exploitative behaviour, seeking short-term gains that benefited the producer elites and the timber consumers of the importing states.

THE INTERNATIONAL TROPICAL TIMBER AGREEMENT

Opinions regarding the purposes of the ITTA and the behaviour it was meant to engender remain divided to this day. Pamela Chasek believes that the ITTA is primarily a commodities agreement that unusually, has no price regulation mechanisms or market intervention powers. Its aim is "to promote sustainable development of tropical forests by encouraging and assisting the tropical timber industry and trade and thus conserve the resource base upon which they depend."[128] Fred Gale argues that the ITTA is meant to be a conventional commodities agreement (for example, it contains mention of buffer stocks) and is designed to stabilise prices. However, by the time a draft was prepared it was clear that tropical timber could not be regarded in such a light, due to the problematic nature of tropical timber extraction.[129] Ans Kolk agrees with this conclusion, but for differing reasons, pointing out that while the ITTA was originally envisaged as being yet another commodity agreement, the attempted melding of conservation with the promotion of trade and increasing producer states' revenues made it an exceptional agreement.[130]

The ITTA as a document tried to balance these inherent contradictions when it

> attempted indirectly to conserve tropical forest resources by addressing uncertainty and fluctuation in the international market for tropical timber, with the idea that a more stable international market will allow states to choose when to harvest and sell their forest resources, rather than being driven to do so by market pressures or opportunities.[131]

Such an approach, however, ends up creating a cartel which is monopolistic in nature. This is more likely to lead to incentives to exploit rather than conserve

tropical timber since states' interests are met by focusing on ensuring a steady import/export trade in the short-term for the benefit of the cartel members.

The Agreement defined tropical timber in Article 2(1) as comprising, "non-coniferous tropical wood for industrial uses, which grows between the Tropic of Cancer and the Tropic of Capricorn. . ."[132] The objectives of the ITTA clearly reveal that its focus is on tropical timber utilisation, with its agreed aims being

- To create an effective framework ensuring cooperation and consultation between tropical timber consumer and producer states.
- To ensure the diversification and expansion of the global tropical timber trade and improve market conditions.
- To promote and augment forestry research and development with the aim of improving tropical forest management and the use of wood products.
- To encourage national forestry policies that encouraged sustainability and conservationist practices of tropical forests and their resources.[133]

Again, the language is of cooperation by the member states to promote the tropical timber trade, plus an understanding of the need to put in place sustainable practices to conserve tropical forests. However, this latter objective appears to be undermined by the unspoken rationale that as far as the member states are concerned, "tropical forests would only continue to exist if they were used for an economic purpose – the most important being the production of wood."[134]

ENGOs, and IOs such as the WWF, the FoE, the IIED, and the IUCN, were observers at the closing sessions of the negotiations and, due to their effective lobbying, were able to ensure that conservationist language was part of the Agreement's objectives.[135] The primary documents of the negotiations and the secondary material reveal no real attempts by the ENGOs to argue for preservationist norms to be part of the Agreement. It is arguable that the ENGOs knew, given the opposition of producer and consumer states and timber companies, what they were up against and that their only hope was to start with the less ambitious aim of conserving areas and building on any success. The absence of traditional preservationist ENGOs such as Greenpeace enabled groups that traditionally espouse a conservationist ethos, such as the IUCN and the WWF to have a greater influence on the proceedings.

The negotiating states agreed with the conservationist aims and, as mentioned earlier, Article 1(h) was inserted in the text with the following aim:

> To encourage the development of national policies aimed at sustainable utilization and conservation of tropical forests and their genetic resources, and at maintaining the ecological balance in the regions concerned.[136]

A closer examination of the operation of the Organization reveals that neither producer nor consumer states have made conservation a priority over exploitation.[137] As David Humphreys notes:

> Neither the producers nor the consumers have contested the economic *exploitation* [my italics] of tropical forests for timber and for other forest products. Given this, and given also the conservation mandate of the ITTO, it is perhaps not surprising that the ITTO guidelines for the sustainable management of natural forests reflect inconsistencies between developmental and ecological objectives.[138]

The *Possible Action 33* document published in 1990 stated even more baldly the ITTO position on conservation versus trade when it declared that any environmental impact studies should "assess compatibility of logging practices with declared *secondary* [my italics] objectives such as conservation and protection."[139]

Over time it has become clear that the conservationist clause of the ITTA is fundamentally at odds with the "expansion and diversification" aim of the ITTA.[140] The ITTA as a whole is considered deficient by many commentators in that it does not take into consideration the issue of forest diversity essential to a sustainable forest ecosystem. Kasimbazi is particularly critical, arguing that the ITTA emphasis on conservation to the exclusion of preservation undermines the Agreement, since it has no ability to support the tropical forest biosphere.[141] However, the ITTO was founded on the idea that it was both politically and technically possible sustainably to extract timber from tropical forests while maintaining other values.[142]

The Preamble of the ITTA encapsulates this duality when it states that it recognises the "importance of, and the need for, proper and effective conservation and development of tropical timber forests with a view to ensuring their optimum utilization while maintaining the ecological balance of the regions concerned and of the biosphere."[143] In many ways the tension between the two goals of timber exploitation and maintaining the forests sustainably has led to the internal problems within the ITTO as it tries to balance these competing interests and the stakeholders pushing their associated agendas.

The ITTO was not initially averse to the input of outside organisations, whether they were IOs or ENGOs. Articles 14 and 27 of the ITTA encouraged the ITTO to use the facilities and skills of both national and international agencies and ENGOs in a collaborative effort on research and data collection.[144] However, the failure to allow such organisations, particularly ENGOs, a "seat at the table" when it came to decision-making was to lead to institutional failure in achieving the objective to promote sustainable forestry.

Article 23 of the ITTA refers to projects to be undertaken by the ITTO and over time this has become a critical part of the work carried out by the organisation.[145] Article 20 established a donor "special account" to fund projects but from the beginning was to prove inadequate to the scope of the task.[146] Moreover, the research projects undertaken by the ITTO have tended to focus on tropical *timber* to the detriment of tropical *forests*, with the conservation of forests being perceived as an incidental goal. Emmanuel Kasimbazi argues that such an approach leads inevitably to a diminution of ecological values and assets and the record of the ITTO bears this out.[147]

THE INTERNATIONAL TROPICAL TIMBER ORGANIZATION

Under the ITTA the International Tropical Timber Organization is responsible for the administration of the regime.[148] The ITTO has played a critical part in proselytising the idea of sustainable forest management. At the global level, it has provided a forum for debates about the relevant norm to underpin the organisation.[149] Since its creation the organisation has progressively broadened its mandate and it now competes with the traditional forest organisation, the FAO, in the field of forest-related information.[150]

The structure of the ITTO is a curious one. It privileges exploitation and as such is similar to some share arrangements within certain corporate structures, where two types of official members, made up of producing and consuming states, have a total of 1,000 votes each.[151] The first 400 votes are reserved equally for producer states from Africa, Asia-Pacific and Latin America. A tranche of 300 votes is divided between states determined by their relative share of tropical forests. The last 300 votes are apportioned according to the average of the values of each state's net exports of tropical timber during the previous three years (Article 10 (2) ITTA 1983). While this apportioning gives all states with tropical forests a say, countries like Malaysia, Indonesia and Brazil, with extensive forests or a large proportion of export timber, have the most sway within the ITTO. This is because the greater the export volume of tropical timber, the more votes are assigned.[152]

Examining the inner workings of the ITTO, as personified in its voting structure, reveals further curiosities. The "rules of the game," as constituted in the ITTO voting structure are seriously flawed, in that they do not allow countries with large swathes of tropical forests to be accorded due weight. Rather, the quicker a state destroys its forests the more votes it gets, leading to the absurd situation where exploiting states carry disproportionate weight in council deliberations. This leads to the favouring of the interests of the exploiters.[153] Thus from its inception, the voting mechanism utilised by the ITTO ensured that conservationist aims would be secondary to the putative need to promote the global timber trade.[154]

Consumer states are accorded ten votes each, with the remainder apportioned by their average volume of their net imports of tropical timber during the previous three-year period, starting four years prior to the allocation of votes (Article 10(5) ITTA 1983). This system penalises states that import higher-value goods such as furniture, in favour of states such as Japan that import large quantities of unprocessed logs.[155] While the voting procedures of the ITTO can appear on the surface to be Byzantine, in practice most decisions are produced by consensus between the producer and the consumer blocs.[156] The ITTA restricts voting rights to states alone and merely declares that members should "cooperate" with ENGOs to avoid duplication of efforts (Article 14(2) ITTA 1983). However, it does allow ENGOs to participate at Council Meetings as Observers (Article 15 ITTA 1983). The ITTA also contains no procedures or programs to allow for an increased ENGO presence over time.[157]

Furthermore, the ITTA does not confer on the International Tropical Timber Council (ITCC), the deliberative body set up within the ITTO, any specific powers or mandates such as submitting proposals to further conservationist ends.[158] The Council cannot propose protocols to implement reforestation schemes or designate areas as protected. The ITTA also confers no authority on the Council for the monitoring or enforcement of its provisions. It cannot even require member states to provide an Annual Report.[159]

Although producer states have more power on Council given the weighted voting system, there is nonetheless a dispute among commentators as to which side, producers or consumers, has the most power within the ITTO. Kolk believes that the voting structure vests power in the timber producer states which have been dominant in negotiations and that this has led to a diminution of the environmental objectives of the ITTA.[160] Of the producer states in voting situations Brazil, while not a large player in the global timber market, often leads the producer states due to its well organised and large delegation, and has had a disproportionate voice in the ITTO. Brazil has frequently sided with Malaysia in forum negotiations to achieve the objectives of preventing measures aimed at limiting timber production, and both have functioned as a highly effective veto coalition, leading other producer states in this regard – such as Indonesia – over the years.[161]

Porter and Brown believe that power resides more with the consumer states. They maintain, for example, that the ITTO is dominated by Japan, whose main consumer interest appears to be the maintenance of its tropical timber quotas at their current level (Japan held 380 out of 1,000 consuming state votes when the ITTO was created in 1986). European Union member states also have a vested interest in continuing the flow of tropical hardwood to Europe, particularly for the manufacturing and sale of export furniture. The goal of the ITTO was envisaged as one that would develop into a "world forum" where the promotion of the trade of timber would be balanced by conserving forests in a sustainable manner. Guppy argues that this goal has not been realised, primarily because of the actions of Japan, which is the largest consumer of timber products. Because of its voracious timber appetite, Japan provides the largest share of the funding to the ITTO and hosts the ITTO infrastructure. It therefore has been in a position to influence negatively attempts to introduce sustainable forestry.[162]

Undoubtedly the global tropical timber market has been manipulated by the main consumer states, particularly Japan, to keep timber prices low for Japanese buyers.[163] Among the producer states, Brazil, Indonesia and Malaysia form a powerful coalition nonetheless, to achieve their ends of continuing timber harvesting, and to access funding for new development schemes. The main consumer states Japan, the USA and the European Union all demand secure sources of tropical timber. So, we can clearly observe two powerful veto coalitions converging to prevent challenges to their economic interests. This coming together of both producer and consumer states, dedicated to continuing timber exploitation, makes the promotion of conservationist norms within the ITTO a difficult and thankless task. Producer and consumer states set up separate caucuses, starting from the

first few ITTO Meetings. This specifically excluded ENGOs. This denial of access makes it difficult for ENGOs to present their particular arguments, and prevents them from framing the debate in environmental rather than economic terms.[164]

THE ENGO RESPONSE TO THE NEW ITTO

At the first ITTO Meeting in Yokohama in March 1987 over 31 ENGOs attended and were made to feel, at least initially, that they would have an integral part to play in the organisation.[165] As stated previously, initially ENGOs were relatively positive about the organisation, albeit wary of the difficult task ahead. This uneasiness with the ITTO structure is typified by Charles Secrett's missive, in an FoE newsletter which argues that "opportunities are there to materially improve the lot of tropical forests across the globe over the next few years," and points out how, given the forces at play within the organisation the ITTO at present appears:

> nothing so much as a nervous man trying to cross a very high wire in a thunderstorm – shaky, precariously balanced and at the mercy of elements beyond its control. It will need a lot of encouragement and support if it is to reach its objective.[166]

The WWF was an early supporter of the ITTO as well, and was willing to give it the benefit of the doubt. In a position paper this particular ENGO argued that the ITTA had the potential to implement conservationist strategies on tropical forests because: "It was the only commodity agreement which incorporated the concepts of the rational use and conservation of tropical forests."[167]

However, this cautious optimism of the ENGOs at the birth of the ITTO was soon to be replaced by despair and then by antipathy towards the ITTO for its perceived failures. The seeds of this sense were sown at the negotiations that created the ITTO which set up the decision-making structure. ENGOs were initially successful in influencing the ITTA (1983) because they were part of the negotiations from a very early stage.[168] Under the new ITTA, ENGOs were allowed to participate only as observers. They did not have access to the inner sanctum where decisions were made. This limited the ability of ENGOs to influence the ITTO from within. This was problematic, particularly for those ENGOs that expounded a preservationist line.

ENGOs such as the WWF that were more conservationist in their philosophy, did gain minimal access to delegates to argue their case. However, most ENGOs found themselves increasingly marginalised, both during negotiations and at ITTC deliberations. Further, as soon as hardline ENGOs proposed either conservationist or preservationist arguments from outside the ITTO they were met with fierce resistance. A coalition of producer and consumer states, in league with domestic timber industries, determined to ensure a steady supply of timber, overrode ENGO objections, and orchestrated their own version of the regime.[169]

Humphreys argues that the ENGO arguments that most resonated with ITTC members were those found within the dominant neoliberal arena and did not threaten entrenched political and economic interests. This automatically ruled out preservationist arguments and outcomes (because logging suited the economic interest of both veto coalitions), and allowed for only some conservationist measures. The problem was finding some individual, group or state willing to advocate such positions. Humphrey contends that consumer states were pushing for a more conservationist agenda but were not willing to openly go against producer states and the trade organisations.[170] Conservationist states such as Japan and the USA were not willing to jeopardise their own tropical timber supplies so conservationists' proposals floated did not have any sanctions for non-compliance.

Despite being locked out of the decision-making process ENGOs and a small number of conservationist-leaning states have attempted to alter the regimes underlying the normative framework in a number of ways including organising:

- a debate over the term "Sustainable Forest Management" (SFM) and over the development of guidelines to manage tropical forests sustainably;
- a push to have all timber sustainably produced by the Year 2000;
- the development of Successor Agreements to the 1983 Agreement in both 1994 and 2005–2006.

Examining each of these issues enables a clearer understanding of the undertakings by ENGOs and certain states, including their successes and failures, and enables a greater knowledge of the ITTO, and the reasons why it has been resistant to change.

SUSTAINABLE FOREST MANAGEMENT

One of the goals the new ITTO set itself was the development of a common philosophy as to what constitutes sustainable forest management, in a negotiating context where producer and consumer states are considered equal. Given the disparate interests of the delegates to the ITTO, reaching agreement over such a common philosophy proved difficult.[171] The ITTC, in one of its first acts, attempted to clarify the exact balance between its stated goals of sustainable utilisation and conservation, and to reduce the normative confusion over terminology. The hope was that definitional clarity would enable all stakeholders to advance a conservationist agenda. The new Executive Director awarded a contract to the IIED to investigate this disparity and report back with recommendations to ITTO members for them to implement if so inclined.

The IIED's Senior Advisor Duncan Poore, and others, thereupon wrote the Report *No Timber Without Trees: Sustainability in the Tropical Forest* on behalf of the Institute. They focused on the idea of what became known as Sustainable Forest Management.[172] The Report drew on state visits and interviews with knowledgeable stakeholders.[173] It was limited from the start however, in that

it focused merely on questions concerning timber output, rather than on forest management as a whole. Consequently, and unsurprisingly, the document concluded by characterising SFM in terms limited to the "management [of natural forests] for the sustainable production of timber," without any consideration of other potential uses of forests that did not involve timber extraction, such as biodiversity extraction.[174]

The Report further revealed that the scale of the deforestation of the world's tropical forests was much higher than previously reported or indeed predicted. Poore *et al.* argued that while there were many areas within various states' tropical forests that had some elements of sustainable management, they could not conclusively be judged to meet the current definition of providing even the sustainable production of timber.[175] The Report concluded that the areas of tropical forests actually under sustainable yield management, as it related to timber production by the producer states of the ITTO in 1985, was only 800,000 ha out of a total estimated area of 828 million hectares or approximately 1 per cent. No tropical forest was sustainably managed, with the exception of Queensland, Australia.[176]

While most producer states had the stated aim of sustainably managing their forests, the reality was that sustainable systems were not being implemented in time to slow the overall decline in forests globally, even if one examines the issue in terms of the economic value of the forest's timber being extracted.[177] However, in a revolutionary announcement, the Report declared that the goal of achieving a sustainable yield of timber was not the same as the goal of sustainable forestry management, contrary to the traditional approach taken by the FAO and European foresters.[178] This does mark at least a first tentative step away from exploitation to embracing conservationism on the forest floor.

At an International Seminar to consider the findings of the Poore Report on 12 November 1988 (just prior to the ITTC's 5th Session), no delegate disputed the Report's findings. Curiously, there is no record of any formal discussion of the Report, though the Council did endorse the recommendations in their entirety. Certainly, given the lack of action by ITTC members subsequent to the Report, it can be surmised that this was an example of states ignoring what was unpalatable and not even wishing to engage with the issues in discussion.

In Poore's eyes, however, there was now an understanding of the size of the task ahead, and the need to act immediately but subsequent events would reveal that states were not prepared to act urgently.[179] The author hoped that the recommendations would lead to an effective Action Plan, to be implemented at the national level, to overcome the shortcomings his Report identified. The actions identified were divided into four types: the promotion of necessary actions by affected stakeholders; scrutinising critical issues for the proper course of action; the provision of highly publicised examples of appropriate action; and facilitation of necessary actions by the ITTO.[180]

On the key issue of resolving the definitional confusion over the term sustainable management, the IIED and Poore were unsuccessful, in the face of enormous opposition, in having their position adopted by the ITTC. Due to the desire of

different stakeholders for different interpretations that suited their own interests, the members refused to endorse a universal definition of sustainable management.[181] However, despite the definitional confusion, and the lack of an agreed definition, SFM has come to be widely utilised by all forest stakeholders. The term has been limited to merely sustained-yield forest management focusing on timber extraction, however.[182]

This focus on timber, to the detriment of other forest values, has in many ways led to the ITTO losing its way in its stated goal of sustainably managing the globe's tropical forests because it encourages states to see forests as a supply of logs (and logging inevitably leads to environmental degradation), rather than to consider the forest as a whole and in non-economic terms. The implementation of SFM is usually left to the logging corporations and producer states that do not (yet) see sustainable management as being in their economic interests. They prefer to pay lip service to such a concept and, given the looseness of the definition, are therefore able rhetorically to state that they are committed to conservationist practices, regardless of the reality on the forest floor.[183]

Poore's Report ignited a firestorm of controversy outside the ITTO. ENGOs were unhappy that the Report confirmed their own suspicions that the producer states were not stewarding their forests well. The report enabled some ENGOs to quietly begin lobbying sympathetic states to change the status quo within the ITTO to enforce sustainable practices.[184] The WWF led a coalition of ENGOs that demanded that the ITTO impose a target date of 1995, by which time all tropical timber should be sustainably produced. The effort was partially successful, with the ITTO putting in place a plan for sustainable forest management but the date was set at the year 2000 and it only applied to producer states.[185] This *Objective 2000* will be examined in greater detail later in this chapter. Other ENGOs used the report as evidence of neglect, and responded by calling for a global boycott on tropical timber products. This call for a global ban did concern producer states and affiliated companies who were worried that such actions would curtail profits, but the ENGO campaign was only half-heartedly taken up within consumer states, which were no doubt worried about their own supply needs.[186]

SUSTAINABLE LABELLING

At approximately the same time as the Sarawak mission was taking place efforts were being made to curb exploitationist timber culling by introducing a sustainable labelling system. At the 7th Session of the ITTC at Yokohama, in November 1989, the British delegates proposed a labelling system to identify timber that was produced sustainably.[187] Similar to the strategy implemented by the ENGOs to stop whaling, the British delegate was actually a stalking horse for the ENGOs, with the proposal prepared by FoE and the Oxford Forestry Institute (OFI). It met with a hostile reception from timber producers, particularly Indonesia and Malaysia, who were worried that any such labelling would be detrimental to their economic interests and the proposal was downgraded to

a study on how to provide incentives for sustainable forestry management.[188] A Report prepared by the Permanent Committee on Economic Information and Market Intelligence supported that view.[189]

The British took these criticisms on board and rewrote the document without the input of the FoE. Feeling aggrieved at the need to alter the Report, the FoE promptly withdrew its support.[190] Even the watered-down document was not debated by the ITTC, but rather tagged as being an area needing further research.[191] At that time the British shelved the idea of a labelling programme for the immediate future because it was not supported by a majority of the member states.[192] One observer to the above proceedings noted: "The producers were privately alarmed that it would be difficult for them to provide such label [*sic*] for *any* timber that they marketed."[193]

This did not mean the British delegation had given up, however, since they were determined to succeed in creating a sustainable labelling scheme. They enlisted the help of the OFI and the UK Timber Research and Development Association (TRADA) and revised their proposal to one that examined financial and non-financial proposals as regards sustainable forest management.[194] Their proposal was debated by the ITTC at the tenth session in 1991. The Chair of the Roundtable neatly captured the essence of the problem when he stated there was a "need to define an acceptable compromise between the environmental value of the forest and the economic value of trade in tropical timber."[195]

Yet the ITTC was unwilling to acknowledge there was any tension in the Organization's goals, and instead asked delegates to try to achieve the *Year 2000* goal, examined more fully in the next section, of all imported and exported timber to be sustainable, supported by domestic trade liberalisation policies.[196] The British tried one final time to present a Report on the economic linkages between the tropical timber trade and sustainable forest management. They enlisted the help of the London Environmental Economics Centre to outline how environmental and social costs could be factored into the price. Again, however, this was ignored, and the chance to install a global sustainable labelling scheme, under the aegis of the ITTO, was lost.[197]

The ITTO itself admits that only 5 per cent of the globe's tropical forests are currently being certified as sustainably managed. There are two reasons for this, according to the ITTO's Executive Director Dr Sobral: firstly, almost all tropical states are developing countries, with competing demands for scarce resources, and forests are low on their priority lists. Secondly, tropical states have more complex economic, environmental and social requirements for sustainable management compared to non-tropical states.[198] Those of a more cynical bent might argue that it is not in the producer states' interests to put in place such certification schemes because their exploitationist practices might be exposed. Neither is it wanted by many consuming states because pressure could be brought to bear by actors like ENGOs to buy timber only from states with such a certification plan in place. This would considerably raise the price of tropical timber.

THE ITTO AND THE YEAR 2000 OBJECTIVE

As noted earlier, the Report *No Timber without Trees* in 1989 determined that virtually none of the globe's tropical forests were being managed according to sustainable principles, and that they would be logged into extinction unless immediate, remedial action was undertaken.[199] The ITTC responded in June 1991 by creating the "Year 2000 Objective" which said that the ITTO should endeavour to ensure that the global tropical timber trade was sustainable by the end of the century.[200] Poore labelled this objective as possibly the most important policy step yet undertaken by the ITTO.[201]

To assist in the achievement of the goal the organisation created a fund for sustainable management of forests (the Bali Partnership Fund) with the aim of assisting member states to make the investments designed to increase the state capacity to implement a sustainable timber programme.[202] While both producer and consumer states were in favour of the general target many members were against the adoption of specific targets, with the USA, for example, arguing that any "target does not carry implications for our government's trade policy."[203] Clearly, for many states such an ambitious target was not going to be met without radical action. The desire to take such action was not readily apparent, either. Subsequent events were to show such fears were well grounded. The *Review of Progress towards the Year 2000 Objective* found that there were signs of improvement but that much remained to be done.[204] It is clear that the funding commitments in the Bali Fund were neither clear nor powerful enough since they relied on voluntary contributions to effect the necessary change.[205]

The lack of discernible action led to increasing frustration on the part of ENGOs and this was manifest at the ITTC meetings. At the 10th Session of the Council in Quito, Ecuador, in May 1991, Chris Elliott of the WWF spoke for many ENGOs when he complained that the meetings were degenerating into "fruitless discussions, bargaining on projects concluded without transparency and the perceived lack of many delegates' commitment to the ITTA, 1983, the Action Plan and Target 2000."[206] By the next Council Meeting in Yaounde in May 1992 disillusionment with the ITTO by ENGOs was near complete. Theo Anderson of the Ghanian branch of FoE, speaking on behalf of the ENGOs, declared that "[t]oo much time was devoted to projects and not enough to policy."[207]

THE 1994 SUCCESSOR AGREEMENT NEGOTIATIONS

However, the negotiations to create a Successor Agreement did offer a chance to alter the direction of the ITTO and to put in place a stronger commitment to environmental norms. The renegotiations for a Successor Agreement began in 1993 and took over a year to finalise.[208] As noted by the President of the UN Conference, Wisber Loeis, in his address to the delegates, the mood amongst the delegates was particularly pessimistic as to the inherent schism in the ITTO.[209] The main point of contention was the scope of the agreement with some consumer

states and timber companies that wished to retain the *status quo* (in this case a commodities agreement covering only tropical timber). Producer states and ENGOs wanted the agreement to cover non-tropical timber, and provide that all timber should be sustainably produced by the year 2000. They also wanted to provide more funds for domestic forest projects.[210]

The European delegates feared this result, not wanting the ITTO to become the paramount forest institution, as opposed to the FAO.[211] Many states seem to have only considered their own interests at the negotiations. The European Union wanted to reserve to itself the right to amend any re-constructed agreement. China took the position that it would not sign any Agreement unless it was classified as a developing state, despite being a major consumer of tropical timber. On the other hand, some producer states threatened to withdraw from the negotiations altogether citing that the 1983 International Tropical Timber Agreement allowed trade discrimination against tropical timber.[212]

ENGOs were present at the renegotiations, with the FoE, the WWF, the Rainforest Action Network, the Sierra Club, and the World Conservation Union attending as observers. It was difficult for the latter to directly influence proceedings.[213] Their strategy was to argue, through some producer states, for a diminution of the operating scope of the Organization so that it would be limited to trade issues, collecting statistics, and providing information on market transparency and pricing. The ENGOs' long-term goal was to ensure that all tropical and temperate timbers should eventually be harvested under a separate agreement, hopefully to slow the increasing rate of tropical deforestation.[214]

At the first ITTA meeting after the UNCED proceedings in June 1992 the factions and their positions became clearly discernible. Most consumer countries, led by the USA and supported by the European Union, the UK and Switzerland, were unwilling to broaden the scope of the ITTA to include temperate timber. Producer states wanted a new agreement to address their concerns, particularly over funding. The consumer states' bloc argued that any broadening of the agreement would change its fundamental structure, altering voting structures and membership. They pointed out that it would shift the balance of power from the South to the North and split the producer bloc. It was further claimed that such a move was unnecessary because the temperate timber industry was already transparent, and that the tropical timber states had already made significant progress in implementing sustainable development practices.[215]

Producer states and some ENGOs were incensed by these arguments, pointing out that there was a double standard at work with developing states being forced to protect their rainforests, and consumer states being refused protection for their own temperate or boreal forests. The Brazilian representatives obtained a copy of the Dutch proposal to import only sustainably produced timber from 1995, which only heightened the tension.[216] In response, both factions produced separate working texts for consideration by the delegates at the Second Preparatory Meeting.[217]

The "protect economic interests at all costs" approach by producer and the major consumer states, and the lack of progress in negotiations forced many

ENGOs to re-evaluate their support for the ITTO. William E. Mankin of the Global Policy Project summed up the current situation:

> The future of the ITTO was clouded with the last opportunity to give it a new lease of life about to vanish . . . A decade of genesis and growth had still left ITTO in search of an identity, despite constructive criticism from various quarters . . . commitments to sustainability had produced few measurable results and ITTO and its members appeared to have been mere spectators to world debate and action on important trade-related issues.[218]

To overcome the criticism being levelled at consumer states by producer states and ENGOs, that little was being achieved, the USA and Australia proposed a non-binding side agreement. The agreement stipulated that consumer states would pledge to sustainably manage their own forests by the year 2000 (this was no hardship for the USA, which had already agreed to such a domestic target the year before). Over the objection of European states such as France, the UK and Germany, as well as the ENGOs, this consumer statement was agreed to.[219] As a non-binding agreement it only declared that states that were already practising high levels of sustainable development would continue to do so, and that the others would commit to achieving the Year 2000 objective.[220] However, there was no agreement on the contentious issue of the transfer of funding to producer states, which retaliated by refusing to give a higher status to the Year 2000 target.[221] Further, the ENGO idea of creating a separate agreement to cover all types of forests was not taken up. With the writing on the wall early, the WWF withdrew all state advisors from various delegations in an attempt to pressure and shame delegates into acquiescing. However, the protest proved futile in the face of a consumer state threat to discontinue funding initiatives to coerce producer states to acquiesce.[222]

Despite signing the Formal Agreement, the EU delegation to the 1994 Renegotiations was unhappy with the outcome. While not blocking the Successor Agreement they refused to append a signature until a more thorough examination was undertaken in the areas of procedure and substance.[223] Eventually in 1997 the EU agreed to sign up to the new Agreement.[224] This unusual step of not signing immediately probably reflects the EU's unhappiness at the negotiations not setting clear and meaningful targets in the Target 2000 mandate and the sparing way the Agreement was set out to limit measures to restrict or ban the global trade in timber and its by-products.[225] With the compromise agreed to, the Successor Agreement to the International Tropical Timber Agreement was adopted on 26 January 1994. It was opened for signature on 1 April 1994, entered into force on 1 January 1997 and is mostly similar to the previous Agreement.[226] Poore describes it as a victory for common sense but it could just as easily be perceived as a continuation of the status quo without fixing the problems that had become so apparent in the first ten years of the original ITTA.[227]

The Successor Agreement promoted a stronger emphasis on sustainability, at least in rhetoric, but remained confined to tropical forests. For our purposes the key objectives of the 1994 ITTA, are:

> (c) To contribute to the process of sustainable development;
> (d) To enhance the capacity of members to implement a strategy for achieving exports of tropical timber and timber products from sustainably managed sources by the year 2000;
> (e) To promote the expansion and diversification of international trade in tropical timber from *sustainable sources* [my emphasis] by improving the structural conditions in international markets, by taking into account, on the one hand, a long-term increase in consumption and continuity of supplies, and, on the other, prices which reflect the costs of sustainable forest management and which are remunerative and equitable for members, and the improvement of market access.[228]

Again, the language reflects the need for sustainable development, conserving forests, and valuing the forests for more than their timber. However, there appears to be no mechanism in the Successor Agreement to bring about such lofty objectives. The 1994 Successor Agreement remained, from an environmental perspective, limited in that it only applied to tropical timber, new funding commitments were unclear, and it remained primarily a commodities agreement. Further devaluing its environmental impact was that it still did not allow for any real public participation via ENGOs or the indigenous peoples affected by ITTO member-state activities.[229]

The 1994 ITTA entered into force in January 1997 for an initial five-year period but was extended twice for three-year terms.[230] The contentious voting structure that stymied environmental progress was retained in Article 10.[231] Article 15 of the Successor Agreement allowed the Council to invite NGOs or other organisations (referred to in Article 14, 20 or 29 of the current Agreement) interested in the issue, to attend Council Meetings as observers only.[232] It stopped well short of making ENGOs true partners in the quest to make tropical forests sustainable, though. Article 21 established the aforementioned "Bali Fund" with the aim of assisting producing members to make the investments required to sustainably manage their tropical timber reserves as per objective 1(d).[233] It should be acknowledged that at least this put some flesh on the barebones idea of a reforestation fund mentioned in the original agreement.[234] Despite the "carrot" of the fund potentially offering monies to producer states that did develop sustainable practices, the fund has been perceived as a failure due to under-funding by the consumer states.[235]

The negotiations left the ENGOs pessimistic that the ITTO could change. At the first ITTC Meeting post the renegotiations, in Cartagena in May 1994, the WWF, through Mr. Gordon Shepherd, formally announced it was no longer attending the Meetings stating that:

> Negotiators had decided not to follow the WWF recommendations and this marked a parting of the ways. Therefore, the WWF would be reducing its participation in ITTO activities and considering reallocating resources to better options such as the Biodiversity Convention . . . The WWF found it difficult to see how the new ITTA, 1994 could make a useful contribution.[236]

By 1992 the ENGOs had lost any sense of the ITTO as a potential force for the environmental protection of tropical forests and had concluded that the ITTO was merely a catspaw of the international tropical timber companies.[237] The ENGOs have all virtually withdrawn from the Organization as a consequence, choosing to no longer legitimate its actions. The ACF has not attended since 1990, Survival International and the Rainforest Action Network have been no-shows since 1991, and the WWF no longer attended from 1992 onwards. Only FoE and the Global Forest Policy Project have chosen to attend, up to and including the current Successor Agreement negotiations.[238]

The ENGOs have sought other global fora in which they can influence forestry practices instead. ENGOs (largely the WWF) has been involved in the creation of such entities as the Forest Stewardship Council (FSC), in March 1992, with the goal of establishing a non-governmental sustainable timber accreditation programme for all forests.[239] Its goal was to show that focusing on the supply chain aspect of tropical timber could lead to conservationist practices.[240] It functions to provide consumers with accurate information, by creating principles and criteria at a local level, on the source of forest products. The programme is predicated on the notion that consumer pressure can force more change than intergovernmental meetings and agreements, and it currently has no timber representatives on its Board of Management.[241] What is unique about the FSC is its governing structure. This mandates a devolved, chamber-based membership which encourages interaction. The decision-making body comprises the three main interest groups involved in tropical timber: the economic, the environmental and the social.[242] The FSC's lack of timber company representatives has led commentators like Poore to dismiss the organisation, arguing that without timber organisations it lacks credibility.[243] Given its voluntary nature, less than 10 per cent of timber cut is currently certified under the scheme.[244]

To achieve their aims ENGOs have also sought other IOs that they regard as less prone to "agency capture" by the timber industry than the ITTO. Some schemes such as the Tropical Forest Action Plan (TFAP), set up in 1983, predates the ITTO. It was designed to put in place a global moratorium on logging projects and give decision-making authority on forestry to an independent body in a state with the aim of conserving forest resources.[245] Except for Brazil and the Cote d'Ivoire, the ITTA has the same producer state members as the TFAP.[246] The TFAP is limited to coordinating development assistance and has no legal authority to conserve tropical forests. This lack of a conservationist norm underpinning the Plan has led to "the funding of projects oriented towards conventional forestry such as commercial exploitation-projects" and has done nothing to address the root causes of deforestation, namely, poverty, foreign debts and fuel needs.[247]

To date ENGOs have been unsuccessful in influencing the managers of the Plan to adopt a more conservationist position.[248]

Other, more recent, IOs such as the United Nations Forum on Forests (UNFF) were set up to "promote the implementation of proposals for action for the management, conservation and sustainable development of all types of forests."[249] The ENGOs, supporting this approach, now seem to have abandoned piecemeal improvement in differing forest types in favour of a unified approach encompassing all the world's forests. The attempt to create a global forest regime has only had a limited success, however, in producing a body of "soft law," including various Protocols. The regime is largely aspirational and lacks legal force. ENGOs perceive this as the most promising path to take, however.[250] The renegotiations to create the Successor Agreement come at a time when member states to the UN Forum on Forests (UNFF) are considering a potential legally binding global forestry agreement.[251] If the ITTC is not careful and the new Successor Agreement 2006 makes no progress, then it may find itself outflanked and sidelined in favour of a more comprehensive regime.

THE YEAR 2000 REPORT

The ITTO made such extravagant claims for itself when setting the Year 2000 objective in the early 1990s (requiring member states' tropical forests to be sustainably managed by that date) that to some extent it created a rod for its own back as the date approached. It had to demonstrate that significant progress had been achieved or admit that the ENGOs' criticisms of its performance to date were accurate. Consequently, in late 1999 it commissioned a Study, Decision 10 (XXVI), to detail individual states' progress towards the sustainability goal, as well as its own performance as an organisation.[252] Duncan Poore and Thang Hooi Chiew accepted the brief to assess this progress to date and gave their findings in the *Review of Progress towards the Year 2000 Objective* in November 2000. Unfortunately, as Poore himself admits, the Report was deeply flawed from the beginning as none of the member states answered the key question about the Year 2000 Objective. This was "how much of the timber exported came from sustainably managed resources, and what area of forest was under demonstrably sustainable management?"[253] While some progress was recorded by Poore and Chiew, the main ideal of sustainable forestry was still as much a chimera as before.

The authors, hamstrung by the lack of engagement by member states with the report's progress, were forced to concede that the Year 2000 Objective was more a process rather than a goal and that "the process, in the view of the consultants, should be to move as swiftly as possible in the direction of that goal."[254] The Report also acknowledged that the symbiotic relationship the ITTO had initially enjoyed with the ENGOs had ceased "because [the] ITTO did not and, by the nature of the fundamental changes it was trying to bring about, could not move as fast as the NGOs wished it to."[255]

The Report argued that there had been some successes by the ITTO in that its 1988 Pre-project survey had alerted forest authorities, the trade and the public

to the dire state of the official management of forests throughout the tropics. Further, the Report maintained that scrutiny of forest activities had effectively put states on notice that their actions were being monitored. The ITTO had created an action plan, put in place a series of guidelines on natural forest, on plantations, on biological diversity and on fire as well as creating criteria and indicators and the idea of forest resource accounting. However, the Report concluded that there had been many "lost opportunities." The first published version of the Criteria and Indicators had been a pallid document that was considered to have hindered rapid progress. Also, the organisation had not recognised the potential of certification schemes and had been reluctant to act on such a vital issue. Finally, the Report concluded that the Year 2000 Objective was a critical ideal that had been allowed to meander to the detriment of the organisation's perceived status as the premier tropical timber forum.[256]

The Report's broad recommendations to continue aiding producer states to meet the criteria for SFM and to make the ITTO as efficient as possible in effecting this change did not lead to any formal Decisions due to, as Poore puts it, "a failure of procedures rather than will."[257] However, the Recommendations have not been put into practice to date. That suggests it was not so much a procedural error but a lack of desire on the part of the delegate states. Rather, the ITTC turned to what it knew best, the crafting of Action Plans to address the problems. The *Yokohama Action Plan* adopted in November 2000, which built on and replaced the previous *Libre Action Plan*, was meant to aid the ITTO in achieving its sustainable forest objective. It is a sharpening of focus compared to the previous plan, in that it reduces to six (as opposed to nine) the goals and adds a new action that aims "to encourage and assist individual producing member countries to identify and address constraints in their implementation of sustainable forest management and the sustainable development of the forest industry."[258]

Decision 2 (XXIX) of the ITTC reaffirmed its desire to move as quickly as achievable to a scenario where tropical timber exports were sourced only from sustainably managed forests.[259] The Plan's Actions to achieve these goals include, among others, to:

- Support the effective enforcement of forest laws and regulations that ensure sustainable forest management and secure the production base.
- Support networking and the exchange of information with relevant international organizations to maintain the integrity of the resource base, including protected area networks.
- Promote the conservation, rehabilitation and sustainable management of threatened forest ecosystems . . . in collaboration with relevant organizations.[260]

Yet the Report submitted by states to verify compliance with the Year 2000 Objective requirement were largely inaccurate, preventing the ITTO from properly assessing the problem, let alone engaging with it. For example, the 2000

Mission to Indonesia Report findings were virtually diametrically opposed to the official Indonesia Report submitted in compliance with its Year 2000 Objective requirements.[261]

SUCCESSOR AGREEMENT TO THE INTERNATIONAL TROPICAL TIMBER AGREEMENT 2006

With the ten-year lifespan of the 1994 Successor Agreement over in 2004 UNCTAD again convened a Conference for the Negotiation of a Successor Agreement to the International Tropical Timber Agreement. The first session took place from 26–30 July 2004 in Geneva.[262] While all the major producer and consumer states chose to attend the Renegotiations, of the ENGOs, only the IUCN and FoE (International), which were specially invited, chose to attend.[263] The Meeting reflected a growing corporatisation of the ITTO structures with most delegates being timber trade advisors with an agenda to ensure the security of the global timber business.[264]

At the First Session, there was discussion about the role of SFM and the need for a long-term approach. Objective (b) of the new Successor Agreement was tentatively stated (sections in brackets indicate points not agreed) as:

> [To promote sustainable forest management] to enhance the [long term] capacity [and efforts] of members to implement a strategy for achieving exports of tropical timber and timber [and non-timber] products from sustainably managed forests [while conserving other forest values] [or sources].[265]

In the final draft to be ratified and signed by member states the idea of sustainable development was linked to poverty alleviation, however, rather than put as a stand-alone goal to be worked towards.[266]

Once again timber, as opposed to the forest as a whole, was the main focus of the regime as spelled out in the Preamble, Section (e): "Recognizing the importance of timber and related trades to the economies of timber producing countries."[267] For the first time this section made explicit that timber is considered vital for producer states' economic interests. According to Flejzor the negotiations also raised the poisoned chalice of expanding the ITTA to include all types of forests but there was no sign of this in the agreed-to draft. Given the ITTO's performance to date this may not be a bad thing.[268]

At the Second Part of the Conference in Geneva, held from 27 June–1 July 2005, a new section was added to both the Preamble (c) and Article 1 of the Objectives relating to the exploitation of tropical forests.[269] The section has been retained in the final document as Section (d) of the Preamble and reads:

> Recognizing that States have in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies and have the responsibility to ensure that activities within their jurisdiction and control

> do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction, as defined in principle 1(a) of the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation, and Sustainable Development of all Types of Forests.[270]

The new section enshrines the basic principle of customary international law expressed in both Principle 21 of the Stockholm Declaration and the Rio Declaration on Forests that reaffirms the sovereign right of states to exploit resources within their own national boundaries.[271] It further arguably enshrines exploitation as the governing norm of the regime and prevents global agents from interfering in the destruction of tropical forests that are internal to a state and that have no external ramifications. This could be regarded as only recognising the actual situation on the forest floor. In many ways, it signals a retrograde step by the ITTO and a capitulation to the interests of producer states and timber companies. States are merely, yet again, encouraged to develop domestic policies to bring about "conservation of timber producing forests . . . maintaining ecological balance, in the context of the tropical timber trade."[272]

The final document provides no moves to change the decision-making structure of the ITTO. The distribution of votes remains the same as adopted in previous Agreements with 1,000 votes accorded to both producer and consumer states depending on their timber selling or buying activities.[273] Given this voting structure and the inability of ENGOs and conservationist-minded states like Britain to effect real change, the ITTC will remain deadlocked and unable to enact environmental measures which translate into action on the forest floor.

At the third part of the UNCTAD Conference, Norway, Switzerland and the USA proposed differing but complementary proposals for a global certification scheme for tropical timber, with the aim of:

> [Promoting the certification of tropical timber producing forests;] [and encouraging information sharing on and the use of voluntary mechanisms to promote such trade]; (Norway/Switzerland) [and encouraging information sharing on [private] [independent] voluntary market-based mechanisms]; (USA).[274]

The final document mentions briefly a tropical timber certification scheme, but only in terms of encouraging information to better understand voluntary schemes such as certification.[275] One of the key objectives (Article 1(n)) of the Successor Agreement will be: "Strengthening the capacity of members to improve forest law enforcement and governance, and addressing illegal logging and related trade in tropical timber."[276]

The previous Agreement only referred to this trade as "undocumented". While a step in the right direction, the difficulty of maintaining agreement on tackling the issue was exposed at the United Nations Forum on Forests meeting (6th Session) held subsequent to ITTO negotiations where China, India and the Amazonian Pact states opposed the term "illegal logging" as too provocative.[277]

The 2006 Successor Agreement was adopted in Geneva on 27 January 2006.[278] Concerns were constantly raised by both the ITTC and member states that the new ITTA 2006 would not get enough ratifications to ever go into force.[279] The Successor Agreement was eventually entered into force on Wednesday, 7 December 2011 after five years with the ratification of the agreement by Benin.[280]

CONCLUSION: THE UNCERTAIN FUTURE OF THE ITTO?

By one measure the ITTO's ambit is currently more widespread than ever, having 74 member states (36 producing countries and 38 consuming states).[281] Despite its reach, however, the international tropical timber regime and its institutions is at an inflection point as a body. On the one hand the organisation has managed to implement some improvements in SFM such as the creation of a timber-tracking mechanism by indigenous communities in Peru; improved standards of forest governance in Papua New Guinea; reducing the impact of logging on communities in Malaysia; helping to strengthen forest law compliance in key states; improving the transparency of supply chains and demonstrating that timber comes from legitimate sources.[282]

In 2007 for example, the ITTC approved 15 projects and pledged US$5.6 million for project financing with US$4 million targeting tropical forest law enforcement and trade.[283] By 2008 the ITTO had funded more than 750 projects, pre-projects and other activities costing over US$300 million.[284] In 2010 the ITTO received additional funding of US$17.34 million to help implement 13 projects and one pre-project.[285] In 2014 the organisation was overseeing 55 projects and five pre-projects and had declared five projects completed. US$8.3 million dollars of funding was announced by the ITTC.[286]

On the other hand, the organisation has been unable to bridge the divide between producer and consumer states and overcome its bureaucratic problems to achieve its stated goals. The ongoing non-ratification of the ITTA 2006 was linked to a decline in project funding and operationalising new Thematic Programmes. Volunteer project funding declined and there were significant arrears in assessed contributions being paid, particularly by producer member states.[287] Despite a healthy working capital account many authorised projects remained unfunded or partially funded and the shortfalls in thematic programmes led to no call for new proposals in 2014 at all.[288]

As a demonstration of the lack of trust still between producer and consumer states, the ITTC was also divided for years over the issue of how often it should meet and where. Consumer states argued that there was only a need to meet annually in Yokohama while producer states saw this as a demonstration of a waning interest in the ITTO and objected to losing the ITTC's presence in producing states.[289] Japan did not want to host the annual meeting unless it was held in Yokohama, citing the prohibitive cost of holding the meeting elsewhere.[290] The longstanding debate was finally resolved when at the 46th Meeting it was agree to rotate the meetings between Yokohama and a producer state.[291]

The ITTO has been in such disarray that it has had trouble sourcing an Executive Director. At the 50th Meeting in 2014, deciding on a new Executive Director was not possible because both consumer and producer states would not compromise on their preferred candidate. As one delegate put it, even after 50 years: "the Organization had not matured politically or institutionally."[292] In 2017 a new Chief Executive was finally elected after two failed attempts at the two previous meetings.[293]

The main problem is that conservationist language has been incorporated into the "content" of forest polices without affecting actual practices on the ground, leading to exploitationist practices being the norm.[294] States, particularly producer states, have constantly sought to dilute even the weak environmental constraints suggested by the ITTO. The ITTC has crafted two action plans (ITTO Action Plan 2008–2011 and the ITTO Strategic Action Plan 2013 and 2018) but neither have been effective in slowing down the rate of tropical forest loss since the strategic goals adduced have not been embraced by member states, who prefer to merely pay lip-serivce to these targets.[295] The producer states, to date, consider goals like the Year 2000 Objective and the Strategic Action Plans to be merely advisory rather than binding, and its fulfilment to depend on appropriate financial and technical assistance.[296] In 2013 the ITTO was reduced to adopting a series of "voluntary guidelines" for the sustainable management of tropical forests since the states would not agree to mandatory provisions.[297]

From an environmental perspective, the ITTO regime was doomed from its conception. States never voluntarily came together to solve a collective action problem and create the tropical timber regime. Rather, the impetus came from UNCTAD and the ENGOs in the hope that such a regime would circumscribe exploitationist behaviour and provide a mechanism for states to "learn" that their behaviour was wrong. However, an examination of the history of the ITTO to date reveals that they have only, at best, affected the *symbolic* behaviour of states.[298]

It is virtually beyond dispute that global tropical forests are being exploited at an alarming rate and that the remaining areas of forest are rapidly shrinking to the point that if current trends continue few states will have any sizeable forests left.[299] The practice of conservation as applied to tropical forests has not been widely accepted by the ITTO member states as acknowledged by the ITTO's own figures and statements.[300] To compound the situation, it is also clear that any figures compiled by the ITTO are based on unreliable data supplied haphazardly by member states with a motive to hide the problem, so the extent of deforestation is still unknown.[301] Even the Executor Director of the ITTO Dr Gerhard Dieterle acknowledges that tropical forest degradation is occurring apace and "business as usual" will only exacerbate climate change and forest exploitation.[302]

So why have states chosen to remain with the ITTO? The evidence indicates that the global timber companies and producer states were concerned that the tropical timber regime would limit their timber gathering activities, and actively sought to limit the ITTO's power.[303] Producer states have further chosen to stay at the ITTO to gain access to the various funds on offer and to avoid

being branded as international environmental pariahs and suffer the consequent "reputational disadvantage."[304] Consumer states also wanted to ensure a steady supply of tropical timber, so neither the producer nor consumer bloc evinced the political will to bring about environmental normative change.[305]

In the early days of the ITTO there was optimism by many stakeholders, including the ENGOs, that the ITTO could enable real reform. However, lately it has come to be perceived as merely a lobbying group for timber interests.[306] The ITTA contains conservation clauses but the ITTO, as a body, has chosen to favour trade over conservation, to the detriment of the forests.[307] Gale argues that this is because the ITTO has suffered a form of "agency capture" and has come to be dominated by government and industry interests from a relatively small group of key producer and consumer states. On the producer side, Brazil, Malaysia and Indonesia, all with large timber company interests, dominate the ITTO, while the consumer states are dominated by Japan, the Netherlands, the UK and the USA.[308] Any attempt to understand the normative evolution of the ITTO must bear in mind this structure and this interplay of interests, since it is reflected in the decision-making framework of the organisation.

In the case of tropical timber there is a large incentive to cheat, however, particularly when there are weak oversight provisions, both domestically and from the ITTO. At the state level, timber firms are generally willing to agree to regulation, secure in the knowledge that states are unwilling or unable to enforce them and that the only punishment is that to reputation, such as naming and shaming, rather than economic loss.[309] Loggers have established informal networks with government officials and corporate elites that prevent change to the exploitationist behaviour between these stakeholders.[310]

The political and economic costs of successful conservation policies are considered too high for most developing states' leaders since the timber is valuable on the global market and the denuded land can be used for agricultural purposes by landless peasants, reducing domestic political pressures.[311] In short, development is considered far more important by LDC governments than environmental concerns.[312]

The ITTO cannot be understood without examining the ITTO voting structure that has stymied normative change. The voting structure which constitutes the rules of the game prevents change because it rewards states that are exploiters, and disadvantages conservationist states. The quicker a producer state cuts down its forests, the more voting power they accrue, therefore rewarding its hegemonic position with greater hegemony.

Given the institutional barriers to ENGO participation in the ITTO (which is limited to observer status and excludes access to key meetings) it is unlikely they could affect change, no matter what persuasive techniques were employed. ENGOs do not feel they are true stakeholders in the tropical timber regime and therefore were not wedded to ensuring it works and have largely abandoned the body.[313] Rather ENGOs have chosen to gravitate to the Forest Stewardship Council, whose voting and organisational structure allows greater input from ENGOs and offers a far better chance for meaningful dialogue and global environmental change or

REDD+, particularly since it has a fund of US$10 billion to disburse that dwarves the ITTC funding capabilities.[314] In 2015 the relationship with observer ENGOs hit rock bottom when the Malaysian Chair of the Meeting ejected the Bruno Manser Fund (a Swiss group critical of Malaysian logging practices in Sarawak) over the objection of the EU and other states.

In 2015 the ITTO suffered a devastating blow which threatened the continued existence of the entity. The ITTO announced that there had been an "impairment of investments" made in 2013 and 2014 leading to a significant loss in the organisation's operating capital and concomitant inability to fund key projects. Members were shocked, noting that it was not so much an 'impairment' as a "total loss."[315] The Executive Director Emmanuel Ze Meka resigned from the role after being implicated in the scandal.[316] The organisation suffered a loss of US$18.2 million due to a failure of investments and does not have sufficient funds to fulfil outstanding project commitments.[317] The loss appears to have occurred due to the liquidation of the LL Management Performance Fund ($6 million) and Ardent 365 Fund (potentially $12.2 million). The investment was advised by Pinnacle Wealth Management which allegedly violated the Japan Financial Instruments and Exchange Act and may have committed a tortious act in selling LM Managed Performance Fund to the ITTO.[318] Further, it appears the Council had not been made explicitly aware of the loss of monies by their auditors.[319]

The ITTO has stated that the loss will have to be fully covered by the member states.[320] The ITTO has been reduced to asking former employees (without prejudice to any legal recourse responsible for the loss) to contribute to meeting the funding shortfall.[321] In 2018 the ITTO acknowledged it had to build more robust internal financial controls to prevent such a scenario occurring again.[322] In 2016, the financial loss meant that approved projects could not start and new pledges of voluntary funds had dried up since donor states' confidence in the financial viability and oversight mechanism implemented by the ITTC had wavered.[323] Producer states in 2017 were concerned that given the onerous nature of preparing a funding application, was it worth doing so given potential funding was currently so tenuous?[324] The funding shortfall was so bad that in 2018 only 33 of the 74 members attended the meeting in Yokohama.[325]

In 2018 the Executive Director set forth a plan to obviate the financial crisis by seeking funding from the GEF and the Green Climate Fund. The ITTO is looking to scale up its funding from US$2 million annually to US$40 million but, given its history and reputation, this goal seems highly ambitious.[326] The ITTC has struggled to meet its already up and running project costs and has been unable to fund vital new projects. As the Executor Director of the ITTO Dr Gerhard Dieter admits, currently the ITTO is unable to attract sufficient funding at scale and therefore excellent project proposals are not being acted upon.[327]

The ITTO finds itself at a crossroads, having just celebrated its 50th birthday but failing its primary mission to sustainably manage tropical forests and being financially crippled. There appears to finally be some movement by member states that the concept of SFM for tropical forests is not sufficiently embedded. The

ITTO members at the 2018 Meeting have begun to explore the possibility of creating a 'green supply chain' process. This could be a major step forward given the organisation's traditional antipathy to timber SFM certification, but given the historical rifts between producer and consumer states, such a scheme would be difficult to implement and remains at the theoretical stage currently.[328]

Problematically, the ITTO is now vying with other actors such as REDD, which is seeing a renewed push by some stakeholders, particularly ENGOs, to prioritise the protection of natural forests.[329] More worryingly, Brazil did not engage at the 2017 Meeting and other member states were concerned that Brazil was considering leaving the body.[330] Given its stature within the ITTO and it being home to such a large swathe of tropical forest, this development (combined with many member states unable financially or unwilling to attend meetings) could presage the breakup of the body.

Also concerning is there appears to be no appetite to start what, given previous history, will be lengthy and torturous negotiations to create a new ITTA that will expire in 2021. Negotiations will need at least two years to reach a new agreement but there seems little sign of member states showing the needed resolve. The current agreement could be extended but, given its deficiencies, this would hardly be a sign of the ITTC tackling the needed reforms to rejuvenate the body and embed SFM in tropical forests.[331] At the same time the organisation will have to start work on the next iteration of the Strategic Plan which is due to expire in 2019.[332] As we have seen, time is running out to save tropical forests for future generations and possibly the ITTO as the governing body of the regime.

NOTES

1 Jutta Brunnee, "A Conceptual Framework for an International Forests Convention: Customary Law and Emerging Principles in Global Forests and International Law," in Canadian Council of International Law (ed.), *Global Forests and International Law*, London: Kluwer Law International, 1996, 41. What constitutes a tropical forest remains contested. Marie-Claude Smouts, *Tropical Forests, International Jungle: The Underside of Global Ecopolitics*, New York: Palgrave Macmillan, 2003, 5. There is a tendency to treat tropical forests as "monolithic" in nature where in reality there are many different types of tropical forests ranging from rain forests in the wetter equatorial and tropical areas to semi-deciduous and deciduous forests. Duncan Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization and Its Influence on Tropical Forest Management*, London; Sterling, VA: Earthscan Publications, 2003, 12. It is defined in fact by, "opposition to dry, arid forests . . . and especially in contrast to the grassy, sparsely treed savannah." Therefore, it needs to be understood that the social construction of what constitutes a "tropical forest" in global discourse is a function of political ecology. It is not a precise scientific term but rather "a certain type of social, political, and economic relations that structure man's interactions with nature in a given environment. Smouts, *Tropical Forests, International Jungle*, 4, 9.

2 Adrian Forsyth and Kenneth Miyata, *Tropical Nature: Life and Death in the Rainforests of Central and South America*, New York: Simon and Schuster, 1984;

Alan Grainger, "The State of the World's Tropical Rainforests," *Ecologist* (1980), 10 (6); Robert Goodland, ed., *The Race to Save the Tropics: Ecology and Economics for a Sustainable Future*, Washington, DC: Island Press, 1990; Susan Head and Robert Heinzman, eds, *Lessons of the Rainforest*, San Francisco: Sierra Club Books for Children, 1990. Roberto Repetto of the WRI speaks for many critics when he argues that commercial logging is the main cause of global deforestation. Marcus Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," in Simon Rietbergen (ed.), *The Earthscan Reader in Tropical Forestry*, London: Earthscan Publications Ltd, 1993, 186.

3 Ibid., 172.

4 Ibid., 15. SFM's defining feature has been a conservationist one. That is of ensuring an unimpeded, continuing supply of timber for the foreseeable future. The value of a forest was primarily based on its function as a store of timber – not its biosphere as a whole. Andrew Robert Cock, "Tropical Forests in the Global State System," *International Affairs* (2008), 84 (2), 322.

5 Ibid., 172.; Jacqueline Vaughn Switzer, *Environmental Politics: Domestic and Global Dimensions* (4th ed.), Belmont, CA: Thomson/Wadsworth, 2004, 279.

6 Emmanuel Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," *Journal of Energy & Natural Resources Law* (1996), 14 (2).

7 Smouts, *Tropical Forests, International Jungle*, 173.

8 Smouts, *Tropical Forests, International Jungle*, 28.

9 Nicholas Guppy, "International Governance and Regimes Dealing with Land Resources from the Perspective of the North," in Oran R. Young, George J. Demko, and Kilaparti Ramakrishna (eds), *Global Environmental Change and International Governance*, Hanover, NH: University Press of New England, 1996, 138–9.

10 Brunnee, "A Conceptual Framework for an International Forests Convention," 46.

11 Sing C. Chew, *World Ecological Degradation: Accumulation, Urbanization, and Deforestation 3000 B.C. – A.D. 2000*, Walnut Creek, CA: AltaMira Press, 2001, 148.

12 Peter Dauvergne, *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*, Cambridge: Cambridge University Press, 2001, 14; Rainforest Action Network, "Money in the Rainforest," copy on file with the author. For example, the La Selva reserve in Costa Rica, which is 13.2 km squared has 1,800 vascular plant species, 394 breeding birds, 104 mammals, 76 reptiles, 46 amphibians, 42 fish and 143 butterflies. This is greater than the biotic reservoir of Great Britain. Norman Myers, "The Future of Forests," in Laurie Friday and Ronald Laskey (eds), *The Fragile Environment: The Darwin College Lectures*, Cambridge: Cambridge University Press, 1989, 22–40, 27.

13 Brunnee, "A Conceptual Framework for an International Forests Convention," 46.

14 Myers, "The Future of Forests," 30–31. Forest habitat destruction has also been incriminated in the breakdown of indigenous societies such as the Penan in Sarawak. Lorraine M. Elliott, *The Global Politics of the Environment*, Basingstoke: Macmillan, 1998, 84. The World Rainforest Movement (WRM) estimated in 1990 that approximately 50 million indigenous people, plus a further 90 million forest dwellers, rely on forests for food, medicine, building materials and as a source of cultural and spiritual identity. World Rainforest Movement, *Rainforest Destruction: Causes, Effects and False Solutions*, Penang: World Rainforest Movement, 1990, 18.

15 Marcus Colchester, "Colonizing the Rainforests: The Agents and Causes of Deforestation," in Marcus Colchester and Larry Lohmann (eds), *The Struggle for*

Land and the Fate of the Forests, London: Zed Books, 1995, 2. Similar to the debate as to how to properly define a tropical forest, there is much debate about what constitutes deforestation. The FAO defines deforestation "as the depletion of tree crown cover to less than 20 per cent in developed countries and less than 10 per cent in developing countries," Dauvergne, *Loggers and Degradation in the Asia-Pacific*, 13. However, Dauvergne argues for a broader definition, whereby it is the complete loss of forest cover. Peter Dauvergne, *Shadows in the Forest: Japan and the Politics of Timber in Southeast Asia*, Politics, Science, and the Environment, Cambridge, MA: MIT Press, 1997, 1.

16 Smouts, *Tropical Forests, International Jungle*, 1.

17 Janet N. Abramovitz and Ashley T. Mattoon, "Reorienting the Forest Products Economy," in Linda Starke (ed.), *State of the World 1999: A Worldwatch Institute Report on Progress Towards a Sustainable Society*, New York: W.W. Norton & Company, 1999, 61.

18 Switzer, *Environmental Politics*, 277.

19 Cock, "Tropical Forests in the Global State System," 332.

20 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 13.

21 United Nations Environment Programme, *Environmental Data Report*, New York: Oxford University Press, 1990, 234.

22 Myers, "The Future of Forests," 24–5.

23 Smouts, *Tropical Forests, International Jungle*, 29.

24 Colchester, "Colonizing the Rainforests: The Agents and Causes of Deforestation," 1.

25 Edward Barbier *et al.*, "Deforestation: The Role of the International Trade in Tropical Timber," in Katrina Brown and David W. Pearce (eds), *The Causes of Tropical Deforestation: The Economic and Statistical Analysis of Factors Giving Rise to the Loss of the Tropical Forests*, London: UCL Press Limited, 1994, 7; Brunnee, "A Conceptual Framework for an International Forests Convention," 45.

26 Barbier *et al.*, "Deforestation: The Role of the International Trade in Tropical Timber," 5; Smouts, *Tropical Forests, International Jungle*, 29.

27 International Tropical Timber Organization, *ITTO Annual Report 2010*, 2.

28 K. G. Austin, M. González-Roglich, D. Schaffer-Smith, A. M. Schwantes and J. J. Swenson, "Trends in size of tropical deforestation events signal increasing dominance of industrial-scale drivers," *Environmental Research Letters*, (2017), 12 (5), 054009.

29 Ibid.

30 Mikaela Weisse and Elizabeth Dow Goldman, "2017 Was the Second-Worst Year on Record for Tropical Tree Cover Loss," *World Resources Institute* (2018), 26 June, available at: https://www.wri.org/blog/2018/06/2017-was-second-worst-year-record-tropical-tree-cover-loss

31 Stephen Leahey, "Tropical Forest Loss Slowed in 2017 – To the Second Worst Total Ever," *National Geographic*, 27 June 2018, available at: https://news.nationalgeographic.com/2018/06/tropical-deforestation-forest-loss-2017/

32 The UN Economic and Social Commission for Asia and the Pacific concluded in 1990 that dramatic deforestation occurred in the region between 1950 and 1976 when approximately four million hectares was cleared annually. Chew, *World Ecological Degradation*, 146. A Report by the FAO, *The Tropical Forest Action Plan: Report of the Independent Review* published in 1990 puts the global loss of tropical forests at 170,000 square kilometres annually, an increase of 54 per cent over the previous decade. The World Resources Institute, in its Report *World Resources 1990–91* estimated the rate

of deforestation as closer to 204,000 square kilometres. Colchester, "Colonizing the Rainforests: The Agents and Causes of Deforestation," 1–2.

33 John Vidal, "We Are Destroying Rainforests So Quickly They May Be Gone in 100 Years," *The Guardian*, 23 January 2017, available at: https://www.theguardian.com/global-development-professionals-network/2017/jan/23/destroying-rainforests-quickly-gone-100-years-deforestation

34 Colchester, "Colonizing the Rainforests: The Agents and Causes of Deforestation."

35 For example, the ITTO claimed in a 1993 Report that the global timber trade is not a major source of tropical deforestation. The London Environmental Economics Centre, *The Economic Linkages between the International Trade in Tropical Timber and the Sustainable Management of Tropical Forests*, London: International Tropical Timber Organisation, 1993. Rather the main problem cited is the conversion of forests to agricultural purposes and that most tropical timber is utilised domestically for fuelwood and other non-industrial uses. Barbier *et al.*, "Deforestation: The Role of the International Trade in Tropical Timber," 271; Chris Elliott and Richard Z. Donovan, "Introduction," in Virgilio M. Viana et al. (eds), *Certification of Forest Products: Issues and Perspectives*, Washington, DC: Island Press, 1996, 3.

36 Smouts, *Tropical Forests, International Jungle*, 105; Gareth Porter and Janet Welsh Brown, *Global Environmental Politics*, Boulder, CO: Westview Press, 1991, 97. The gathering of firewood is accorded the most blame since it is the main fuel source in tropical states and up to 80 per cent of wood taken is consumed as firewood. Smouts, *Tropical Forests, International Jungle*, 88.

37 Chew, *World Ecological Degradation*, 145.

38 Ibid., 146; Smouts, *Tropical Forests, International Jungle*, 105.

39 Dauvergne, *Loggers and Degradation in the Asia-Pacific*, 15.

40 Paul Stanton Kibel, *The Earth on Trial: Environmental Law on the International Stage*, New York: Routledge, 1999, 127–8.

41 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 24.

42 A. Dan Tarlock, "Exclusive Sovereignty Versus Sustainable Development of a Shared Resource: The Dilemma of Latin American Rainforest Management," *Texas International Law Journal* (1997), 32 (17), 37–66, 38.

43 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 107.

44 Harrison Ngau, Thomas Jalong Apoi, and Chee Yoke Ling, "Malaysian Timber: Exploitation for Whom?," in *Forest Resource Crisis in the Third World*, Penang: Sahabat Alam Malaysia, 1987, 40–53, 45.

45 James Rush, *The Last Tree: Reclaiming the Environment in Tropical Asia*, Oxford: Westview Press, 1991, 30; Herb Thompson, "The Ecological-Economics of Non-Sustainable Development: Logging Tropical Forests in Southeast Asia and the Pacific," in Lye Tuck-Po, Wil de Jong, and Abe Ken-ichi (eds), *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perpectives*, Kyoto: Kyoto University Press, 2003, 202.

46 Gary C. Bryner, *From Promises to Performance: Achieving Global Environmental Goals*, New York: W.W. Norton & Company Inc., 1997, 260.

47 Thompson, "The Ecological-Economics of Non-Sustainable Development," 201.

48 Bryner, *From Promises to Performance*, 262.

49 Anthony B. Anderson, "Deforestation in Amazonia: Dynamics, Cause and Alternatives," in Simon Reitbergen (ed.), *The Earthscan Reader in Tropical Forestry*,

London: Earthscan Publications Ltd, 1993, 167; James J. Douglas, *A Re-Appraisal of Forestry Development in Developing Countries*, Boston, MA: Martinus Nijhoff Publishers, 1983, 134; Ngau, Apoi, and Ling, "Malaysian Timber: Exploitation for Whom?," 42.

50 Ngau, Apoi, and Ling, "Malaysian Timber: Exploitation for Whom?," 43.

51 World Rainforest Movement, *Rainforest Destruction: Causes, Effects and False Solutions* (Penang: World Rainforest Movement, 1990), Annex.

52 James Kahn and Judith McDonald, "International Debt and Deforestation," in Katrina Brown and David W. Pearce (eds), *The Causes of Tropical Deforestation: The Economic and Statistical Analysis of Factors Giving Rise to the Loss of the Tropical Forests*, London: UCL Press Limited, 1994, 66; Oran R. Young and George J. Demko, "Improving the Effectiveness of International Environmental Governance Systems," in Oran R. Young, George J. Demko and Kilaparti Ramakrishna (eds), *Global Environmental Change and International Governance*, Hanover, NH: University Press of New England, 1996, 229–47, 235–6.

53 Charles Secrett, "How European Transnational Corporations and Government Control and Exploit 3rd World Resources," in *Forest Resource Crisis in the Third World*, Penang: Sahabat Alam Malaysia, 1987, 235.

54 Barbier *et al*., "Deforestation: The Role of the International Trade in Tropical Timber," 277.

55 Smouts, *Tropical Forests, International Jungle*, 105.

56 Jan G. Laarman, "Export of Tropical Hardwoods in the Twentieth Century," in John F. Richards and Richard P. Tucker (eds), *World Deforestation in the Twentieth Century*, Durham, NC: Duke University Press, 1988, 150.

57 Ibid., 150–51.

58 Ibid., 158.

59 Like the figures describing deforestation it is nearly impossible to gauge the growth in tropical timber exportation since the figures are so unreliable. The FAO has made the most thorough attempt to obtain accurate figures but has conceded that even its own estimates must be treated cautiously due to problems in obtaining accurate statistics. The problem is compounded by definitional problems regarding the "tropics," "tropical countries," and a definitive answer to what constitutes a "tropical wood," Ibid., 148. No doubt the figures are deliberately downplayed to hide the scale, nor can we account for illegal or domestic cutting with any certainty. FoE estimates that approximately half of the tropical timber for sale in the West is derived from illegal logging. Tim Boekhout van Solinge, "Eco-Crime: The Tropical Timber Trade," in D. Siegel and H. Nelen (eds), *Organized Crime: Culture, Markets and Policies*, New York: Springer, 2008, 98.

60 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 14.

61 Ibid., 23.

62 Smouts, *Tropical Forests, International Jungle*, 109.

63 Wil de Jong, Lye Tuck-Po, and Abe Ken-ichi, "The Political Ecology of Tropical Forests in Southeast Asia: Historical Roots of Modern Problems," in Wil de Jong, Lye Tuck-Po, and Abe Ken-ichi (eds), *The Political Ecology of Tropical Forests in Southeast Asia*, Melbourne: Trans Pacific Press, 2003, 1–2.

64 Summary of the Forty-Sixth Session of the International Tropical Timber Council and Associated Session of the four Committees: 13–18 December 2010, *Earth Negotiations Bulletin* (20 Dec. 2010), 24 (83), 16.

65 International Tropical Timber Organization, *ITTO Annual Report 2017*, 9.
66 "ITTO Releases Latest Biennial Review of the World Timber Situation," *Home News* 7 August, 2017, available at: https://www.itto.int/news_releases/id=5195
67 Ibid.
68 Kibel, *The Earth on Trial*, 128.
69 "High Stakes: The Need to Control Transnational Logging Companies: A Malaysian Case Study – Part 2b: Politics, Law and the Logging Industry," World Rainforest Movement & Forests Monitor, available at: http://www.forestsmonitor.org/reports/highstakes/part2b.htm.
70 Myers, "The Future of Forests," 25.
71 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 27.
72 Ibid.
73 Ibid., 29.
74 Ibid., 14.
75 Ibid., 29.
76 Ibid., 29–30.
77 Fred P. Gale, "Discourse and Southeast Asian Deforestation: A Case Study of the International Tropical Timber Organization," in Wil de Jong, Lye Tuck-Po, and Abe Ken-ichi (eds), *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perpectives*, Melbourne: Trans Pacific Press, 2003, 238.
78 Pamela S. Chasek, *Earth Negotiations: Analyzing Thirty Years of Environmental Diplomacy*, Tokyo; New York: United Nations University Press, 2001, 95–6.
79 Gale, "Discourse and Southeast Asian Deforestation," 238.
80 Chasek, *Earth Negotiations*, 95.
81 Gale, "Discourse and Southeast Asian Deforestation," 238. In many ways tropical timber is not a commodity in the strictest sense since it is difficult to characterize as one resource. Unlike jute, for example, it comes from a wide variety of tree species in many varied places in the world. This makes it difficult to treat as a homogeneous resource. Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," 188.
82 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 30.
83 Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," 141.
84 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 14. For example, the FAO, at the Fourth Meeting of its Committee on Forest Development in the Tropics, held in November 1976, dedicated itself to evaluating "the values of tropical moist forest ecosystems and the environmental consequences of their removal." Poore, *Changing Landscapes: The Development of the International Tropical Timber*, 14.
85 Chasek, *Earth Negotiations*, 96; Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 31.
86 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 30–31.
87 Chasek, *Earth Negotiations*, 96; Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 32.
88 Chasek, *Earth Negotiations*, 96–7.
89 Ibid., 97.

90 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 33.
91 Ibid.
92 Chasek, *Earth Negotiations*, 97–8.
93 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 33.
94 Chasek, *Earth Negotiations*, 98.
95 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 35.
96 Chasek, *Earth Negotiations*, 98.
97 Ibid., 98–9.
98 Ibid., 99; Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 35.
99 Chasek, *Earth Negotiations*, 99.
100 Ibid., 99–100.
101 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 34.
102 Chasek, *Earth Negotiations*, 100; Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 36.
103 Chasek, *Earth Negotiations*, 100. Japan was eventually chosen as the site of the new Organization after it agreed to underwrite the new Organization. Japan also worked hard to secure the agreement of producer states, offering them preferential trading deals to agree to join the fledgling entity. These deals evolved into a "network of influence" wielded by Japan and needs to be borne in mind whenever examining the history of the ITTO since it has given Japan enormous power over the normative direction of the ITTO. Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," 190.
104 Chasek, *Earth Negotiations*, 100.
105 Fred P. Gale, "The Mysterious Case of the Disappearing Environmentalists: The International Tropical Timber Organization," *Capitalism, Nature, Socialism* (1996), 7 (3), 109.
106 Switzer, *Environmental Politics*, 278.
107 David Humphreys, "Redefining the Issues: NGO Influence on International Forest Negotiations," *Global Environmental Politics* (2004), 4 (2), 56. At the first ITTO Meeting, ENGOs were granted observer status only to Meetings, balanced out by allowing timber companies the same right. D. Humphreys, "NGO Influence on International Policy on Forest Conservation and the Trade in Forest Products," in Michele M. Betsill and Elisabeth Corell (eds), *NGO Diplomacy: The Influence of Nongovernmental Organisations in International Environmental Negotiations*, Cambridge, MA: MIT Press, 2008, 163. Different ENGOs were accorded differing access depending on their stance on timber harvesting. For example, the WWF was seen as an "insider" organization and some of its staff were seconded to state delegations for the UK, Denmark and Malaysia. This enabled unprecedented access to behind-closed-doors negotiations. Humphreys, "Redefining the Issues: NGO Influence on International Forest Negotiations," 56.
108 Switzer, *Environmental Politics*, 279.
109 Humphreys, "Redefining the Issues: NGO Influence on International Forest Negotiations," 51.
110 Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," 190.

111 Humphreys, "NGO Influence on International Policy," 163.
112 Chasek, *Earth Negotiations*, 100–101.
113 Dauvergne, *Loggers and Degradation in the Asia-Pacific*, 47.
114 Smouts, *Tropical Forests, International Jungle*, 15.
115 Radoslav S. Dimitrov, "Hostage to Norms: States, Institutions and Global Forest Politics," *Global Environmental Politics* (2005), 5 (4), 3.
116 Ibid., 17.
117 Switzer, *Environmental Politics*, 277.
118 de Jong, Tuck-Po, and Ken-ichi, "The Political Ecology of Tropical Forests in Southeast Asia," 2.
119 Dimitrov, "Hostage to Norms," 4.
120 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 37.
121 Gale, "Discourse and Southeast Asian Deforestation," 241.
122 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 37.
123 Ibid., 38.
124 Gale, "Discourse and Southeast Asian Deforestation," 241; Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 38.
125 Chasek, *Earth Negotiations*, 100–101.
126 Fred P. Gale, *The Tropical Timber Trade Regime*, International Political Economy Series, New York: St. Martin's Press, 1998, 87.
127 Ibid., 85.
128 Chasek, *Earth Negotiations*, 102.
129 Gale, "The Mysterious Case of the Disappearing Environmentalists," 106–7.
130 Ans Kolk, *Forests in International Environmental Politics: International Organisations, Ngos and the Brazilian Amazon*, Utrecht, Netherlands: International Books, 1996, 137.
131 Elizabeth R. DeSombre, *The Global Environment and World Politics*, International Relations for the 21st Century, London: Continuum, 2002, 149.
132 Beatrice Chaytor, "The Development of Global Forest Policy: Overview of Legal and Institutional Frameworks," International Institute for Environment and Development World Business Council for Sustainable Development, 2001, 16.
133 Chasek, *Earth Negotiations*, 95.
134 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 40.
135 Gale, "Discourse and Southeast Asian Deforestation," 241.
136 Humphreys, "Redefining the Issues: NGO Influence on International Forest Negotiations," 54.
137 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 43.
138 D. Humphreys, "Hegemonic Ideology and the International Tropical Timber Organization," in John Vogler and Mark F. Imber (eds), *The Environment and International Relations*, London: Routledge, 1996, 226.
139 International Tropical Timber Organization, *Technical Series 5: ITTO Technical Guidelines for the Sustainable Management of Tropical Resources*, Yokohama: ITTO, 1990, 9.
140 Friends of the Earth and World Rainforest Movement, *The International Tropical Timber Agreement: Conserving the Forests or Chainsaw Charter? A Critical Review*

of the First Five Years' Operations of the International Tropical Timber Organization, Friends of the Earth, 1992, 4.

141 Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," 146.

142 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 40.

143 *International Tropical Timber Agreement 1983.*

144 Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," 144.

145 One of the key functions of the ITTO has been, via its three Permanent Committees, the vetting of proposed and approved projects. Cases given approval include the building of databases, reforestation projects and a project to assess timber incentives. Humphreys, "Hegemonic Ideology and the International Tropical Timber Organization," 223.

146 Poore, *Changing Landscapes: The Development of the International Tropical Timber Organization*, 40–41.

147 Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," 144–5.

148 Porter and Brown, *Global Environmental Politics*, 100.

149 Gale, "Discourse and Southeast Asian Deforestation," 243.

150 Smouts, *Tropical Forests, International Jungle*, 144.

151 Chaytor, "The Development of Global Forest Policy," 17.

152 Gale, "The Mysterious Case of the Disappearing Environmentalists," 107–8.

153 Kasimbazi, "Sustainable Development in International Tropical Timber Agreements," 154.

154 Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," 189.

155 Gale, "The Mysterious Case of the Disappearing Environmentalists: The International Tropical Timber Organization," 108.

156 Gale, "Discourse and Southeast Asian Deforestation," 240.

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171 Smouts, *Tropical Forests, International Jungle*, 147. For example, if one uses the Brundtland Report definition of sustainability and applies it to tropical timber harvesting, then any operation undertaken "must be capable of repeat performances at the same level of output as the first." Friends of the Earth, "Special Briefing: Sustainability and the Trade in Tropical Rainforest Timber," Friends of the Earth, UK, available at: www.foe.co.uk/pubsinfo/briefings/html/19971215150457.html (accessed 12 April 2004, available on file with the author). However, business and most states have preferred a narrower application, which in timber circles has been put in terms of "sustainable yield," which has no place for the "preservation of the biological integrity of the original forest ecosystem." Friends of the Earth, "Special Briefing: Sustainability and the Trade in Tropical Rainforest Timber."
172 Duncan Poore *et al.*, *No Timber without Trees: Sustainability in the Tropical Forest*, London: Earthscan Publications Ltd, 1989, 1–27.
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175 Ibid.
176 Ibid., 196. However, the bona fides of the conclusion that Queensland's tropical forests were sustainably managed has been challenged. Dr Aila Keto of the Rainforest Conservation Society of Australia argues that the survey the Poore Report's conclusion was drawn from was scientifically flawed on two grounds. One, logging in Queensland was heavily subsidized by public monies, and secondly, the sample plots used to do the calculations were hopelessly unreliable, thus logging could not be considered sustainable. Colchester, "The International Tropical Timber Organization: Kill or Cure for the Rainforests?," 192. It should also be borne in mind that while parts of the tropical forest in Queensland were being preserved via the mechanism of being granted World Heritage Status, Australia actually increased its import of tropical timber from other countries to make up the shortfall. For example, imports of industrial roundwood increased from 1,000 square metres annually in the period 1980–1988 and to 13,000 square metres in 1990. Edmund Redfield, "North Queensland's Tropical Rainforests: The World Heritage Controversy," in Matti Palo and Gerardo Mery (eds), *Sustainable Forestry Challenges for Developing Countries*, Boston, MA: Kluwer Academic Publishers, 1996, 77, 89.
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188 Sandra Chan and Phillip Pattberg, "Private Rule-Making and the Politics of Accountability: Analyzing Global Forest Governance," *Global Environmental Politics* (2008), 8 (3), 111. The proposal was viewed with suspicion by producer states which perceived it as "a veiled attempt to . . . encourage the current campaign of boycott against the import of tropical timber products" carried out by some ENGOs. D. Humphreys, *Logjam: Deforestation and the Crisis of Global Governance*, London: Earthscan, 2006, 116.

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Chapter 5

Atmospheric ozone

INTRODUCTION

The planet's atmosphere is the single largest natural resource of the earth and is vital for the survival of biotic life on this planet and can best be understood as, "the envelope of gases surrounding the earth."[1] The current atmosphere of the Earth is probably not its original atmosphere. It is what chemists would call an oxidising atmosphere. The planet's original atmosphere was a reducing one, which did not have oxygen as part of its chemical makeup. The earth's plant-life is responsible for the composition of our current atmosphere.[2]

The entire atmosphere is divided into four different atmospheric spheres; the troposphere, stratosphere, mesosphere and thermosphere – from lower to upper layers – which is deciphered on the basis of temperature characteristics.[3] The troposphere is where all weather takes place; it is the region of rising and falling pockets of air and is 4.3 billion cubic km in size. The troposphere is thus ubiquitous and extensive but it is also a finite resource.[4]

For the first time in the history of the planet, human actions have altered the composition of the atmosphere, but in particular the troposphere, on a global scale.[5] Introducing harmful substances into the troposphere and lower stratosphere causes changes to the conditions of the atmosphere, which is known as air pollution.[6] Due to population growth, increased consumption and concomitant large-scale industrial activities, millions of tonnes of pollution (chemicals and particulates) have been discharged into the global atmospheric commons.[7]

The atmosphere is not a distinct category in international law since it is a constantly fluctuating and dynamic air mass. Thus, it is not the same as the idea of "airspace above land which is merely a spatial dimension subject to the sovereignty of the subjacent states" (see the 1944 Chicago Convention on International Civil Aviation). Since it exists contemporaneously with state territorial sovereignty international law does not consider it 'common property' such as the high seas are treated. UNEP refers to the resource as "airsheds", treating it rather as an example of a shared natural resource.[8]

Both domestic and international actions taken to combat pollution of the atmosphere have largely centred to date around combating pollutants individually.[9] Currently, the three major issues concerning the atmosphere internationally are: air pollution including acid rain[10] and transboundary air pollution; ozone depletion; and climate change.[11]

This chapter will focus primarily on the issue of ozone depletion and the global community's efforts to prevent what could have been an ecological disaster if left unchecked. First, it examines the science of ozone depletion, and the role played by Ozone Depleting Substances (ODSs) in modern society and details the discovery of the damage being done by these substances to the ozone layer and the detection of an ozone hole in the Antarctic. It then critically examines the global communities' efforts to ban ODSs thru the crafting of the 1985 *Vienna Convention for the Protection of the Ozone Layer*, and the attempts to successfully strengthen the instrument through the Montreal Protocol and subsequent amendments. In this case, the willingness of all stakeholders, states, IOs, scientists, ENGOs and business all combined to build a robust regime that effectively tackled the problem of global ozone depletion. Lastly, it asks why was the regime so successful and what lessons can be learned from its example?

THE DISCOVERY OF OZONE, OZONE-DEPLETING SUBSTANCES AND THE OZONE LAYER

Ozone, a word derived from a Greek term *ozein* meaning 'to smell', was first described by scientists in the mid-nineteenth century.[12] Ozone is a colourless gas similar in composition to oxygen (regular oxygen has two atoms while ozone has three, and is poisonous to biotic life). Ninety per cent of all ozone is concentrated between 15 and 35 kilometres in the stratosphere (the ozone layer). Importantly, ozone absorbs ultraviolet radiation which is inimical to life, so the ozone layer functions to protect the planet from the radiation.[13] Scientists have since warned of the many serious dangers of exposure to ultraviolet rays, such as deaths due to skin cancer; eye problems including cataracts and blindness; deficiencies caused in the human immune system; the loss of food production and fisheries; and an increase in the greenhouse warming effect.[14]

It was not known until the late 1800s that ozone was present in the stratosphere, the area now considered the ozone layer.[15] Ozone is constantly created, destroyed and recreated in the stratosphere by ongoing photochemical reactions.[16] The ozone layer includes significant amounts of ozone with the main concentration of ozone sitting at altitudes of 15 to 40km (maximum concentrations are between 20 and 25km).[17]

Following this discovery, the study of the stratosphere and the importance of ozone was largely not carried out in any systematic way.[18] This changed, however, in 1957 when an observation station was established to study the stratospheric ozone in Antarctica as part of the International Geophysical Year. Between 1957 and 1979 the observations revealed that ozone measurements had dropped by

almost 100 Dobson units from 300–330 to 225. This study also exposed that the depletion of the ozone was increasing at a significant rate.[19]

Initial suggestions in 1965 claimed that ozone depletion was possibly due to rockets, as well as high-flying aircraft and industrial pollutants.[20] Mario J. Molina and Sherwood Rowland first suggested in 1974 that Chlorofluorocarbons (CFCs) which are made up of carbon, fluorine and chlorine, could pose a threat to the ozone layer.[21] They claimed that CFCs and other ODSs remained in the atmosphere for an extended period of time, reacting with molecules to break down the ozone.[22]

CFCs were first utilised in the 1930s as a refrigerant in an attempt to avoid the dangerous chemicals initially used in refrigerators, such as sulphur dioxide. They were considered a safer alternative for humans and the machinery that produced them.[23] CFCs came to be present in many products such as aerosol sprays and cleaning solutions.[24] Prior to 1974, 70 per cent of the global production of CFCs was for aerosol usage.[25] The operative effectiveness of CFCs in the various products is also what contributes to the depletion of the ozone layer.[26]

The effectiveness of CFCs resulted in the proliferation of consumption, which "soared from 150,000 metric tons in 1960 to over 1.1 million metric tons annually by the late 1980s."[27] To make matters worse, all the CFCs which had entered the atmosphere since its development in the 1930s remained there.[28] The proliferation of production of CFCs was mainly confined to certain states, with the US producing approximately 50 per cent of global CFC output in the 1970s. One company alone, DuPont, was responsible for half of the United States' CFC production, equating to 25 per cent of global output.[29]

In many ways, the critical actor driving ozone-layer protection throughout the 1970s and early 1980s was UNEP, which had made ozone protection a priority goal. It had provided funding to a World Health Organization (WHO) Technical Conference in 1975 which had produced the first official scientific statement of concern on CFCs and the organisation was instrumental in helping cajole states to work towards an international agreement on ozone depletion. It is no exaggeration to state that UNEP in the early 1980s was the driving force keeping the issue on the international agenda.[30]

However, the chemical companies responsible for producing CFCs initially criticised the legitimacy of Molina and Rowland's report and were not willing to listen to the broader scientific community's concerns, in order to continue a lucrative business. Industry consultants suggested that if CFCs were phased out, there would be significant negative economic and social repercussions. This set up the first conflict between environmentalists who were concerned about the potential damage being done to the ozone layer and industry representatives. Until further research provided a complete picture, there was significant defiance to any regulation of the industry by chemical companies concerned at a loss of profits.[31]

Problematically, for those concerned that some compounds could lead to the depletion of atmospheric ozone this had only been illustrated in a scientific laboratory.[32] There was no evidence that the destruction of the actual ozone layer was being caused by chemical compounds, and similarly it could not be proved

that there was environmental damage as a result of the depletion of the ozone layer. However, it was clear that this issue, if true, had global significance in that the consequences were potentially civilisation destroying. This was coupled with uncertainty regarding the effects that any regulation of such products would have. At this stage, there was no widely available and affordable substitute to CFCs, despite extensive research undertaken by the US. Industries therefore were not willing to limit the use of highly valuable chemical compounds, and states were similarly unwilling to make such industries bear the costs associated with reducing the consumption and production of these compounds.[33]

In an attempt to resolve this issue, the US administration commissioned a report to be undertaken by the National Academy of Sciences (NAS). Released in 1976, this report however only provided uncertain and ambiguous conclusions further occluding the issue. The report was helpful in delivering a sense of urgency, as the report predicted that the depletion of the stratosphere ozone would most likely occur at a level between 6 and 7.5 per cent, and definitely between 2 and 20 per cent. However, the report did not call for immediate bans or freezes on the manufacture and consumption of CFC products. Rather, it suggested that regulation of the industry would be a necessity at some point, but did not provide specificities as to when.[34] Further muddling the picture, the NAS report was largely challenged by scientists employed by major CFC-producing companies or states.

Despite the scientific uncertainty around ongoing ozone depletion, UNEP held an international meeting on the issue in Washington D.C. in 1977.[35] This meeting is considered the first major global initiative undertaken on ozone depletion. Thirty-three states and the EC attended the meeting, resulting in the 'World Plan of Action on the Ozone Layer'.[36] This Plan established the primary need for global cooperation and collaborative research in order to reduce the output of CFCs and subsequent depletion of the ozone layer. Recommendations to incorporate collaborative research into national agendas was implemented in the Plan, to investigate the effect of depletion of the ozone layer on the environment, along with human health, as well as trends in radiation and the ozone layer. The UNEP meeting also created a Coordinating Committee on the Ozone Layer comprised of expert representatives and ENGOs to implement the plan in May 1977.[37]

The EC's European Economic Committee and the Organisation for Economic Co-operation and Development played an essential role in providing recommendations that led to UNEP creating the Coordinating Committee. The Coordinating Committee became a key element vital to the success of the future process in that it allowed for scientists to present their research to policymakers.[38]

In 1977 the US Environmental Protection Agency (EPA), the Food and Drug Administration (FDA) and Consumer Product Safety Commission, upon further evidence of the potential impact of CFCs on ozone,[39] acted in concert to ban CFC use in aerosols in the US under the Toxic Substances Control Act, under threat from legal action by the Natural Resources Defense Council.[40] Canada, Norway and Sweden soon followed the actions in the US.[41]

However, the EC was not willing at that time to follow suit. That same year the EC refused a Dutch proposal to label spray cans containing CFCs.[42] It was not till much internal debate in the European Parliament that the EC domestically restricted the use of CFCs in aerosols in 1982 at the level of 30 per cent from 1976 levels.[43]

The US EPA began to promote collective international action through UNEP, rather than focusing on meeting its domestic legal obligations. The US was therefore able to appease its domestic chemical industry, by delaying CFC control measures while focusing on a multilateral strategy internationally. This subsequently allowed American CFC industry time to develop suitable alternatives and prevent the imposition of stringent unilateral regulations.[44]

The UK Department of the Environment published a report titled *Chlorofluorocarbons and Their Effect on the Stratosphere* in October 1979 which claimed that the current evidence did not warrant a ban on CFCs. In contrast, just one month later, the US NAS suggested in its *Report of the Panel on Stratospheric Chemistry* that ozone depletion might be twice as severe as estimated in 1976, and that a worldwide ban was necessary on nonessential uses of CFCs.[45]

In particular, DuPont was particularly vocal in 1979, claiming that "no ozone depletion has ever been detected despite the most sophisticated analysis . . . All ozone-depletion figures to date are computer projects based on a series of uncertain assumptions."[46] Given the conflicting accounts within the scientific community, no consensus was possible without comprehensive research being carried out which further stretched out the timetable on dealing with the issue.[47]

Various IOs, including UNEP, the World Meteorological Organization (WMO) and national bodies such as NASA, were constantly calling for immediate action to prevent further damage to the ozone layer by the proliferation of CFCs in the atmosphere, and the calls became louder after the discovery of the 'ozone hole' over Antarctica.[48]

In the US, which was at the time the world leader in CFC production,[49] pressure to resolve the issue increased, heightened by a lawsuit brought by the Natural Resources Defense Council in 1984, which resulted in the EPA being ordered by a domestic court to formulate regulations under the Clean Air Act by 1987 to deal with the matter.[50] Seeking to avoid further legal action, the EPA launched the Stratospheric Ozone Protection Program which would establish domestic scientific and policy assessments, and organise, as well as sponsor, international workshops with UNEP.[51]

These actions were made easier by the fact that the US populace was highly aware of the ozone depletion theory and were willing to acquiesce to CFC bans.

However, the Europeans were less focused on ozone issues, preferring to focus on issues 'closer to home' such as acid rain and the Chernobyl nuclear accident. Bolstering the effects of the US were American ENGOs who launched education programmes for both the populace and the US Congress, launched legal actions, and with government assistance attempted to sway European ENGOs to the cause but without much success.[52]

The US and EC chemical industries also had diverged in their approach, with the US proving more adaptable. American corporations like DuPont, Allied and Pennwalt were willing to listen to the scientists' warnings about the probable risks, possibly being concerned about the issue's impact on their reputation and public image. They also resented that European firms had a competitive advantage throughout the 1970s by blocking domestic regulation of their actions. European companies such as Atochem, Imperial Chemical Industries and Hoechst, were suspicious that the American corporations were seeking to use the issue as a 'scare tactic' to better enter the profitable EC export markets with products they had secretly developed. They wanted to ensure their market dominance and avoid having to make costly substitute products.[53]

In 1985 the issue of ozone loss became critical with the discovery of what came to be known as the 'ozone hole'. Growing since the 1970s, a hole in the ozone layer (defined as where the total ozone amount is less than 220 Dobson Units in a geographic area) over the continent of Antarctica was revealed by British scientists Joseph Farman, Brian Gardiner, and Jonathan Shanklin of the British Antarctic Survey in 1985.[54]

The 1986 report *Atmospheric Ozone* – also known as the 'Blue Book' – was considered the authoritative international scientific statement on the issue at the time.[55] This report, which included a three-volume summary of the scientific information, was sponsored by the World Meteorological Organisation, the UNEP, NASA and various other bodies. It provided a survey rather than a policy assessment, has been considered "the best policy-relevant knowledge of the time" and has been widely cited.[56] It revealed that the depletion of the ozone layer had almost doubled between 1969 and 1986, from 1.7 to 3 per cent, in the northern part of the globe.[57] The report suggested that a constant level of CFC emissions would create only small depletions of the ozone layer. However, if CFC growth continued rapidly, the hole in the ozone layer would grow by 10–20 per cent.[58]

Yet the ubiquitous global impact of this environmental issue meant that controlling the damage done by CFCs was incredibly difficult in comparison to other environmental problems to date.[59] Given the potential cost of not acting however, there was movement towards implementing an international agreement on the issue throughout the 1980s. However, disagreements between the US and the European Economic Committee ensured a stalemate ensued. The US was adamant that the European Community be treated as a bloc regarding any potential agreement to prevent European leaders from moving production facilities from one state to another to avoid any agreed measures. Eventually, the European Community consented to the United States' demands on the matter.[60]

States were further motivated to take greater action at the UNEP Working Group discussions in response to suggestions that there could be further ENGO litigation or congressional action in the future.[61] Therefore, the US industry joined environmentalists and government officials in calling for an international ozone agreement paving the way for a Protocol process to begin.[62]

CRAFTING THE 1985 *VIENNA CONVENTION FOR THE PROTECTION OF THE OZONE LAYER*

In 1981, the Governing Council of the UNEP allowed for the establishment of working groups which met seven times over a three-year period.[63] The new body's scientific experts issued an executive summary of the current state of the ozone layer, which formed the basis for any multilateral cooperation. After the initial assessment, negotiations for treaty drafting began seriously, with UNEP Governing Council forming an *ad hoc* Working Group of Legal and Technical Experts. This Working Group was to establish the framework for a convention, where protocols could be added, as well as gathering support for action from a variety of states, NGOs and other bodies.[64] However, the working groups allowed for industry representatives to serve officially on state delegation parties which allowed them to exert great influence on the proceedings.[65]

At the global level, UNEP's first working Group on the topic was held in 1982. States refused to take further, concrete action on CFCs at the global level preferring to attempt to resolve the issue with domestic measures.[66] In particular, European opposition to the working group process saw negotiations move slowly.[67] The Working Group met for three years, undertaking arduous sessions to revise the draft legislation for the convention as well as debating the merits of appending a control protocol to the convention.[68] Participation in these sessions mainly included developed states, with a notable lack of representation accorded developing states and NGOs.[69]

A divide emerged between the EC and other participating states who had already taken action on reducing their CFC use. It appears that two companies – Britain's Imperial Chemical Industries and France's Atochem – were considered influential enough to sway the entire European Community's bargaining position to try to prevent progress from occurring. The US joined Canada and Scandinavian states in backing a global ban on aerosols as the date for the Convention got closer.[70]

Despite the lobbying by these states the framework convention failed to mandate reductions due to the inflexibility of the EC.[71] When Nordic states introduced the concept of a separate draft protocol on CFC emissions into the working group in 1983, it actively polarised the negotiations between states who supported the proposal, such as the US, Canada, Finland, Norway and Sweden and the other European Common market states. This tension and mistrust threatened the adoption of a framework and effectively coloured the attempted resolution of other issues.[72]

The EC group offered an approach which would see production capacity capped on the two major forms of CFCs, as well a 30 per cent reduction in nonessential uses of CFCs. This proposal was rejected by what became known as the 'Toronto Group' (comprised of US, Canada, Sweden, Norway, Finland, New Zealand, Australia and Switzerland) which pointed to the fact that many European states were already producing below capacity and therefore the net effect of the EEC proposal would result in no reductions at all. However, the

economic costs associated with the banning of CFCs became an issue for many states and the European chemical industry. The EC was adamant that it would not negotiate on reducing CFC products. By late 1984 the EC proposed an alternative draft protocol text that would prevent any additional CFC production but the Toronto Group dismissed the gambit arguing it would be practically ineffectual, given EC industry had the excess capacity to expand for 20 years.[73]

THE 1985 VIENNA MEETING

Parties to the UNEP Working Group met in Vienna in 1985, in an initial attempt to coordinate a global response to the ozone depletion, through the signing of a framework convention.[74] For environmentalists, the Conference began in a promising way, the proposed convention had the support of both the American CFC industry and ENGOs, because creating such a text would ensure the development of more comprehensive scientific data.[75] Vienna saw states take the initial step to regulate ozone depletion despite the EC, which insisted there were no alternatives for CFCs.[76]

The *ad hoc* Working Group had crafted a framework agreement but also a protocol which at this stage lacked any control clauses.[77] The final document, which was revised five times, included the preferences of states in attendance, but also the written statements from states that did not attend. The differing positions of the Toronto and EC groups on regulatory measures proved to be too difficult to reconcile, establishing a protocol for future control measures of CFCs. Parties did not want to create a weak protocol, which would eventually be rendered ineffective.[78] Further, the Convention did not establish any concrete regulations on CFC usage, as states were still unsure about the science linking CFCs to ozone depletion.[79]

Rather it was agreed that parties would resolve to continue drafting work on a protocol, and would urge states and other organisations to implement control measures, pending the entry of a protocol into force.[80] Parties further pledged to establish an agreed control protocol within two years.[81] The US, and other members of the Toronto Group implemented a resolution at the final moment, which authorised UNEP to re-establish a 1987 target for negotiations to achieve a protocol that was legally binding.[82]

This Convention was the first of its kind that sought to decrease the risk of depletion to the stratospheric ozone layer and the first instrument to attempt to combat an environmental problem before it substantially impacted, absent firm scientific evidence.[83] However, problematically it did not contain any specific measures to implement mechanisms to control CFCs production and consumption because states were still unsure about the science linking CFCs to ozone depletion.[84] What it did do was provide a framework which saw states agree to take appropriate (although this was unspecified) action to ensure the protection of the ozone layer.[85]

It was at the Vienna Convention negotiations, that the term, 'precautionary measure' was first used in the context of protecting the ozone layer, both

domestically and globally.[86] The Vienna Convention, therefore became perhaps the first international agreement that formulated the need for precautionary measures despite scientific evidence of ozone depletion causes not being certain.[87]

As mentioned previously the discovery of an ozone hole over Antarctica in May 1985 galvanised both negotiations on the topic and public awareness of the issue.[88]

Problematically, scientists were still at this point unable to specify an exact cause for the hole, with many blaming CFCs and others considering it a natural fluctuation which was connected with the solar cycle. The year 1986 saw the issue dominate public forums as to how to deal with ozone depletion and the Antarctic hole specifically.[89]

The Convention, instead of focusing on action at the diplomatic level, implemented cooperative programmes for scientific research and exchanging of information.[90] This helped many parties find renewed momentum for the Montreal meeting which the Vienna Convention had provided the framework for.[91] UNEP provided sponsorship for two workshops on control measures to present relevant data to a control protocol. While there were no formal delegations, there was a range of participants, including those from states – both developed and developing – UN officials, academics, environmentalists, industry representatives. The informal setting of the second meeting in the US was pivotal in moving states towards an agreement, as there was frank discussion and a lack of divisions between parties. It was the first time that US NGOs were present in significant numbers at an international forum, despite their constant action and media campaigns throughout the past couple of decades.[92]

THE GENEVA MEETING 1986

At the first round of negotiations in 1986, various states (Canada, the US and USSR) submitted proposed texts for consideration but they conflicted with each other. For example, the US sought to establish an initial freeze on CFCs, which would be supported by gradual cutbacks until 2000, by which time all CFCs would be eradicated.[93]

Canada preferred to establish quotas for emissions based on national figures such as population and domestic national product, whereas the USSR suggested developing states be completely exempt from any regulations, and that other states would be permitted a national allocation based on both population and domestic capacity to produce CFCs. In contrast, the European Community was waiting until the Convention of the Council of Environment Ministers (meeting in March 1987), to announce a collective opinion on the issue.[94]

In an attempt to break the impasse of these key actors, the US suggested that four working groups be established to each separately deal with one of four issues – science, trade, developing states and control measures – rather than debating the exact wording of the protocol.[95] These workshops proved crucial in that there were no official delegations, and all interested non-governmental actors were welcomed. They provided a framework for the often fractious negotiations and the process was one of breaking down problems into small parts and seeking

incremental consensus. All views and concerns were welcome and equal in an informal setting, a rare thing in international diplomacy. While initially discussions were problematic, by the workshop in Virginia the dialogue was open and constructive to the point that the idea of an 'interim protocol' was introduced. The concept allowed that states did not have to wait for a definitive answer, but rather could design an instrument that could allow for improved science and built-in methods to adjust controls where required. This idea allowed for more flexible dialogue and grew to underpin the eventual protocol.[96]

The CFC industry up until this point had been extraordinarily effective in negating the voice of the scientific community on this issue. Scientists were perceived more as environmental advocates stressing the dangers of ozone depletion rather than as independent researchers providing scientific findings. As a group, their results were constantly challenged by companies and they were unable to clearly articulate a position that negated attacks on their credibility. For example, scientists had proved that chlorine was a threat to the ozone, but some companies did not accept lab tests as sufficient evidence to warrant action on their part.[97]

Importantly 1986 saw a schism develop between American and European CFC producers when DuPont announced that it had developed substitute substances that could be available on the market within five years.[98] Prior to this, both state's industries maintained that science regarding the stratosphere was too uncertain to act precipitously and further research was needed to justify any control measures on CFC products.[99] The idea of not 'acting in haste' was used right up until the Montreal Protocol negotiations in 1987 despite lobbying efforts from environmentalists as early as 1974 to force a reduction in CFC production.[100]

In March 1986, DuPont suggested that substitutes were worth the effort if the market was willing to provide for changes. Following a 1986 workshop, DuPont announced that they would support control levels on the production of CFC substances. The company subsequently spent a significant amount of money (US$5 million in 1986, US$10 million in 1987 and US$30 million in 1988) to conduct research for substitute compounds.[101]

THE MONTREAL PROTOCOL NEGOTIATIONS

Negotiations of the Montreal Protocol were thus initiated in a period of scientific and political doubt over the existence and the environmental effect of the substances being discussed, as well as the potential high monetary costs of mitigating any harm.[102] Scientific reports at the time of negotiations disagreed enough to ensure that any negotiations would see competing scientific opinions proffered, making any agreement difficult to obtain.[103] More problematically, only a small number of states had actually ratified the Vienna Convention; the Nordic States (Finland, Norway and Sweden), Canada, the United States and the Soviet Union.[104]

Despite the uncertainty over ozone depletion scientists were able to influence the negotiations. A comprehensive stratosphere study undertaken in 1984 and coordinated by NASA involving over 150 scientists, became a significant

motivator for the adoption for the Montreal Protocol.[105] This report and other information created overwhelming urgency by most states that the damage to the ozone layer would spread rapidly if action was not taken immediately to conduct further research.[106] Various states, including members of the EC, Japan and the Soviet Union saw the lack of scientific evidence as validating their position not to act in haste on ozone depletion.[107] This opinion was mirrored by industry representatives, who also sought to prolong an outright ban on CFC substances until further scientific research resulted in a complete understanding of the issue at hand.[108]

The United States became a key campaigner for the implementation of regulation on CFC production. This was due to a number of reasons. First, the US had already implemented a domestic ban on CFC chemicals. Second, as mentioned previously, American companies were already working to bring alternative CFC technology to market.[109]

Third, the issue had obtained widespread media saturation within the US that exposed the effect of CFCs on the ozone layer. American consumers consequently sought to acquire environmentally friendly products, as the use of spray-concerns decreased by two thirds in the ten years prior to the establishment of the Montreal Protocol negotiations. To retain consumers, many industries had to alter their products to ensure their public image was one that took into account environmental matters.[110] Fourth, a lawsuit brought by the ENGO, the National Resources Defence Council (NRDC) saw as part of the settlement that new regulations to ban domestic CFCs for an interim period needed to be established by May 1987, and permanent regulations by November 1987.[111] Congress consequently introduced bills throughout 1987 that would eradicate CFCs and impose trade restrictions on states that did not follow suit and were still producing such substances.[112]

In 1987 the US campaigned within the international community to generate international support for the treaty, with American negotiators, EPA officials, scientists and ENGOs meeting with foreign officials and scientists to share information and research. American groups and departments conducted live video discussions, whilst ENGOs travelled and subsequently encouraged Japanese and European ENGOs to become actively involved in the issue.[113]

However, other key states, in particular the EC (negotiating as a bloc), the Soviet Union and Japan opposed the complete ban of CFC technology, as they had so far failed to produce a substitute technology, unlike the United States.[114] Furthermore, the EC saw the economic effect of a ban on CFCs as more important than environmental concerns and preferred a production cap.[115] EC citizens also did not exhibit the same consumer awareness as those in the US on this issue, meaning that the EC was not under domestic pressure to limit CFCs. Further, European ENGOs were focused on other issues such as biodiversity loss and air pollution so did not exert pressure on European governments.[116]

LDCs were initially not a factor in the negotiations, acting as observers. They consumed and produced a minuscule amount of ODSs, and had contributed little to the current levels of ozone depletion.[117] Over the course of the negotiations

however, LDCs such as Argentina, Brazil, Egypt, Kenya and Venezuela took an active role, on behalf of developing nations worldwide, in presenting their views. These views changed over the course of the negotiations and saw developing states similarly advocating for tighter regulations on CFCs and other chemicals.[118]

ENGOs at the Meeting attempted to influence the outcomes by advocating for more timely schedules to phase-out the CFCs but were hampered by their inability to attend official sessions. They campaigned for the right to attend Ozone Fund Meetings, which was created and funded by developed states to provide assistance to developing states in the implementation of the Protocol. After initially being barred by the Executive Committee ENGOs eventually received the right to attend such meetings.[119]

While ENGOs were denied access to meetings, which blunted their ability to influence 'in the room' decisions, the groups found other ways to seek to externally apply pressure to delegates. For example, throughout 1987, Friends of the Earth UK established a widespread campaign, which resulted in a boycott against 20 products that contained CFC aerosols,[120] prompted by lobbying from US ENGOs.[121] Pressure from the green movement in West Germany saw government officials announce a 95 per cent unilateral reduction in CFCs, despite it being a major CFC producer, and to use its position as the current head of the European Community to generate support for a ban throughout the entire bloc.[122]

Ninety ENGOs, representing 27 states from Africa, North America, South America, Eastern Europe and Western Europe met in London and issued a statement calling for immediate action globally on the issue. The pressure from the ENGOs, along with scientific evidence, was effective in persuading large consumers and producers of CFCs, such as the US, EC and Japan to act faster and more comprehensively in implementing domestic control measures on CFCs.[123]

Initial negotiations began in an inchoate and unfocused fashion.[124] Due to the fact that the three largest states involved, the United States, Canada and the Soviet Union, all adopted different positions, the initial negotiations for the Protocol were tumultuous. Canada, along with Egypt, Mexico, New Zealand and Switzerland supported the United States' proposal. After initially attempting to alter the US proposal and change the initial freeze to immediate cuts of CFCs, the Nordic states too came to support the US position.[125] However, the EC would only accept a freeze, not any reductions.[126]

China and India illustrated concerns regarding the cost of changing their practices to ozone-safe chemicals, without the assistance of new technologies that other states had access to, even though they did not manufacture a large amount of CFCs themselves.[127]

An unofficial draft for the Protocol was produced by various states at the Geneva session which was convened in April 1987 by UNEP Executive Director Mostafa Tolba. He established a series of closed meetings with the heads of key state delegations, which focused on control measures that were critical to the Protocol. These discussions which were held away from the formal plenary session included Canada, Japan, New Zealand, Norway, the Soviet Union, the US,

the European Commission, Belgium, Denmark and the UK.[128] At the subsequent meeting in The Hague the EC attempted to significantly alter the Tolba draft but Tolba himself refused to accede, leaving many bracketed clauses containing multiple viewpoints. Before the Montreal meeting the US invited the EC to meet to discuss the contentious issues but the EC declined.[129]

The parties reconvened in Montreal on 8 September 1987 with 60 states attending along with scores of IOs, ENGOs and the world media.[130] Debate at Montreal primarily focused on which chemicals would be incorporated into any proposed ban, the amount to which states had to cut back their use of said chemicals, how developing states would be incorporated into the Protocol, and how such a ban would impact non-signatory states.[131] Tolba and the conference Chair Winfried Lang worked throughout the eight days, holding closed meetings with the key actors to bring about the necessary compromises.[132]

States were still at an impasse on how to proceed but the stalled diplomatic negotiations were unlocked because of three factors. First, scientific assessment that demonstrated the severity and causes of ozone depletion were considered imperative enough to influence state policy. Next, the regime included novel institutional arrangements, such as an assessment process with industry participants to create new technology alternatives for CFCs. Finally, the regime allowed for rapid changes in operation rules based on new scientific evidence and generated incentives for rapid technological changes.[133] This was largely successful due to the extensive role played by both Director Tolba's delicate negotiation skills and the leadership shown by the US.[134] At the last minute the EC refused to sign unless they were treated as a single unit. The impasse was broken by New Zealand's Environment minister Philip Woollaston who broached the idea that the EC could be treated as a unit as regards consumption but not for production. This became Article 2(8) and the EC acquiesced.[135]

The EC negotiation strategy had been undermined both from outside and within. The US put pressure on the UK, at that time the most strident voice opposing regulation in the EC Council, to support a ban but they were resistant along with France, citing that there was no evidence that ozone depletion was linked to skin cancer.[136] Critically, the Federal Republic of Germany formed a 'Troika' with Belgium and Denmark in calling for tougher international policy on the eradication of CFCs and other products which damage the ozone layer. This Troika was imperative in getting the EC to accept the need for stronger regulations.[137] Once the EC accepted the Convention's obligations it quickly posted community-wide regulations and assumed a leadership role at the ozone negotiations.[138]

Also critical was the role played by the American chemical industry, which supported global regulations. The Alliance for Responsible CFC Policy (the US industry organisation) and CFC manufacturer DuPont together called for the international regulation of ODSs and they did so for a number of reasons.[139] One, they were aware that continuing to produce and use these substances was having negative effects on their public image in an age where environmental consciousness was becoming important. Two, producing CFCs was only 2 to 3 per cent of

the total sales for these businesses and they were not prepared to jeopardise their broader public image over a relatively trivial aspect of their overall business.[140]

Three, US research on substitutes was relatively well-advanced compared to their non-American competitors and they did not want to lose the 'first mover' advantage. It is incorrect however, as some commentators have asserted, that there were readily available alternative substances while the Protocol was being negotiated. In the case of DuPont for example, it was not until the 1986 Vienna Convention was signed that they began seriously investigating other products.[141] DuPont announced that it would increase its research to find an alternative product to CFCs and eventually phase out ODSs by 2000. This announcement by the largest producer of CFCs globally provided an opportunity for ENGOs to encourage European and developing states to push for domestic programmes that would eradicate ozone-depleting gases.[142] As Tolba noted once the protocol had passed: "the environment can be a bridge between the worlds of East and West, and North and South . . ." however, "This Protocol is a point of departure . . . the beginning of the real work is to come."[143]

NEGOTIATION OUTCOMES

The Protocol aimed to promote a global decrease in the use and production of substances, such as CFCs, that lead to the depletion of the ozone layer, by requiring each individual state party to reach collectively agreed targets.[144] The Protocol calls for a freeze on the use of five types of fluorocarbons and three types of halons for three years, as an immediate action so as to allow more research to be undertaken.[145] These targets were established based on the national 1986 levels of production and consumption of CFCs.[146]

As of 1 July 1989, the Protocol states that the global consumption of CFCs could not be greater than the 1986 output levels, with levels to drop to 80 per cent of 1986 consumption by 1993 and 50 per cent by the end of 1998.[147] Further, by 1 July 1993, each member state was to reduce production and use by an additional 20 per cent.[148] The US was instrumental in ensuring that mechanisms were included in the Protocol which encouraged state compliance with the regulations to end the exporting of CFCs or placing of CFC facilities in non-treaty countries.[149]

The final agreement adopted a 'command and control' framework to regulate consumption and production of CFCs.[150] It further put in place arrangements for the administration, assessment and enforcement of control provisions.[151] To ensure compliance with the Protocol, Article 7 requires states to provide an annual report to the Secretariat of the UNEP, which includes statistical data on the production, imports and exports of CFCs. The Protocol also includes a provision to ensure that further research is completed, and allows for other ODSs to be included within the ozone regime if new evidence for the need arose.[152]

The idea of what became the Common But Differentiated Responsibility principle arose from the Montreal Protocol. This principle saw states possess different legal obligations throughout the grace period and was known at the

time as a "mutual but differentiated" duty or a "common-but-differentiated" responsibility. Both developed and developing nations had a responsibility to prevent further damage to the ozone, but the control measures which they would be required to adopt would differentiate in accordance to the particular state's contribution to the depletion, as well as their current state of development. Developing states therefore received greater leniency in the control measures to be implemented, while industrialised states were responsible for the immediate cutbacks.[153]

LDCs were thus permitted a decade delay in compliance with the CFC reduction scheme, whilst being assisted by developed states in the implementation of the Protocol and were provided with assistance in technology and the development of alternative products.[154] Article 5 established the requirements for LDCCs. To qualify under Article 5 for special treatment, an LDC's annual level of consumption of CFCs must be less than 0.3 kilograms per capita.[155] Adopting the protocol as an LDC saw them gain access to a "well-specified financial transfer mechanism [which] provided the funding and technical assistance to Article 5 countries to reduce or eliminate the use of ozone depleting substances."[156]

The eagerness of developing states to be included in the Protocol led the negotiations to evolve past regional parochialism, to a focus upon a consecutive global solution. Without the inclusion of LDCs, these countries most likely, despite the US provision attempting to stop such activities, would have become a 'pollution haven' for the global North's discarded chemicals and technology, thus allowing the cycle of ozone depletion to continue.[157]

However, developing states came to be concerned as to the proportionality of monetary contributions from each Article 2 (developed) state, as well as the precedent that such a mechanism would set for future environmental negotiations. LDCs were troubled by the fact that their potential to industrialise and expand would be hindered by the Protocol restrictions, while the global North had been able to undertake industrialisation actions in an unrestricted international environment for decades and reap the profits of such actions.[158]

The Secretariat of the Vienna Convention and Montreal Protocol, also known as the Ozone Secretariat, was made responsible for servicing the meetings of the two agreements and ensuring that parties have all the necessary information they need to make decisions. The Secretariat further follows up on decisions and supports the implementation of the treaties, and therefore has an important role in facilitating negotiations between parties.[159]

SIGNING AND RATIFICATION OF THE PROTOCOL

The Protocol was signed on 16 September 1987 by the majority of states that produced or utilised chemicals that depleted the ozone layer, and was to enter into force on 1 January 1989 provided that it had been ratified by at least 11 signatories, which represented at least two-thirds of the estimated consumers worldwide of chemicals that the Protocol prohibited.[160] The Soviet Union became the only major producing state of CFCs not to sign the Protocol (Russia

signed on later).[161] China and India did not sign the Protocol until 1990.[162] By 1996, 157 states had ratified the Montreal Protocol, with 110 developing states ratifying, an unprecedented number for the Protocol.[163]

IS THE MONTREAL PROTOCOL A SUCCESS OR FAILURE?

The then UN Secretary General, Kofi Annan, declared in 2003 that the Montreal Protocol was, "perhaps the single most successful international agreement to date."[164] Public and the media's reaction was also highly favourable to the achievement.[165] The accomplishments of the Protocol can be measured in a number of ways. For decades, the Montreal Protocol worked quietly to phase out ODS products, carrying out comprehensive scientific research and encouraging subsequent technological developments.[166] The actions wrought through the Protocol have been effective in preventing it is estimated two million cases of skin cancer annually by 2030.[167] By the agreed 1996 phase-out date, CFCs had been successfully eradicated.[168] The Protocol eliminated more than 135 billion tonnes of carbon dioxide equivalent between 1987 and 2010, while phasing out almost 100 ODSs.[169] By 2010 most ODSs had been phased out, and the Protocol had reached universal ratification.[170] The Protocol had shown that global problems could be resolved if all local stakeholders joined forces with a clear framework, that would provide legally binding commitments and a financial mechanism which was directly linked to compliance.[171]

While the ozone layer remains in danger, the ozone remains on track to be repaired over the coming decades, and these statistics, according to the UNEP Scientific Assessment Panel, also show that the Protocol has reduced ozone-depleting greenhouse gas emissions by over 90 per cent, which is five-times larger than what was devised as the first commitment period of the Kyoto Protocol.[172]

Further, the Montreal Protocol is considered "the world's first *adaptive* global environmental regime."[173] An adaptive regime is one that while pursuing a goal that remains the same, supports and adapts to changes, and incorporates this changed knowledge into its policies.[174] The Protocol, "utilised and provided successful – which could be considered as revolutionary – approaches to the principle of common concern, the precautionary principle, state sovereignty and the breakthrough principle of common but differentiated responsibility."[175] Common concern and adopting a precautionary principle approach played a significant role in bringing the differing parties together while fostering a sense of cooperation which has proved vital in the continuing negotiations. This paved the way for the Protocol being recognised as "the first true international precautionary approach to a global environmental danger."[176]

The Protocol was an incredibly flexible agreement, as well as bridging various differences during the negotiations process. For example, provisions were incorporated into the Montreal Protocol which allowed states to revise and review the requirements as new scientific and technical information became available. The 'basket approach' was also a source of flexibility for the Protocol. Ozone-depleting potential ratings were given to each ODS, which would allow states to calculate

their annual production, by incorporating export and import totals, which would allow them to fill the basket as they wished with other ODSs. Although there was a limit, it gave states the flexibility that most desired, in order to be comfortable agreeing to be bound by the Protocol.[177]

What is different about the Montreal Protocol as regards other international protocols is the ability of state parties to establish adjustments with the agreement of two thirds of states, which includes a majority of developed and developing states. Under the Protocol even states who did not vote for the amendments are subject to them, when six months after the vote, they are formally notified of the amendments.[178]

Despite the overall positives of the Montreal Protocol it is not an unalloyed success. The Protocol is not binding on states who have not ratified, so while it has many signatories it has no effect on those who have not incorporated elements of the treaty into domestic law. Similarly, there is a lack of enforcement mechanisms which compels states to act. Furthermore, by allowing developing states to continue developing CFCs, the treaty is significantly weakened, as seen by the proliferation of such substances on the black market.[179]

While initially ENGOs were wary of arguing more could have been accomplished upfront they eventually came to accept that the Protocol was better than no action, despite arguing that it was "full of loopholes" for LDCs and the Soviet Union.[180] Due to the difficulties that states, and companies, may have in developing alternative technologies, the environmental industry held concerns for the potential adverse effects of the Protocol on the economy as a whole.[181]

The Implementation Committee can provide only limited incentives for state compliance with the Protocol. The Committee lacks authority in that it can only check whether relevant reports have been submitted to the Ozone Secretariat. There is no review of the system of data reporting and the quality of such data submitted by state parties, despite various issues arising. For example, there have been discrepancies in the data reported to the Secretariat of the Multilateral Fund in Montreal, and the same data submitted to the Ozone Secretariat in Nairobi.[182]

The Protocol allowed for ODSs to be continually used for circumstances which states deem necessary. However, this loophole has largely been avoided by the independence of subsidiary organs to take action without complete renegotiation, with the Meeting of Parties in 1992 establishing a process whereby applications for exemptions were based on essential uses.[183] If the Protocol did not have any loopholes, it was estimated it would require states to have reduced their ODS use globally by 50 per cent by 1999.[184]

One of the unintended consequences of the way the protocol was crafted was that it led to the increased demand for illegal replacement of CFCs. At one stage the black market in chemicals was a more lucrative form of trade than cocaine in the US.[185] It was estimated by industry experts that at least 20 per cent of CFCs currently in the 1990s had been purchased on the black market.[186] Problematically, Article 5 states were permitted to manufacture CFCs up until 2010 and consequently the main manufacturers of CFCs continued to operate in

Article 5 states.[187] So while the majority of developed states had completely cut out the production of CFCs by 1996, this loophole saw the spread of the compounds on the black market.[188]

However, the demand in some developed states for ODSs remained strong for a number of years post the protocol being implemented.[189] For example, in the EU after the banning of production of CFCs in 1994, there was a spike in illegal imports of the prohibited products. While there are effective substitute refrigerants, hundreds of millions of air conditioners and refrigerators use banned CFCs throughout the world.[190] The problem was further compounded by the member states' unwillingness to deal with the trading of ozone-depleting substances on the black market.[191]

INDUSTRY REACTION POST-MONTREAL

Although American and European industries recognised the Protocol, they only initially endorsed a freeze of CFC production. DuPont however was again a leader, announcing on March 23, 1988 that they would stop the production of CFCs and halons by 1999, and subsequently called for a global phase-out of these products.[192] Traditional CFC manufacturers, such as AT&T and DuPont, announced in 1988 that well-priced CFC substitutes would be available for electronics, food packaging and various other uses. The majority of OECD states followed suit, as other alternatives became available throughout the 1990s.[193]

The ready availability of substitute products saw consumers quickly adopt environmentally safe alternatives. This fundamental shift in the global CFC industry could not have been possible without the impetus of the Vienna Convention and Montreal Protocol because it put the global chemical industry on notice that it would not be able to continue profiting from ozone depletion as it historically had, rather it would have to find alternative, safe products.[194]

ENTRENCHING THE MONTREAL PROTOCOL

Since the adoption of the Montreal Protocol, it has demonstrated an ability to adapt to the changing needs of the international community to achieve its goal of reducing ozone-depleting substances.[195] The Protocol had established that Parties to the protocol would meet every four years, beginning in 1990, to give frequent reviews to the measures of controls that were implemented based on the updated scientific, environmental, economic and technical information that became available.[196] Importantly these periodic re-evaluations were particularly focused on the effectiveness of control measures.[197]

The task of implementing the Protocol began modestly and moved quickly in the following years as member states became more confident and gradually increased their ambition. Adjustments and amendments to the Protocol have regularly occurred at meetings of parties that have sought to increase the phase-out of various substances. Scientific assessment panels were established to review

scientific evidence and technical, economic and environmental issues on an ongoing basis, which was able to strengthen the provisions of the treaty as new information came to light. Public and private partnerships from big industries to small/medium enterprises, along with the UNEP, governments and ENGOs worked together to spread new technologies that would be used to eliminate ODSs.[198]

The Protocol and subsequent meetings set clearly defined targets and schedules to phase-out ODSs, while the dedicated financial mechanism of the MLF (Multilateral Fund) was created to assist developing states in acquiring new technology. States created a mechanism to monitor compliance with their reporting requirements and phase-out schedules, through a mechanism that facilitated compliance rather than punishing non-compliance. Trade restrictions with non-parties to the agreement were implemented with states establishing domestic licensing systems to monitor imports and exports.[199]

The three main ODSs the international community has focused on post the Montreal Protocol have been hydrochlorofluorocarbons (HCFCs),[200] methyl bromide[201] and hydrofluorocarbons (HFCs).[202] Under the Montreal Protocol, methyl bromide was to be phased out completely within Article 2 states by 2005, and by 2015 in Article 5 states. Methyl bromide, however, brought a whole new level of complexity to the Protocol, as it was the first time the agricultural industry became involved in ozone politics. The strawberry, and to a lesser extent, the tomato industries, were actively involved in the debate, expressing their unwillingness to transfer to substitutes that were free of methyl bromide. The creation of a Methyl Bromide Technical Options Committee saw the involvement of these industries at a global level.[203]

THE POST-MONTREAL PROTOCOL MEETINGS

It was a mere two weeks after the Protocol had been signed that it was revealed that the ozone hole over the Antarctic could potentially be caused by chemicals containing chlorine and bromide.[204] By the time of the First Meeting of the Parties it had been established virtually incontrovertibly by scientists that CFCs and halons were a primary factor in the cause of Antarctic ozone loss.[205] Ozone layer depletion was no longer a theory, but a scientific fact. ENGOs in the UK called for parliamentary hearings on the topic which saw the Parliamentary Committee advocate the British government change their position and they asked the government to request the EC implement an 85 per cent reduction. Given this new evidence DuPont announced it would accelerate research into substitutes and committed to end production of CFCs and halons by the turn of the century and called for an international phase-out of the products. By late 1988 it was clear that at least a 50 per cent reduction was easily technically feasible quickly and at a relatively low cost.[206]

Following the adoption of the Montreal Protocol, state parties first met in Helsinki in June 1989.[207] Thirty-one states and the European Community attended the meeting, along with 51 observer states.[208] Various IOs and ENGOs were also present and included in the official meeting structure.[209] The meeting

adopted the Helsinki Declaration that sought to expand the list of chemicals that were regulated.[210]

Under the non-binding Declaration, it was agreed that states would phase out the production and the consumption of the CFCs controlled by the Protocol as soon as possible but not later than 2000 and for that purpose to tighten the timetable agreed upon in the Protocol taking due account of the special situation of developing states.[211] The amendment further updated the 1987 text with regard to ODS control measures that could be implemented due to the advancement in technologies with regard to availability of substitutes.[212]

It also introduced further control measures on other substances, including carbon tetrachloride, methyl chloroform and fully halogenated CFCs.[213] Both halons and ODSs were to be phased out, and states committed, in proportion to their means and resources, to accelerate the development of environmentally acceptable substituting chemicals, products and technologies.[214] Helsinki also set budgets for the atmosphere and ozone secretariats (US1.2 million) that were established in Nairobi at UNEP headquarters.[215]

In 1990, scientists found that CFCs were being released at a rate five-times faster than could be broken down naturally. Consequently, this had led to a significant build-up of CFCs in the stratosphere.[216] These discoveries gave added impetus for delegates to act even more urgently in phasing out ODSs as quickly as possible. There had, however, been encouraging signs of success in convincing the public of the gravity of the damage to the ozone layer, as there was an increase in the purchase of ozone friendly products.[217] Further, the chemical industry appeared reconciled to the fact that all substances that threatened the ozone layer would inevitably be banned. However, European firms were agitating, declaring that HCFCs should not be under the purview of the Protocol, even for reporting purposes. Similarly, American companies were concerned that any phase-out of HCFCs should reflect the 30–40 lifetimes of the equipment utilising HCFCs.[218]

THE 1990 MEETING AND LONDON AMENDMENT

At the second meeting in London, England in 1990 member states sought to operationalise the declaration at Helsinki. The states agreed to advance the date for the phase-out of CFC production to the end of 1999. Developing states however, were permitted to continue to use CFCs.[219] The key conflict was over a phase-out date for HCFCs that was not too soon to discourage developing substitutes but not so long as to damage the ozone layer.[220] However, delegates agreed that HCFCs would be required to report on the production, imports and exports of this product.[221]

Parties also negotiated the first (London) Amendment to the Protocol. Adopting the Amendment was a key advancement in embedding the common but differentiated responsibilities principle and satisfying the concerns of developing states, who had argued for guaranteed access, regarding financing and technology transfers.[222] It was agreed as per the CBD principle that necessary

technologies were to be transferred and financial funding from developed to LDCs would be provided via a new Multilateral Fund.[223] The US insisted that the new fund be of a "limited and unique nature."[224]

The establishment of the Multilateral Fund was to prove critical in achieving the aspirational targets of the member states.[225] It was essentially set up to mitigate the tension between the global North and global South.[226] The Fund recognised that environmental issues could not be overcome without the reallocation of capital, products, technology and expertise to developing states which would otherwise not be able to afford to change their behaviours.[227] To that end, it has ensured that ODSs are phased out in the most efficient way and subsequently reimburses incremental costs to transition to safer alternatives.[228]

Contributions to the Fund are provided by Article 2 states, which includes Western industrialised states, most European states, several former USSR satellite states and a few developing states. The portion of capital which each of these states is obliged to provide is determined through a UN scale of assessments.[229] The Fund was initially provided with $240 million in 1991, and was replenished triennially, with $500 million provided in 1994. By 2002, the amount placed in the Fund was at $0.7 billion. The level of funding has therefore not been adequate to service the entirety of Article 5 states' needs. It was originally envisaged that much of the monies paid into the fund would come via the private sector but that has proven to not be the case.[230]

The Fund was given a rotating membership on the Executive Committee that was to oversee the decision-making of the Fund, involving an equal number of Article 5 states and developed states. Decisions were initiated by consensus, if that was possible, and if not, a vote was taken, whereby a two-thirds majority of both developing and developed states was required for a majority. It was further agreed that states would facilitate the access of developing states to relevant scientific information, research results and training.[231] The Fund is also served by a Secretariat that acts independently of states.[232]

However, the London Amendment did provide for a serious exception, with HCFCs treated as 'transitional substances', and therefore not under the control measure schedule of cutbacks. The Amendment saw Annex C HCFCs to be capped at 1989 levels and a subsequent total elimination by 2030. HCFCs were therefore permitted to be used consistent with economic and safety considerations, although states still had to take into account the overarching goal of limiting ODSs.[233]

ENGOs before and during the meeting held press conferences and offered briefing sheets to the public and the media to try to press for amendments that would phase out CFCs by 1995, as Germany had agreed to do. Benedick argues that this campaign was a new approach by ENGOs to achieve their goals and they did not trust the chemical industry in the absence of strict regulation. To that end Greenpeace mounted 'actions' staging a 'theatrical happening' while arguing the revised protocol was a failure before the meeting started. FoE focused on briefing papers addressing its concerns while the NRDC submitted a package of controls of some states' liberal positions, urging all delegates to adopt this position.[234]

THE 1991 MEETING COPENHAGEN AMENDMENT

In 1991, scientists further found that the ozone layer had continued to deplete at an alarming rate over Scandinavia, and by 10 per cent over Europe and North America.[235] These findings gave impetus to the 1992 Copenhagen meeting to deal with ODSs. However, unlike at the previous meetings, CFCs were not the focus of attention, with most states agreeing that these chemicals should be eliminated by 1996.[236] The parties agreed upon a 75 per cent reduction of the five major CFCs by 1994, which would later lead to a complete phase-out by 1996. A further ten CFCs would be completely eradicated by January of 1996.[237] Control measures were also imposed for other substances including HCFCs, hydrobromide fluorocarbons and methyl bromide,[238] in its consumption and production in industrialised states.[239]

However, the phase-out was undermined by an exception that allowed for use of CFCs in 'essential uses'.[240] Over the objections of ENGOs who saw this as a loophole,[241] parties considered that there may be some essential use applications for CFCs that do not currently have a feasible alternative such as propellants for asthma inhalers. Negotiations were therefore required to consider by 1994 what applications should be classified as acceptable exemptions to the bans.[242]

There was even greater debate here regarding the substances that were being proposed as substitutes for CFCs, mainly the HCFC family of chemicals.[243] ENGOs like Greenpeace argued trenchantly that safe alternatives were already available.[244] The use of HCFCs as alternatives would significantly delay the recovery of the ozone layer.[245] Some states argued that the focus should be on the eradication of CFCs as quickly as possible, despite the issues with HCFCs that were still the most attractive alternative to CFCs technically at the time until more feasible alternatives were developed. Other parties claimed that there were presently available alternatives to CFCs and HCFCs and both should be eliminated.[246]

Industry providers claimed that a ban on HCFCs would lead to the destruction of the commercial incentives for producers to use them in their products. A slower phase-out was more appropriate, they argued, to ensure the business would be able to solidify their research, development and capital investments.[247] Without the required reprieve, companies would continue to utilise CFCs until there was a better alternative.[248]

It was eventually agreed that HCFCs would be capped in January 1996, at the level equal to the sum of their HCFC use in 1989 and 3.1 per cent of the level of their CFC usage in 1989.[249] The complete phase-out of halons was to take effect from January 1994, however exceptional use clause would still be permitted (Decision IV/25).[250] The decision mandated that a controlled substance could only qualify as essential if it is necessary for health, safety or is imperative for the functioning of society (including cultural and intellectual aspects) and there are no alternatives that are technically and economically feasible to provide an adequate standard of health or environment.[251] Production and consumption of a controlled substance was therefore only permitted for essential uses if economically feasible steps have been taken to minimise emissions and the damage caused by emissions.[252]

Applications arguing that an exemption was justified highlighted that social benefits and public welfare were more important than the environmental damage caused so should be granted for products utilising CFCs for aerosol propellants in metered-dose inhalers to treat asthma and chronic pulmonary disease,[253] methyl chloroform for certain applications on the US space shuttle, as well as CFCs that were essential for laboratory and analytical uses.[254] The allowance of the exemption is an early sign of how delegates would work together in a collaborative manner but also saw the utilisation of a flexible mechanism to still allow for the acceleration of the phase-out of CFCs while still mitigating the potential economic and societal damage of moving too fast.[255]

A non-compliance system was enacted with an Implementation Committee comprising ten parties, five from developed states, five from LDCs. Problematically, the committee was tasked to try to find "an amicable solution of the matter," but its tools were finite and it had no final decision-making powers. ENGOs assailed the Committee as lacking transparency but the states rejected that assertion, arguing they had a right to confidentiality in such matters.[256] While a relatively weak body, the Committee, Benedick argues, in conjunction with UNEP and MLF helped LDCs gain the expertise to fulfil their reporting requirements.[257]

However, in what was to prove to be a perennial issue, it was revealed at the Meeting that many states were not paying their contributions. A number of states challenged the necessity of honouring the financial commitments that had been made in London.[258] An alternative proposition was put forward during the open-ended work group in Geneva in 1992, with the British, supported by the Dutch, suggesting that responsibilities for funding technology and resource transfers to Article 5 states, should be shifted to the Global Environment Facility (GEF) so there would be one central body concerned with all the differing environmental problems.[259]

Developing states opposed this proposal, arguing that the GEF was not democratic by nature, given it was under the aegis of the World Bank. These Article 5 states claimed that as the interim Fund had played a considerable and constructive role in the ozone regime, they supported its continuance and were disgruntled it appeared some developed states were seeking to renege on their promises.[260]

The North/South divide became further apparent when discussing the issue of methyl bromide, an issue that only became a problem from 1991. Many industrialised states, such as the US, called for substantial cutbacks in the use of methyl bromide, as it was accepted that a 25 per cent reduction could be achieved by more efficient use of the chemical. However, US negotiators were shocked when the domestic agricultural sector and the MB (methyl bromide) producers combined to attack that proposal.[261] The Netherlands suggested that even more substantial cutbacks were possible.[262] Developing states, however, such as Israel, argued that science was still too uncertain to warrant any action, and that the Preamble of the Protocol states that economic and technical developmental needs should be considered when taking such decisions. It was argued that any cutbacks to methyl bromide production would increase the price right at the time the use of the product was increasing in the developing world.[263]

The debate surrounding methyl bromide was tightly linked to the international funding mechanisms throughout the negotiations. A compromise was eventually reached when developed states agreed that they would freeze the production of methyl bromide at 1991 levels by 1995, with further action awaiting more comprehensive research. As a trade-off, it was agreed that the fund, up until this point merely interim, would become a permanent institution.[264] The level of funding from 1994–96 would be $340–500 million, with the 1994 amount as much as the amount provided for 1993, at $113 million. A review was also implemented, however the idea of giving funding responsibilities to the GEF was not mentioned.[265] Many ENGOs were unhappy that LDCs were unwilling to accept controls on MB or adjust their phase-out schedules for CFCs and halons.[266]

THE 1993 BANGKOK MEETING

At the fifth meeting in 1993 at Bangkok the parties outlawed the 'essential uses' exception for the production of halons, while providing additional funding for funding mechanisms already established.[267] Many states reported that their phase-out programmes for controlled ODSs were or would be ahead of the times required, and that stricter controls could be imposed.[268] The experience with CFCs and halons had proved that, in countries that had set early phase-out dates, industry had been able to develop alternatives and had been able to lead the field internationally. ENGOs however expressed disappointment at the positions adopted by many states on issues such as control measures for HCFCs and methyl bromide arguing they were not moving quickly enough.[269]

THE 1995 VIENNA MEETING

In 1995, at the Seventh Meeting in Vienna, following a review by the Technological and Economic Assessment Panel, state parties sought to reinforce the measures introduced at Copenhagen and establish a wide-scale phase-out of methyl bromide by 2010 in industrialised states.[270] Greenpeace had orchestrated a publicity campaign that saw them come to the Meeting demanding 100 per cent cuts to CFCs and like products while charging that industries' sway at the meetings would see the negotiations collapse.[271]

The US was for phasing out HCFCs even earlier, supported by Australia, Canada, France, Japan, New Zealand, and South Africa while the EC was conflicted as to how to proceed (eventually calling for a lower cap of 2 per cent). LDCs however opposed the move, fearing an early phase-out would threaten HCFC supplies for their recently converted industries. The compromise effected altered the Copenhagen Amendment to apply a cap of 2.8 per cent with the final 0.5 per cent during the last ten years before a total phase-out in 2030 limited to servicing refrigeration and air-conditioning material online as of 2020.[272]

It was further agreed by 2002, that developing states were to stabilise the consumption and manufacture of methyl bromide and developed states would reduce MB by 25 per cent in 2001, 50 per cent by 2005, phasing out in 2010.[273]

The negotiations were strained, with Sweden and Switzerland attempting to gain stronger MB controls. Article 5 states were still permitted to have a ten-year delay in compliance with control measures for CFCs and halons, and they were entitled to continue the consumption and production of particular CFCs and halons until 2010. As an exception, methylchloroform could be used until 2015.[274] In encouraging news it was revealed that the MLF had already spent more than $450 million for the elimination of more than 60,000 tonnes of ODSs, through 1,100 projects.[275]

However, a political backlash was developing with some states, particularly LDCs, attacking the ongoing need to protect the atmosphere from ODSs. Some developing states were engaging in a rapid increase in the use of ODSs. The member states agreed that part of their function was to continually educate the general public and policy makers unfamiliar with the importance of the issue which to date they had not taken seriously enough.[276]

Prior to the tenth meeting, at the 15th Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol earlier in Nairobi, various industrialised states led by the US proposed that the controls of methyl bromide be increased on LDCs and developed states alike. The US wanted to advance the phase-out date, having been committed to completely restrict the production and consumption of methyl bromide by 2001 domestically. It was agreed, however, that Article 5 states would need more time to effectively implement the phase-out of methyl bromide, with a step-wise phase-out by 2011 for developing states, suggested by Canada.[277]

THE 1997 MONTREAL MEETING AND AMENDMENT

Ten years after the adoption of the Protocol, more than 100 parties, along with several United Nations bodies and other specialised organisations, met at the Ninth Meeting in Montreal from 15 to 17 September 1997.[278] The illegal trade of ODSs was still a major issue[279] and members agreed dealing with the trade would require coordinated action.[280] The issue had first been raised by the chemical industries themselves which saw their substitute markets threatened by cheap illegal imports. The black market was a global business estimated to be worth US$150–300 million in the US alone. Documentation was difficult to trace because of widespread counterfeiting and the evidence provided by states and ENGOs allegedly implicated Russia, India and China.[281] The Montreal Amendment sought to overcome the negative effects that black-market trade was having on the implementation of the Protocol by modifying trade restrictions and introducing a licensing system for ODSs.[282]

Parties to the Montreal Amendment agreed to stricter control measures in Annex E of methyl bromide. Developed states were to reduce their use by 25 per cent by 1999, 50 per cent by 2001, 75 per cent by 2003 and a complete phase-out of the chemical by 2005, as specified by Article 2H of the Amendment. There were exceptions to these cutbacks, with emergency uses permitted.[283]

THE 1998 BEIJING MEETING AND AMENDMENT

The Eleventh Meeting in Beijing saw states agree to the Beijing Amendment, which sought to strengthen the schedule for phase-outs, while adding new controls to other substances and establishing the commitment of state parties to prevent the depletion of the ozone layer.[284]

States began the meeting by recognising the progress that had been made since the establishment of the Montreal Protocol in reducing the production and consumption of CFCs and other ODSs.[285] Attention was drawn, in particular, to the efforts by all actors involved, governments, experts, IOs and ENGOs, to ensure progress. States also drew attention to the fact that there needed to be continued efforts to reduce the production and consumption of ODSs, as recovery of the ozone hole was a long way off. The delegates also recognised that many parties still faced economic and technical issues when implementing the regulations, and therefore assistance must continue to evolve to provide for these challenges. To that end, Non-Article 5 states must ensure they continue to contribute to funding and environmentally friendly technologies in order to prevent the illegal trade emanating from Article 5 states.[286]

The EU proposed three amendments to HCFC use. Firstly, they sought to implement controls on HCFC in developed states, to achieve a freeze on production of the chemical from a specified year with phase-out by 2025. Secondly, the EU called for greater controls on consumption of HCFC in developed states, reducing the cap from 2 to 2.8 per cent from 1 January 2001, as well as adjusting paragraphs 2 and 3 of Article 2F to advance the schedule for phase-outs. And thirdly, it was proposed to implement a ban on trading HCFC with non-parties. These proposals failed to receive collective support from other state parties,[287] particularly LDCs, who largely did not support EU proposals as they saw HCFCs as the most valuable alternative to CFCs, and were not prepared to place a cap on them.[288]

However, states did agree (as per Decision XI5) to the Beijing Amendment which put in place control measures from a newly identified ODS: bromochloromethane (BCM); placed a globally binding cap on the manufacture of HCFCs; required mandatory annual reporting to the Secretariat on the volumes of methyl bromide used for quarantine and pre-shipment; and importantly as per Article 1 of the Amendment restricted the trade in HCFCs with states that would not ratify or accede to the Beijing Amendment.[289]

While it was reported that there had been an 85 per cent reduction in the consumption and production of ODSs to this point, it was noted at Beijing that momentum was still lacking in regard to protection of the ozone layer.[290] At the conclusion of the meeting, while state parties deemed the meting a success, ENGOs expressed their discontent with the progress of the meeting. Greenpeace International called for more urgent language in the Amendment to ensure that there was immediate action in response to the increasing depletion of the ozone layer.[291]

The Beijing meeting was something of a high point for the Montreal Protocol. Despite the success of the Protocol to date, it still faced a number of challenges,

such as compliance issues from developing states and required adequate technical and financial support. Also, the now perennial issues of methyl bromide, HCFCs, HCFs and the amount of monies available in the Fund remained potential stumbling blocks going forward. The production of new alternative substances with ozone-depleting potential not listed under the Protocol, that had significant implications for human health, the environment and sustainable development remained problematic.[292]

THE 2004 MONTREAL MEETING

In 2004, an Extraordinary Meeting of the Parties took place in Montreal. State parties had worked through their differences and compromised on critical use exemptions of methyl bromide and Article 5 states' future interim reductions. Recommended critical use nominations were established in the amendment and states accepted that there would be a cap on production and consumption critical uses exceptions.[293] An ENGO present at the meeting expressed regret that the lessons learned over the years in the process of enforcing the phase-out of ODSs all over the globe seemed to have been ignored in the discussions regarding methyl bromide.[294]

The Sixteenth Meeting of the Parties in November 2004 saw intense disagreements between the US and European Community over the 2006 essential-use exemptions of CFC metered-dose inhalers (MDIs). The European Community suggested that the amendment should disallow CFCs in salbutamol MDIs in developed states by 2006, and that the regime should review the essential-use exemptions for CFC-salbutamol that was to be implemented by 2006. Their proposal was supported by a group of American associations for patient and medical professionals and the Industry Pharmaceutical Aerosol Consortium, who contrasted with the US administration's reluctance to accept the complete transition to non-CFC salbutamol MDIs.[295] The issue of compliance was still problematic. Between 1995 and 1997, states operating under Article 5 had consumed approximately 162,000 tonnes of CFCs, and by 2002 the figure had dropped by almost 45 per cent. However, 18 states, mostly small ones, were still unable to comply with the CFC freeze for various reasons.[296]

In July 2005, a second Extraordinary Meeting of Parties was held in Montreal which saw states agree to 2006 supplementary levels of CUEs (critical use exemptions) which had been unresolved by the conclusion of the MOP-16. This decision included: "CUEs allocated domestically that exceed levels permitted by the MOP must be drawn from existing stocks; methyl bromide stocks must be reported; and parties must 'endeavour' to allocate CUEs to the particular categories in the decision."[297] It was at this meeting that Greenpeace declared that the ozone layer was at its most vulnerable stage. They pointed out that 13,466 metric tonnes was recommended for critical use exemptions for the year of 2006, which represented more than 130,000 tonnes of ODSs being produced.[298]

THE 2007 MONTREAL MEETING

The September 2007 meeting in Montreal saw the acceleration of HCFC phase-outs, at the Nineteenth Meeting of the Parties and the twentieth anniversary of the Protocol.[299] Nine hundred participants engaged in discussions from state governments, UN agencies, IOs and ENGOs, academics, civil society and industry representatives.[300] States adopted the Montreal Declaration as an Annex to the report, which entered into force on 14 May 2008. The Declaration pointed towards the interconnectedness of the ozone regime and the regime for climate change, as international action to prevent the depletion of the ozone layer has had beneficial impact on climate change overall, which was implemented in line with the control measures placed on HCFCs.[301]

Many states said that while there were reasons to celebrate the Protocol's success, much work remained to be done and parties needed to renew their commitments to fulfil the Protocol's objectives and ensure that the ozone layer would recover and stabilise at pre-1980 levels. Most delegates identified the continued use of HCFCs as a major challenge to be addressed at the current meeting. It was expressed that commitment to phasing out HCFCs ahead of schedule would not only benefit the ozone layer but would contribute to combatting climate change. Article 5 states claimed that they would only be able to implement accelerated phase-out schedules if they received adequate financial and technical assistance through the MLF.[302]

Other challenges identified included the use of CFCs in the manufacturing of metered-dose inhalers, taking into account possible implications of human health and reducing stocks of methyl bromide.[303] Also it was necessary to ensure the environmentally sound destruction of ODS banks,[304] stocks and wastes. Several states stressed the need to combat illegal trade in ODSs, and in that context some states highlighted the importance of providing continued assistance to Article 5 states for the establishment of effective export and import licensing system and the training of customs officials in developing states.[305]

Most delegates to the meeting were surprised by how quickly progress was achieved on the issue of HCFC cuts. China, one of the largest producers and consumers of HCFCs, showed a willingness to be more flexible, despite previously being a main opponent to accelerated phase-outs. China was therefore rewarded with greater funding and access to substitute products. As they were not eligible for Article 5 financial support, Russia recognised that there would be challenges for them meeting the accelerated phase-out schedule, however they did not actively oppose the advancement of phase-out dates.[306]

The US exhibited enthusiasm about taking action on climate change outside of the ozone regime, as their delegation had been ordered to take action on climate change to high-level meetings that were taking place. However, others suggested that by acting on this agreement, attention would be drawn from the UNFCCC process.[307]

The meeting sought to advance the phase-outs by ten years of the production and consumption of HCFCs. Article 2 parties were to phase out the substance by

2020 instead of 2030, and Article 5 states by 2030 instead of 2040. China was concerned however that success of this decision was dependent upon the availability of alternatives, especially in states, such as China, that did not have access to the resources that Article 5 states did. Environmentally friendly and economically viable substitutes would need to be widely available for the phase-outs to be achieved. ENGOs were active in calling for HCFC alternatives that did not pose similar environmental risks.[308]

The meeting also considered reducing the amount of methyl bromide permitted under the critical use exemption to 4,400 tonnes by 2009, rather than the 7,500-tonne cut by 2008 that was previously suggested, a reduction of 42 per cent. This followed the pattern of previous meetings that reduced critical-use exemption totals each year, resulting in suggestions that methyl bromide may actually be eradicated. However, the ozone regime still had significant work to do in completely phasing out methyl bromide, as thousands of tonnes were still being released into the atmosphere.[309]

ENGOs noted that continued damage was being used by the large exemptions for methyl bromide however, arguing that one country in particular was responsible for a large percentage of ODSs. This unnamed state in the official record was making insufficient efforts to adopt alternatives already used in many other states with similar climates, as well as reducing the stockpiles and ensuring that all exemptions were for critical uses only.[310]

THE 2009 GENEVA MEETING

In July 2009, at the Twenty-Ninth Meeting of Parties at Geneva, Mauritius and the Federated State of Micronesia (FSM) submitted a proposed amendment for the establishment of a phase-down schedule for high-GWP (Global Warming Potential) HFCs.[311] As previously noted, while the Protocol began phasing out HCFCs in 1994, HFCs remained unregulated.[312] HFCs were developed and promoted as alternatives to ODSs and for the last 30 years have been used in several sectors, particularly as a refrigerant in refrigeration, air conditioning and heat-pump applications.[313]

There had been a rapid transition to HFCs in non-Article 5 states, which also began to be seen in Article-5 states, as middle-class populations sought air conditioners, refrigerators and cars, creating a significant demand for HFC products.[314] Although HFCs are benign to the ozone, they are considered as 'super' greenhouse gases[315] in that the majority of HFCs are greenhouse gases that have a very high-Global Warming Potential (GWP) of up to 14,800.[316]

The Montreal Protocol was therefore unintentionally responsible for a substantial increase in the emissions of greenhouse gases as the use of HFCs have become commercialised. Without control measures implemented by the international community, HFC production and consumption would offset any progress made on climate change mitigation and the implementation of nationally determined contributions under the 2015 Paris Agreement.[317] For example,

in 2017, HFCs accounted for 1.5 per cent of human-made global greenhouse gas emissions; this number was expected to grow significantly if no action was taken to reduce HFCs.[318]

The proposed amendment included the regulation of a new Annex F listing for HFCs, as well as providing capital and technical assistance for Article 5 states to ensure HFC phase-outs, with preference given to substitutes which were environmentally friendly.[319]

THE 2010 BANGKOK MEETING

At the Bangkok Meeting negotiations regarding HFCs again stalled, as states were unwilling to commit funds to activities which were not directly inside the scope of the protocol, leading to the meeting being declared as 'slow' in comparison to others.[320] The Institute for Governance and Sustainable Development reported that as HFCs began to be used as substitutes for the now phasing-out HCFCs, HFCs were likely to rise 300 per cent to 1.2–1.4 gigatons of the CO2 equivalent by 2015, and 5.5–8.8 gigatons by 2050.[321] Consequently, the US, Canada, Mexico and Federated States of Micronesia called for accelerated phase-outs of HFCs.[322]

Canada, Mexico and the US jointly submitted a proposal which would ensure the necessary coordination and harmonisation approach to dealing with HFCs, and would preserve and build upon the success that had been achieved through the phase-outs of CFCs and HCFCs. It was submitted while the phase-out of HFCs was still in its early stages, and given that some states had only just submitted their plans for HCFC phase-outs, quick action on HFC phase-outs would allow the international community to avert future costs that would accrue if delayed.[323]

However, the discussions regarding HFC controls stalled, as language referring to low-GWP substitutes to HFCs was removed from the final proposal since consensus was not achieved.[324] Some states subsequently refused to formally discuss HFCs or consider language in decisions on information gathering on HFCs and low-GWP alternatives.[325] It was suggested by some attendees that the agenda of the parties may actually have moved backwards.[326] Despite these claims, other observers were optimistic that the Protocol could still be effective, as this meeting had been too ambitious in its aims. The US supported the HFC controls, and states that had previously been opposed to it, such as Egypt and Kuwait, were beginning to support controls.[327]

Some representatives suggested that there should be no further discussion of HFC control measures, however, most states were in favour of continued action on the issue of greenhouse gases under the Protocol's ambit. Those that were opposed to such a move said that the priorities of the Protocol lay elsewhere, and that the process of phasing out HCFCs was already stretching the resources of the ozone regime. It was argued that the amendment should focus on dealing with the issue of ODS banks and assisting Article 5 states to meet their requirements, and provide funding to these issues instead.[328]

THE 2011 BALI MEETING

The Twenty-Third Meeting of Parties at Bali in November 2011 was successful in having US$450 million given by member states for the replenishment of the MLF. However, the meeting was ineffective in accelerating phase-downs of HFCs and addressing climate change through the Montreal Protocol. This was largely due to India and China opposing phase-downs on HFCs from being discussed in contact groups, claiming again that any negotiations were outside the mandate of the Protocol.[329] Proponents of dealing with HFCs at this forum argued that the Montreal Protocol could provide a substantial and effective framework to manage the consideration for HFC control measures.[330]

Opponents suggested that the success of the Montreal Protocol might well be at risk, if its focus was diluted by dealing with other environmental issues. For LDCs the issue of HFCs was too complex, onerous and costly to achieve at this time. Representatives of an industry group from a developing state noted it would be too much of a challenge for industry in that particular state to reduce HFCs, and that alternatives needed to be readily available for the issue to progress at all.[331] The rancour engendered by the issue infected other aspects of the meeting, with states unable to negotiate in the relatively harmonious manner that had developed over decades. States argued over previously agreed upon language in texts, along with the substances that fell under the scope of the Protocol.[332]

Pressure was also coming from outside the Montreal Protocol meeting process. At the conclusion of the Rio+20 UN Conference on Sustainable Development, in 2012, 100 state heads adopted the declaration of the conference, labelled, "The Future We Want," which highlighted the significant threat that HFCs pose to the climate. The declaration called for the phase-down of HFCs, which was then adopted by the UN General Assembly as a resolution later in 2012.[333] While it was a given that HFCs would be retained under the UNFCCC and the Kyoto Protocol which seeks to regulate the HFC compounds,[334] the expertise and institutions of the Montreal Protocol would be instrumental in implementing the necessary phase-outs.[335]

THE 2012 GENEVA MEETING

In 2012, 550 participants representing various bodies including governments, UN agencies, IOs, ENGOs, academia, industry and the agricultural sector met at Geneva.[336] It was at this meeting that it was suggested that because the Protocol initially introduced the alternative HFC substances, states should also address the harmful *side-effects* from this chemical. This was supported by the words of the Protocol itself which states that parties are obliged to, "take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone."[337] However, some parties disagreed with this stance, claiming that such action went beyond the scope of the Protocol.[338]

The US, Canada, Mexico and FSM proposed amendments to make HFCs a controlled substance. This proposal was supported by at least 106 states, with the amendment emphasising the benefits for the globe to phase down the use of HFCs.[339] However, again the opponents of the proposal including Brazil, Russia, India, China and South Africa, claimed that there were economic, financial, legal, social and technological issues with such an amendment. Their main counter argument centred on the fact that HFCs were not actually ODSs and therefore fell outside the mandate of the Protocol.[340]

It was noted at the Geneva Meeting that there was universal ratification by 197 of the Vienna Convention, Montreal Protocol, London and Copenhagen Amendments. There was also near universal ratification of the Montreal Amendment, with 193 parties, and the Beijing Amendment with 183 states. Parties therefore sought to urge Bahrain, Bolivia, Botswana, Chad, Djibouti, Ecuador, Haiti, Iran, Kazakhstan, Kenya, Libya, Mauritania, Papua New Guinea and Saudi Arabia to ratify, approve or accede to the two amendments to ensure universal ratification.[341]

While states did not reach an agreement as to how to progress with regard to HFCs at Bangkok, a four-year stalemate was overcome, whereby states actually formally discussed the issue that had previously been disregarded to informal discussions. Parties were therefore able to avoid polarised debate regarding the need to include HFCs phase-outs in amendments. In order to ensure quicker and more efficient action regarding HFC phase-outs, "near-term" and "comprehensive" approaches were to be used.[342]

Several representatives were concerned about the lack of availability of substitutes for HFCs, claiming that until there were technically viable, cost-effective and safe substitutes available, and readily available at that, it was too premature to discuss HFCs being included under the Protocol.[343] The report of the Technology and Economic Assessment Panel had shown the limited availability and high cost of alternatives, as well as additional concerns regarding the toxicity and flammability of some substitutes.[344]

Plenary debate at the Bangkok Meeting in October 2013 revolved around whether to create a contact group to address the proposed amendments. Delegates also addressed whether HFCs could be considered under the scope of the Protocol, and focused on the financial and technological aspects, as well as the legal framework, of the management of HFCs. The US, on behalf of Canada and Mexico, outlined the proposal to phase out the production and consumption of HFCs. While it was noted that HFCs would be included under the UNFCCC and Kyoto Protocol for "purposes of accounting and reporting of emissions," Montreal held universal ratification and was therefore in the best place to implement phase-outs of HFCs. As Montreal had been effective in phasing out CFCs and HCFCs, which HFC is an alternative to, the proposal supported establishing a contact group to consider the proposal.[345]

Importantly, bilateral discussions between the US and China were held on the margins of the G20 Summit, which saw the two leaders agree to the next progressive step on HFCs and the development of a contact group in 2013. This

contact group would consider issues such as "cost-effectiveness, financial and technological support, safety, environmental benefits and an amendment" to the Protocol. It was suggested that China altered its position on the phase-out of HFCs as it saw feasibility in alternative substances, such as utilising hydrocarbon technology.[346]

The July 2013 Extraordinary Meeting of the Parties in Vienna continued discussions regarding the feasibility and management mechanisms of HFCs under the Dubai Pathway. The Meeting concluded with solutions having been generated to the challenges which were discussed through the Dubai Pathway.[347]

At the Paris Meeting in November 2014, the overall success of the Protocols through consensus, scientific data to inform decisions, collaboration and congenial atmosphere, was tested.[348] Support for phasing down HFCs grew significantly, with the growing recognition that the Montreal Protocol was best placed to control the consumption and production of HFCs. The Federated States of Micronesia, Mexico, Canada, the US, Morocco and the Maldives all submitted proposals to amend the Protocol, to enable the inclusion of HFCs within its ambit. The EU also showed support in 2014 for HFC reductions, by suggesting that Article 5 states begin to phase down HFCs and HCFCs together.[349]

There was however, opposition here to not only the creation of contact groups, but informal discussions in regard to HFC control measures, which led many to observe that the MOP (Meeting of the Parties) may be losing the cooperative and dedicated action that had previously been hailed a success. This was seen as India, Pakistan and the GCC (Gulf Cooperation Council) states were against even discussing the proposed amendment in the contact formal group, claiming that discussion of HFCs belonged with the UNFCCC. Some observers have noted that the Protocol could be "catching a cold" from the UNFCCC.[350]

THE 2014 PARIS MEETING

The Paris Meeting began with delegates moving promptly through agenda procedure so that the majority of the time available would be used to discuss the amendment proposals.[351] There were obvious divisions within the meeting as most of the discussions took place in informal meetings regarding the feasibility and management of HFCs. The last amendment had been negotiated over 15 years ago, suggesting that many delegations had forgotten how to overcome the mistrust between delegates which had built up over time regarding HFCs. By the end of the meeting, four proposals had been submitted by 40 states, suggesting an increased momentum towards HFC amendment. It seemed that there was general agreement in the plenary sessions. eventually that HFC control measures would be implemented under the Montreal Protocol.[352]

Coming into the meeting, money was again a concern, as well as the availability of low-GWP alternatives to HCFCs, their costs and real technology substitutes. These discussions were taking place at a time when there were low-GWP alternatives gaining market share globally. The International Pharmaceutical Aerosol

Consortium congratulated states for the progress which they had achieved, in completing the transition away from CFC-based metred-dose inhalers, as they had long supported and maintained commitment to ozone protection that balanced patient and environmental health.[353]

THE 2015 DUBAI MEETING

At the closing of the Twenty-Seventh Meeting of the Parties in Dubai, delegates were finally able to create a contact group for HFC control measures after years of stalemate. There was broad agreement to endorse the 2016 goal to authorise the necessary steps for HFC phase-outs. Most states, both Article 5 and non-Article 5 states, were tired of hearing of the challenges associated with an HFC amendment, with Article 5 states declaring that they just wanted developed states to offer them solutions.[354]

Four proposals to amend the Protocol had been submitted for consideration by the Meeting of the Parties at the current meeting, all of which were aimed at including the phase-down of HFCs. Elements that were common to all four amendment proposals on financing; licensing and reporting; the listing of HFCs in an annex to the Protocol; and entry into force and clarification that the provisions on emissions of HFCs of the UNFCCC would remain unchanged.[355]

There was no question that the Protocol was the only arena in which HFCs could be addressed effectively and the time to do so, it was argued, was now. Parties needed to address the challenges posed by developing states, in particular high-ambient temperature parties. These states would need to embrace the principle of flexibility and the tools and mechanisms that would be needed to support those sates through the MLF. Developing countries stated that their challenges revolved around finding HFC-free alternatives in the refrigeration and air-conditioning sector, where almost all the alternatives to HCFCs currently available were HFCs.[356]

Following the work of the contact group, the Co-Chair presented a draft decision prepared by the contact group entitled the "Dubai pathway on HFCS"[357] which was eventually passed by the member states (Decision XXVII/1).[358] States agreed to recognise the progress made at the 27th Meeting on the challenges identified. This included the development of a common understanding on the issues related to flexibility of implementation. Further progress however needed to be made, for example on the issue of conversion costs, technology transfer and intellectual property rights. States agreed to hold a series of open-ended working group meetings and other meetings, including an extraordinary meeting of the parties in 2016.[359]

THE 2016 GENEVA MEETING

The April 2016 Meeting in Geneva had an agenda which was solely dedicated to the pathway of HFC control measures established by the Dubai Meeting.[360] Discussions consequently advanced from whether or not HFCs should to be discussed, to actually how to address the issue now. Those who had previously opposed such an

amendment were now actively participating in conversations, with little discussion regarding the technicality that HFCs were not ODSs and that it did not fall under the legal framework of the Protocol. Discussions regarding HFCs were also raised at bilateral and multilateral meetings that were taking place at G7 and G20 Summits increasing the pressure to find an outcome within the formal meeting structure, To that end, many states agreed to continue the work between sessions.[361]

The Third Extraordinary Meeting of the Parties was in Vienna in July 2016. By this time the eight key challenges identified in the Dubai Pathway had all been addressed during the resumed 37th and 38th meetings of the open-ended working group and it was now possible to start to develop a draft amendment text. To entice the recalcitrant states, the US and other states were ready to increase their contributions to the MLF and to make possible the implementation of an ambitious meeting.[362]

For LDCs like Indonesia any agreement would have to include achieving a balance between the environmental benefits and economic costs of the amendment by enabling those states and their industries to implement the amendment in ways which did not jeopardise socioeconomic development, ensuring that mature climate-friendly technologies and substances were available in both global and local markets. It was agreed by the member states that economic growth and environmental protection needed to go hand in hand.[363]

Following the report of the contact group, the co-chairs of the meeting of the parties adopted the draft decision submitted by Canada and the US.[364] The key breakthrough was to revise the rules of procedures of the Executive Committee with a view to building in more flexibility for Article 5 states. To that end, the remaining eligible consumption for funding in tonnage was to be calculated on the basis of the starting point of the national aggregate consumption, less the amount funded by previously approved projects in future multi-year agreement templates for HFC phase-down plans.[365]

During the preparatory amendment discussions, one of the main issues that was raised was what to do with states that experience high-ambient temperatures. Refrigerant condensing temperature in RACHP (Regrigeration, Air Conditioning and Heat Pump) equipment is relatively high during parts of the year and approaches the refrigerant crucial temperature in these regions.[366] It was decided that an exemption for states with high-ambient temperatures was permissible where there were no suitable alternatives for the specific subsector use (separate from the essential use and critical use exemptions under the Protocol). This exemption was provided on the condition that the states concerned followed the phase-out schedule for consumption and production of HCFCs for other sectors and the party has formally requested a deferral through the Secretariat.[367]

THE 2016 KIGALI MEETING AND AMENDMENT

In 2016, almost 200 states met at Kigali to introduce further mechanisms to phase out the use of other ozone-depleting greenhouse gases.[368] After seven years

of debates regarding HFCs,[369] a week of intense discussions resulted in the final Kigali Amendment.[370] The Kigali Amendment added HFCs to the list of compounds under the Protocol to be phased out, with 80–85 per cent reduction by the end of the 2040s.[371] Developed states were to implement consumption freezes by 2019, with the date being extended to 2024 for developing states, and a further extension for parties that have high usage of air conditioning – such as India – by 2028.[372] HFCs therefore became controlled substances under the Montreal Protocol, with specific HFC control schedules adopted for developed and developing states (Decision XXVIII/1 amended the Montreal Protocol, and Decision XXVIII/2 phased down HFCs).[373]

Again, the MLF was tasked to provide sufficient resources to Article 5 states to offset the costs associated with HFC phase-outs, under section 9. The Executive Committee was also obliged to develop within two years guidelines for such financing of HFC phase-downs, including cost-effectiveness thresholds, which would be presented to the parties. Article 5 states were also provided with flexibility to prioritise HFCs, as well as defining sectors, select technology and substitutes to implement their strategies based on the specific needs of their nations.[374]

Most developed states were therefore obliged to achieve a 10 per cent reduction by 2019, 40 per cent by 2024, 70 per cent by 2029, 80 per cent by 2034 and 85 per cent by 2036, according to Article 2J of the Amendment. A number of states, however, were permitted a delay in the first two steps of the cutbacks, with 5 per cent reduction by 2020 and 35 per cent by 2025; these states included Belarus, Kazakhstan, Russian Federation, Tajikistan and Uzbekistan.[375] States with high-ambient temperatures were exempt from the initial freeze of HFCs for four years, according to section 28.[376] These states were permitted to utilise multi-split and split ducted air conditioners for commercial and residential use, as well as ducted commercial packaged, self-contained air conditioners according to Appendix I. Article 2J was inserted after Article 2I of the Protocol, which set out the dates for HFC reduction targets. States were to reduce to 90 per cent of baseline levels between 2019 and 2023, 60 per cent between 2024 and 2028, 30 per cent between 2029 and 2033, 20 per cent between 2034 and 2035 and 15 per cent by 2036 and thereafter.[377]

As 23 states have already ratified the Amendment, it entered into force on the specified date of 1 January 2019.[378] However, the Kigali Amendment faces challenges from the current US administration which has proved hostile to multilateral environmental agreements.[379] Following the Protocol, various states have been successful in producing safe substitutes for CFCs. Just one year after the signing of the Montreal Protocol, E.I. DuPont de Nemours and Company claimed they were going to develop substitute products that would not contain any compounds that are detrimental to the ozone layer.[380]

The Kigali Amendment was described by one delegate as "an agreement that we will be proud of for the rest of our lives."[381] It was noted that responsibility of phasing down HFCs was not just with governments, but also with scientists and private industry, and the government should provide incentives for those sectors

to support the action. Governments should send clear signals that change was imminent and that innovation was encouraged to ensure the development of new products would be available and cost-effective.[382]

Parties were also congratulated at Kigali for the important milestones reached in 2016, in particular the final phase-outs of CFCs used in metered-dose inhalers which was a remarkable achievement as a result of 20 years of global coordination with stakeholders in the pharmaceutical industry, healthcare regulators and providers, as well as patients.[383]

Protracted discussions had allowed states to come to an understanding regarding the differing positions.[384] The Amendment negotiations involved a lot of cooperation and discussion among industries alongside the discussions among state governments relating to the sharing of investments and market risks. Many stakeholders took a great interest in the negotiation of the Amendment, with input from industries in both the developed and developing world to identify issues and to determine solutions.[385]

It was held that implementing early freeze dates would send a message to the international community that the ozone regime was committed to holistic development agenda that both protected the ozone layer and limited global warming.[386] The development and wide availability of substitutes was therefore crucial to the process, meaning that non-Article 5 states had to take responsibility in ensuring that there was an adequate transfer of technology, project financing and other support to Article 5 states.[387] The Kigali Amendment reinforced the momentum towards applications using low-GWP refrigerants and accelerates innovation for sustainable RACHP technology.[388]

THE 2017 MONTREAL MEETING

At the Montreal meeting, states celebrated the 30th anniversary of the Montreal Protocol, and the Kigali Amendment entering into force in 2019, as 21 states had ratified the amendment. A total of 144 states had already approved the HCFC phase-out management plan, with 30 already having approved stage II.[389] Fully implementing the HCFC management plan of phase-outs, of those approved, would address 60 per cent of the total baseline of consumption of Article 5 states. It was reported that UNEP was assisting 102 states to implement the HCFC phase-out management plans through institutional strengthening and had helped 79 states undertake surveys for alternative substances.[390]

To ensure that Kigali would be effectively implemented, delegates were tasked with replenishing the capital of the MLF for the period from 2018 to 2020. These negotiations were going to be difficult given the uncertainty surrounding various states' financial and political situations, as well as the fact that there had been global constraints on budgets. It was finally agreed that US$540 million would be available to all Article 5 states, however this figure was significantly lower than what TEAP estimated would be adequate – US$602.71–748.85 million. There was a lack of enthusiasm for the figure, but a consensus was reached that it was better than nothing.[391]

The World Bank was supporting HCFC phase-out management plans, which had led to the eradication of 5,700 ODP-tonnes of consumption – a figure equivalent to 31.8 million tonnes of carbon dioxide emissions on an annual basis. By the conclusion of 2016, projects that had been implemented by the World Bank saw the reduction of 330,000 ODP-tonnes of consumption and production through $1 billion in grants offered.[392]

THE 2018 QUITO MEETING

The Thirtieth Meeting of the Parties met in Quito in November 2018, with 144 states, 500 delegates including UN agencies and programme representatives, regional organisations, industry and non-governmental organisations.[393] The meeting began in light of the recent confirmation that CFC-11 emissions led to ozone depletion, which led to parties discussing both old and new challenges. CFC-11 was a substance that had been banned since 1996, yet states had to address its recent emissions. Evidence suggested China was the source of these new CFC-11 emissions, and the Chinese delegation made a transparent statement declaring that the perpetrators of these emissions had been brought to justice following inspections in August 2018. Many perceived this as a new demonstration of humility, given China's previous denial and refusal to accept responsibility. The FSM therefore suggested it was an appropriate time to consider improving enforcement and implementation mechanisms. The system currently revolves around trusting states' compliance, with suggestions to now verify these claims.[394]

The critical MLF was entering a new era, through an agreement to fund and support policies and regulations, capacity building, best practices, and energy efficient technologies. There were long discussions held by the contact group on energy efficiency as to how to implement and enforce the obligations decided at Kigali, which included asking the MLF to work alongside the Ozone Secretariat to ensure funding for the implementation. This will prove to be a different challenge, as funding has not previously been within the scope of the Ozone Secretariat.[395]

The Co-Chair discussed progress to the MLF, regarding the voluntary contributions from 17 non-Article 5 parties to support the implementation of the Amendment which was decided at the Twenty-Eighth Meeting of the Parties. These contributions, totalling $25.51 million, had largely been disbursed – $23.11 million – which included $15.15 million for enabling activities of 109 states and $7.54 million for HFC investment projects that would phase out the equivalent 681,541 tonnes of HFCs.[396]

It was noted that as of November 2018, 59 states had ratified the Kigali Amendment. However, some states referred to the challenges that they would have to overcome to implement it, especially in regard to energy efficiency of refrigeration, air conditioning and heat-pump sectors. Regardless, some states referred to actions that were already being undertaken domestically to phase down HFCs in line with Kigali. These included the promotion of energy-saving technologies in the refrigeration and air-conditioning sector, infrastructure

investment, establishment of public–private partnerships and involvement of civil society, as well as the incorporation of policies and regulations in national development plans and strategies, reform of the legal environment, assessment of national needs, holding workshops and introducing certification for service technicians, a 'green passport' campaign to raise awareness among students, and public awareness campaigns.[397]

The issue of methyl bromide critical use exemptions was still ongoing for some states. Canada stated that unique conditions in the province of Prince Edward Island meant that methyl bromide was the only fumigant registered in Canada that could be used for growing strawberries. The Australian delegation stated that there were no technical or economic feasible alternatives to methyl bromide for Australia's critical use nomination.[398] Despite these claims, a group of states noted that as methyl bromide had been all but phased out by 2010 in other states, it was proof that there were substitutes.[399]

CONCLUSION

The Vienna Convention, the Montreal Protocol and its subsequent amendments have clearly achieved its key objectives. The latest UN study shows the ozone holes over both poles are slowly closing at the rate of 1 per cent to 3 per cent per decade and will have completely closed the north by the 2030s and in the south by the 2060s.[400] Increasing scientific knowledge regarding the depletion of the ozone allowed other manmade ODSs to be added to the list of substances to be phased out, which led to almost 100 substances being eradicated, 99.5 per cent of which were phased out by 2018.[401] Parties recognised that the ozone regime was the most successful environmental treaty in the international system, having saved millions of lives, protected over 47 million pairs of eyes and spared over 200 million people from skin cancer.[402]

The regime has proved extremely popular as well. By 2009, both the Vienna Convention and the Montreal Protocol had achieved universal ratification, the first international environmental treaty to do so, with Timor Leste becoming the 196th and final signature on the treaty.[403] The London, Copenhagen, Montreal and Beijing Amendments also are universally ratified.[404] The Kigali Amendment, operative from this currently has 65 ratifications with more expected.[405]

What factors can be observed that have made the atmospheric ozone regime so successful? When scientists first publicly raised the issue of ozone depletion, uncertainty about the science was prevalent, with the models of the day unable to capture the scope and timing of the problem. However, the risks associated with ozone thinning were so great that states were forced to act, applying the precautionary principle and common but differentiated responsibility in a novel, dynamic and practical fashion.

The precautionary principle in particular was crucial to the attainments of the regime, as states, industry and citizens were more willing to move forward as the scientific evidence regarding ozone depletion constantly improved, proving highly persuasive.[406] The principle first incorporated at the Vienna

Convention has subsequently been implemented to other environmental law agreements, strengthening them as well.[407] The Montreal Protocol also remains the most successful application of CBDR. The Protocol recognised the special situation of LDCs and, implementing the principle, allowed an initial grace period of ten years. Further, the provision of technology and monies helped build up developing states' capabilities and ease economic costs associated with the transition.[408]

The regime's goals were realised because states, particularly powerful ones such as the US and European Community, were convinced that they needed to take urgent action to protect the ozone layer, regardless of the fact that the scientific evidence regarding ozone depletion was still being debated.[409] Governments acted with haste, putting aside cold war hostilities to act quickly, taking less than two decades to put in place solutions to resolve the issue.[410] The US, particularly early in the proceedings, was vital in providing strong leadership on this issue. It undertook coordinated diplomatic and scientific initiatives to influence blocking states and built important alliances with like-minded state and non-state actors.[411]

The Montreal Protocol's institutional flexibility, the ability to listen to opposing views and incorporate them into the decision-making process as well as a willingness to compromise, allowed it to be updated numerous times over the decades as scientific understanding evolved and new goals were set.[412] The meetings were mostly held in a collaborative manner that focused on finding solutions, not merely the airing of grievances that have derailed other environmental regimes.

The role of scientists was paramount in both identifying the issue and then providing the technical expertise regarding various options.[413] As science improved, it was necessary for the Protocol to incorporate new ozone destroying chemicals, such as industrial solvents or chemical feedstocks, which are found in the atmosphere, along with older ODSs that have not yet been controlled by the Protocol, such as nitrous oxide.[414]

An examination of the ozone negotiations shows the critical part played by industry in both developing substitute technologies and being willing to implement agreed-to goals. Pragmatic industry leaders, particularly in the US, seeing the 'writing on the wall' chose to act.[415] States were willing to use command and control measures, which the ODS industry accepted, and were therefore effective in eradicating the use of such substances.[416]

Initially, ozone negotiations were not of interest to ENGOs, with not one present at the signing of the Vienna Convention.[417] However, once they became involved in proceedings, the rules of procedure adopted by the regime allowed ENGOs to "participate without the right to vote in the proceedings of any meeting in matters of direct concern to the body or agency they represent."[418] The ENGOs quickly took advantage of their access and built a global network of ENGOs linked to the media, that now consult and coordinate to influence state positions on a host of environmental issues. As the negotiations progressed it can be observed that ENGOs became increasingly sophisticated in their approaches. They sponsored research, developed scientific and policy expertise, used publications, the media

and parliamentary committees but also implemented direct action campaigns such as boycotts and demonstrations. Their efforts were successful in pushing delegates towards stronger action on ODSs.[419]

ENGOs also monitored states' activities to ensure they were meeting their agreed-to obligations, in particular their financial obligations to LDCs. They shamed those states not meeting their commitments internally at the meetings but also publicly through a campaign of press releases.[420] Public awareness campaigns, often run by ENGOs, ensured that public pressure was placed on states to protect the ozone layer, which was common property and not exclusive to just one state or region.[421] In particular, the metaphor of an ozone hole was particularly powerful, capturing the public's attention and conveying a sense of urgency.[422]

The Twentieth Meeting of Parties saw the Multilateral Fund being recognised by the delegates as the main instrument that allowed for the success of the Montreal Protocol.[423] The role played by the creation of the MLF and the provision of substitute and advanced technologies should not be underestimated. Developed states being willing to actually contribute billions of dollars (even though for LDCs and ENGOs this was not enough) was able to help LDCs transition their economies and to cushion any economic effects and keep such actors within the regime.[424]

There are still some issues to be dealt with. With the Kigali agreement on HFCs comes the renewed threat of the black-market trade in HFCs, the issue of methyl bromide and the problems of what to do with the remaining ozone banks.[425] The international community will have to heed the lessons learned from the previous illicit trade of ODSs while they seek to eradicate the use of HFCs, but the atmospheric ozone regime and its stakeholders has shown itself up to the task and it continues to be held up as a model for other global environmental regimes.

NOTES

1 Shinya Murase, "Protection of the Atmosphere," in *Report of the International Law Commission to the General Assembly of the Work of its 63rd Session*, ed. United Nations, A/66/10, 2011, 189, 191. The gases in the atmosphere mainly included nitrogen (78.08%), oxygen (20.95%), argon (0.93%) and carbon dioxide (0.03%), as well as a small amount of other gases (0.01%), existing in what is known as an atmospheric cell. Ibid.

2 See the following websites: http://tornado.sfsu.edu/geosciences/classes/m201/Atmosphere/AtmosphericComposition.html; http://butane.chem.uiuc.edu/pshapley/GenChem1/L9/1.html; https://www.geo.arizona.edu/Antevs/nats104/00lect25atmcompo.html

3 Murase, "Protection of the Atmosphere," 191; https://www.windows2universe.org/earth/Atmosphere/troposphere.html

4 See Note 2.

5 Christina Nunez, "Climate 101, Air Pollution," *National Geographic*, 4 February 2019, available at: https://www.nationalgeographic.com/environment/global-warming/pollution/

6 Murase, "Protection of the Atmosphere," 193.

7 http://www.stats.govt.nz/analytical-reports/monitoring-progress/envmt-ecosystem-resilience/atmosphere.htm Such air pollution can be natural or manmade. Natural pollution can be ash from a volcanic eruption, dust, or from animal digestion. Man-made pollution is generally a byproduct of global industrial production, e.g. construction, mining, agriculture; and transport emissions. Common gaseous air pollutants include: carbon monoxide, sulfur dioxide, methane, chlorofluorocarbons (CFCs) and nitrogen oxides. Currently, China, United States, Russia, Mexico, and Japan are the worst air pollution emitters. https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors

8 Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment*, New York: Oxford University Press, 2009, 358.

9 John Warren Kindt, "International Environmental Law and Policy: An Overview of Transboundary Pollution," *San Diego Law Review*, 1986, 23 (3), 583–610, 588.

10 Burning fossil fuels such as coal and oil releases sulphur and nitrogen, which reacts with the oxygen in the atmosphere to create sulphur dioxide and nitrogen oxides. Arne Tollan, "The Convention on Long-range Transboundary Air Pollution," *Journal of World Trade* (1985), 19, 615–621, 615. Oxides of sulphur and nitrogen can travel hundreds or thousands of miles, transforming chemically during the journey. These compounds eventually return to earth as sulphuric and nitric acids in rain or snow, now known as acid rain. The major cause of acidic precipitation was traced back to pollution being emitted from British and Central European industry. Gregory Wetstone and Armin Rosencranz, "Transboundary Air Pollution: The Search for an International Response," *Harvard Environmental Law Review* (1984), 8 (1), 89–138, 89. States banded together in 1979 to create the first major air pollution instrument: The Convention on Long-Range Transboundary Air Pollution in Europe and America, which committed member states to exchange information, conduct research, and consult on policies, strategies, and measures for combating and reducing this form of air pollution. https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no... It treated the European air mass as a shared resource with the goal of preventing, reducing, and controlling new and current transboundary air pollution while allowing solutions requiring coordination of pollution-control measures and setting common emission standards. Problematically the convention offered no commitments to specific reductions in transboundary air pollution. For many critics, it was so lacking in verifiable outcomes that one commentary declared it merely a "symbolic victory" intended to reassure both the polluters and the victims. Member states were free to implement their own strategies and control measures conducive with "balanced development," and the availability of the "best available technology" which was "economically feasible." Birnie, Boyle and Redgwell, *International Law and the Environment*, 344–45. The 1979 UNECE Convention on Long-Range Transboundary Air Pollution in Europe and North America has since established eight implementing protocols, from 1984 to 2012, and has been followed by corresponding instruments in Africa and Asia. These include the 1998 Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South East Asia and the 2002 Agreement on Transboundary Haze Pollution. Peter H. Sand and Jonathan B. Wiener, "Towards a New International Law of the Atmosphere," *Goettingen Journal of International Law* (2016), 7 (2), 195–223, 204.

11 Murase, "Protection of the Atmosphere," 193.

12 Ian H. Rowlands, *The Politics of Global Atmospheric Change*, Manchester: Manchester University Press, 2015, 43.

13 Ozone Facts-NASA Ozone Watch, available at: https://ozonewatch.gsfc.nasa.gov/facts/SH.html
14 Bryam A. Green, "Lessons from the Montreal Protocol: Guidance for the Next International Climate Change Agreement," *Environmental Law* (2009), 39 (1), 253–84, 257.
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16 Joel A. Mintz, "Keeping Pandora's Box Shut: A Critical Assessment of the Montreal Protocol on Substances That Deplete the Ozone Layer," *University of Miami Inter-American Law Review* (1989), 20 (3), 565–78, 567.
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18 Rowlands, *The Politics of Global Atmospheric Change*, 43.
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20 John Warren Kindt and Samuel Pyeatt Menefee, "Vexing Problem of Ozone Depletion in International Environmental Law and Policy," *Texas International Law Journal* (1989), 24, 261–93, 270.
21 Mintz, "Keeping Pandora's Box Shut: A Critical Assessment of the Montreal Protocol on Substances That Deplete the Ozone Layer," 566.
22 Graham Donnelly Welch, "HFC Smuggling: Preventing the Illicit (and Lucrative) Sale of Greenhouse Gases," *Boston College Environmental Affairs Law Review* (2017), 44 (2), 525–58, 530–31.
23 Frederick Poole Landers, Jr., "The Black Market Trade in Chlorofluorocarbons: The Montreal Protocol Makes Banned Refrigerants a Hot Commodity," *Georgia Journal of International & Comparative Law* (1997), 26, 457–85, 458–9.
24 Ibid., 459.
25 Elrifi, "Protection of the Ozone Layer," 392.
26 Landers, "The Black Market Trade in Chlorofluorocarbons," 459.
27 Landers, "The Black Market Trade in Chlorofluorocarbons," 460; Welch, "HFC Smuggling: Preventing the Illicit (and Lucrative) Sale of Greenhouse Gases," 530.
28 Landers, "The Black Market Trade in Chlorofluorocarbons," 460.
29 Edward A. Parson, *Protecting the Ozone Layer: Science and Strategy*, Oxford: Oxford University Press, 2003, 29.
30 R. E. Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet*, Cambridge, MA: Harvard University Press, 1998, 40–42.
31 Landers, "The Black Market Trade in Chlorofluorocarbons," 461–3.
32 Elizabeth R. DeSombre, "The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular," *UCLA Journal of Environmental Law & Policy* (2000), 19 (1), 49–81, 50. We now know that CFCs do not decompose in the troposphere and consequently migrate to the stratosphere, where they eventually break down and release chlorine fragments. The chemical that is released in turn destroys the ozone layer. Mintz, "Keeping Pandora's Box Shut: A Critical Assessment of the Montreal Protocol on Substances That Deplete the Ozone Layer," 567; Landers, "The Black Market Trade in Chlorofluorocarbons," 459.
33 DeSombre, "The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular," 50.
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91 Green, "Lessons from the Montreal Protocol: Guidance for the Next International Climate Change Agreement," 258.
92 Barratt-Brown, "Building a Monitoring and Compliance Regime under the Montreal Protocol," 527.
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94 Ibid., 106.
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159 Tina Birmpili, "Montreal Protocol at 30: The Governance Structure, the Evolution, and the Kigali Amendment," *Comptes Rendus Geoscience* (2018), 350 (7), 425–31, 425–6.
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172 Canan *et al.*, "Introduction to the Special Issue on Ozone Layer Protection and Climate Change: The Extraordinary Experience of Building the Montreal Protocol, Lessons Learned, and Hopes for Future Climate Change Efforts," 113.
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174 Ibid.
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176 Green, "Lessons from the Montreal Protocol: Guidance for the Next International Climate Change Agreement," 259–60. Although Vienna had acknowledged the potential for a harmful impact that ozone depletion was having on the health of humans and the environment, it did not instigate initiatives to mitigate the issue. Green, "Lessons from the Montreal Protocol: Guidance for the Next International Climate Change Agreement," 260.
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196 Mossos, "The Montreal Protocol and the Difficulty with International Change," 23; Mintz, "Keeping Pandora's Box Shut: A Critical Assessment of the Montreal Protocol on Substances That Deplete the Ozone Layer," 570.
197 Mintz, "Keeping Pandora's Box Shut: A Critical Assessment of the Montreal Protocol on Substances That Deplete the Ozone Layer," 570.
198 Birmpili, "Montreal Protocol at 30: The Governance Structure, the Evolution, and the Kigali Amendment," 427.
199 Ibid.
200 Hydrochlorofluorocarbons (HCFCs) are a large group of compounds with a similar structure to that of CFCs but including one or more hydrogen atoms. Generally they are gases or liquids that evaporate easily and are chemically fairly stable and unreactive.

Since the use of CFCs was phased out, HCFCs replaced them for some applications, particularly as refrigerants and insulative foams. http://apps.sepa.org.uk/spripa/Pages/SubstanceInformation.aspx?pid=120

201 Methyl bromide is a colourless, odourless gas used as biocide/pesticide that kills all life in all life stages. Methyl bromide is primarily used to control pests in structures, products, agricultural production, as well as fumigating goods before overseas travel. B. Gareau, "Lessons from the Montreal Protocol Delay in Phasing Out Methyl Bromide," *Journal of Environmental Studies and Sciences* (2015), 5 (2), 163–8, 164–5.

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203 Gareau, "Lessons from the Montreal Protocol delay in phasing out methyl bromide," 165.

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208 UNEP, "Report of the Parties to the Montreal Protocol on the Work of their First Meeting," 2.

209 The UN Office of Legal Affairs, UNDP, UNIDO, UNESCO, WHO, WMO, International Maritime Organisation, Nordic Council, European Federation of the Chemical Industry, Chemical Manufacturers" Association, European Free Trade Association, European Environmental Bureau, Federation of European Aerosol Associations, Friends of the Earth, Greenpeace, International Chamber of Commerce, International Council of Environmental Law, International Organisation of Consumers' Union, Natural Resources Defence Council, Motor Vehicle Manufactures' Association and World Wildlife Fund all attended the first meeting. UNEP, "Report of the Parties to the Montreal Protocol on the Work of their First Meeting," 2.

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211 UNEP, "Report of the Parties to the Montreal Protocol on the Work of their First Meeting," Annex VII, 4.

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Chapter 6

Climate change I

INTRODUCTION

In 1988, at the direction of the UN General Assembly, the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) created the Intergovernmental Panel on Climate Change (IPCC).[1] The IPCC, staffed by global climate experts, was tasked with providing policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.[2] Creation of the IPCC reflected a tipping point, where scientific and policy concerns that had been mounting for over a century[3] were maturing into international resolve to address what the UN has described as "one of the most pressing issues of our time," with the capacity to "threaten . . . the lives and livelihoods of billions of people" and cause "[n]atural disasters, environmental degradation and extreme weather patterns [that could] disrupt harvests, deplete fisheries, erode livelihoods and spur infectious diseases."[4] Or, as German Chancellor Angela Merkel has stated, "climate change is an issue determining our destiny as mankind."[5]

In its 2014 Synthesis Report on its Fifth Assessment Report (AR5), IPCC concluded that "[h]uman influence on the climate system is clear."[6] The stage is therefore set for a dramatic test in the human story. If, in fact, climate change threatens drastic consequences to the ecosystem and society, and if these consequences are, in part, of human authorship, do we have the capacity to take collective action to alter its trajectory? As UN Secretary General António Guterres remarked, "Climate change is the defining issue of our time – and we are at a defining moment."[7] This in turn introduces further questions respecting the nature of IEL, and whether it remains useful to look for collective action exclusively within the traditional paradigm of voluntary agreements among sovereign states,[8] or whether a new or different model is needed to meet our global environmental challenges.[9]

Climate change refers to the alteration of our climate and other natural systems resulting from the increase in atmospheric concentrations of a number of gases,

including carbon dioxide, methane, and others. These gases are ubiquitously associated with human activity of every description, in every corner of the world, from transportation to commercial and industrial activity, to heating and cooling of our homes and places of business, to agriculture and livestock husbandry.[10] Changing the production and use of these substances inevitably will involve changing behaviours and expectations of vast proportions of the human population, including how they work, live, travel, recreate and sustain themselves. Burdens from these changes, and from failures to change, will be distributed unevenly. *How* we address climate change will be, therefore, almost as important as *whether* we address it at all.

The historical trajectory of our efforts to address climate change raises questions about the scope, nature and effectiveness of our traditional international legal regime, at least as it relates to the environment. Long and resource-intensive efforts to craft an international law response by sovereign states, involving investments from every facet of public and civil society, have been upended seemingly overnight through changes within key governments.[11] Critical substantive issues, such as the appropriate distribution of obligations and costs among developed and developing nations, and appropriate means of monitoring compliance and associating consequences thereto, remain unresolved. Similarly unresolved are process issues, such as the relative legitimacy and effectiveness of seeking widespread agreement among all nations or alternatively seeking agreement among the dramatically smaller number of nations with a potentially material impact on climate change. More than 25 years after the first global climate change effort was promulgated, and well more than a century after the potential impacts of greenhouse gases were first identified, we still lack an effective UN-centered IEL climate change regime applicable to the full cast of major contributors of greenhouse gas emissions.[12]

Simultaneous with the arguably unimpressive development of the formal IEL climate regime, and motivated in part by this lack of progress, a suite of extra-IEL forces and mechanisms have developed that suggest alternative or supplementary paths to international climate governance. These forces and mechanisms include voluntary TNC greenhouse gas reduction programmes, international ENGO activities targeted directly at the private sector rather than at influencing IEL policy makers, the emergence and growth of climate as a focus of shareholders and the analysts and regulators who relate to them, increased attention to the climate impacts of and on supply chains, with significant supply chain participants able to drive requirements up and down the chain to previously unresponsive participants, the development of transparency measures supported by burgeoning international electronic and social media phenomena, an increase in state and local governmental climate measures, increased focus on climate change in popular culture and, perhaps most significantly, the rapid expansion of the market for energy efficiency and non-fossil-fuel energy, creating a market driver supporting climate mitigation measures.[13]

While we do not currently have a traditional IEL regime effectively driving activity throughout the major greenhouse gas-emitting countries, what we do have is a "Climate Governance Ecosystem," with contributions from international, national

and sub-national governments, ENGOs, BNGOs, corporate sustainability initiatives, popular culture and market incentives. The proliferation of non-sovereign-state measures to address climate change has been impressive in terms of rule formation, standard setting, transparency and monitoring, and applying positive and negative consequences in relation to compliance with approved norms.

Looking at representative indicia of this "Governance Ecosystem," in 2016 70 per cent of the companies in the S&P 500, and 77 per cent of the industrials in the S&P 500, reported their global greenhouse gas inventories to the leading private ENGO reporting website, CDP;[14] 77 per cent of the organisations reporting to CDP on their greenhouse gas inventories had 3rd-party verification of at least a portion of those reported inventories; and 63 per cent of the Fortune 100 had set and publicly announced greenhouse gas reduction targets.[15] And, in 2018, the Chairman and CEO of the world's largest investment firm[16] sent a letter to the CEOs of the companies in which his company invested informing them that he, and his analysts, would view those companies' understanding of the potential ramifications of climate change as critical to their investment potential.[17]

The voluntary, non-governmental markets for carbon trading, a key mechanism for greenhouse gas reduction, reached a volume of 838 million Euros in 2011.[18] Speaking after US President Trump's rejection of the UN-driven Paris Climate Agreement in 2017, former New York City Mayor Michael Bloomberg revealed that "[t]he group of American cities, states, and businesses who remain committed to the Paris Agreement represents a bigger economy than any nation outside the U.S. and China."[19] And, one significant US-based non-governmental sustainability organisation, Corporate Eco Forum (CEF), estimates that its membership has been responsible for more than 64 million metric tonnes of carbon dioxide equivalent reductions from 2008 to 2017.[20] This robust private law activity occurred outside the constructs of formal IEL. Clearly, something beyond formal IEL is at work.

Formal IEL is far from irrelevant in this development, and in fact the formal IEL climate regime has evolved significantly from an initial top-down process directed principally towards developed nations under the 1992 UN Convention on Climate Change (UNCCC) and the 1997 Kyoto Protocol, to the 2015 Paris Decision and Agreement (PDA), which extended the reach of climate governance to additional countries, adopted a more "bottoms up" approach, and moved us towards resolution of the central issue of how the burdens of climate governance should be distributed among developed and developing nations. However, other sources of international governance have become too robust to ignore. Considered initially in their roles of participating in traditional IEL development, assisting traditional IEL implementation, or goading traditional IEL to action, these "other forces" must now be viewed as co-participants in developing the Climate Governance Ecosystem. Having several times seen traditional IEL reveal itself as not fully up to the task of addressing climate change, these other sources are unlikely to resign themselves to a temporary or supportive role.

The traditional, or "Westphalian" view of international law is that it is exclusively made through voluntary agreement among sovereign nations.[21] Two decades

ago, Jessica Mathews, President of the Carnegie Endowment for International Peace, presaged a shift, arguing that "National governments are not simply losing autonomy in a globalizing economy. They are sharing powers – including political, social, and security roles at the core of sovereignty – with businesses, with international organizations, and with a multitude of citizens groups . . . ."[22] Similarly, and amusingly, Professor Harold Koh writes "as sovereignty has declined in importance, global decision-making functions are now executed by a complex rugby scrum of nation-states, intergovernmental organizations, regional compacts, non-governmental organizations, and informal regimes and networks."[23]

Two decades after Ms. Mathews' statement, with the traditional IEL climate regime having suffered multiple reversals and bouts of inaction, UN Secretary General António Guterres seemed to confirm Mathews' and Koh's pronouncements. In comments at New York University on 30 May 2017, responding to US President Trump's threat to renounce the 2015 PDA, he stated: "We believe that it would be important for the US not to leave the Paris agreement, but even if the government decides to leave the Paris agreement, it's very important for US society as a whole, the cities, the states, the companies, the businesses to remain engaged. It is very clear that *governments aren't everything*."[24]

This remarkable statement by the UN's leader reflects the reality of the post-Westphalian "Climate Governance Ecosystem" in which, indeed, "governments aren't everything." Nagtzaam has discussed the importance of norm formation and codification to the development of IEL.[25] In the climate governance context, the forum for that norm development and codification is increasingly private or domestic, rather than solely within the edifice of traditional IEL.[26] Thus, in June 2017, following US President Trump's announcement that the US would not adhere to the climate agreement reached under UN auspices in Paris in 2015, hundreds of businesses, universities and local governments released an open letter stating that "[i]n the absence of leadership from Washington, states, cities, colleges and universities, businesses and investors, representing a sizeable percentage of the U.S. economy will pursue ambitious climate goals, working together to take forceful action and to ensure that the U.S. remains a global leader in reducing emissions."[27]

It is telling that many of the non-governmental and combined governmental/non-governmental approaches to climate change emerged after US President George W. Bush announced on 28 March 2001 that the US would not implement the Kyoto Protocol,[28] which the US had previously signed on 12 November 1998,[29] and after Australian Prime Minister John Howard announced on 5 June 2002, that Australia too would not ratify the Protocol.[30] It is possible that President Bush's and Prime Minister Howard's actions represented a turning point, in which national governments moved from virtually the sole determiner of IEL climate policy to being viewed as one participant, wielding important, but not exclusive, levers of influence. Other types of influence, including corporate sustainability, ENGO activity, social and other media, shareholder interest, supply chain influence, popular culture, market opportunities and others, assumed greater importance and attracted more resources when it appeared that, after so much scientific and governmental effort, negotiations among sovereign states

might prove impotent. It is important to note that these actions were not all targeted towards forcing traditional IEL to work: they were independent, relying on varied strengths and modalities that persist irrespective of IEL results. This focus is critical to an issue such as climate change, which will require broad societal changes[31] and resolution of complex policy decisions that the traditional IEL system may simply be unable, or too slow, to address. The climate issue is perhaps the first in which the IEL community is coming to terms with the implications of the Anthropocene – the period in which human activity is the dominant influence on our natural ecosystem.[32] The Climate Governance Ecosystem reflects the realisation that traditional IEL may be simply insufficient – on its own – to respond to these implications.

While negotiation among sovereign states will always be a critical component of IEL governance, a complete Governance Ecosystem of public, private and other concerned parties utilises their respective strengths and authorities, in manners sometimes conflicting and sometimes complementary, symbiotic or synergistic, to generate the overall conditions, incentives and directions for change. Like any ecosystem, it functions best when all participants are robust. However, where one participant, such as traditional IEL, falters, the ecosystem as a whole may remain sufficiently powerful to drive change. Understanding the international regime respecting climate change, therefore, requires more than an understanding of sovereign state negotiations and relevant international treaties – it requires understanding the evolution of this Governance Ecosystem, how it has developed to produce results, and how it can be shaped to generate desired results in the future.

Section II of this chapter reviews the basic science driving climate change and its potential implications. Section III describes the initial evolution of the Climate Governance Ecosystem with reference to the following periods: Mobilising for action: The period up to and including the adoption of the UN Framework Convention on Climate Change (UNFCC) at the 1992 UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil; and Setting – and upsetting – new UNFCCC rules ("Top Down/Two Tier"): The period from UNCED up to and including the signing of the Kyoto Protocol in 1997 and its rejection by US President George W. Bush in 2001 and by Australian Prime Minister John Howard in 2002.

The following chapter will discuss The Kyoto/Non-Kyoto period and the Climate Governance Ecosystem: The period from 2001 up to and including the UN Bali Action Plan in 2008 and the Copenhagen Accord in 2009; Setting – and upsetting again – new UNFCCC rules ("Bottoms Up/Inclusive") and the persistence of the Climate Governance Ecosystem: The period from the Copenhagen Accord up to and including the signing of the *Paris Decision and Agreement* (PDA) to the UNFCCC in 2015 and its rejection by US President Donald Trump in 2017; and Slouching towards global climate governance: The post-PDA period, defining the future of the Climate Governance Ecosystem. Throughout, the focus will be on the evolution of the Climate Governance Ecosystem, rather than exclusively on actions under UN auspices.

THE SCIENCE OF CLIMATE CHANGE AND ITS POTENTIAL IMPLICATIONS

As with all environmental law, climate change policy and governance relate to measures we take to effect changes in the ecosystem on which we rely, either by proactively enhancing natural systems or by restricting human activities with a deleterious impact on the ecosystem.[33] Understanding any IEL policy approach must, therefore, start with an understanding of the ecosystem issue that the policy seeks to address.

There is no lack of information on climate change. Recent Google searches on "climate change" and "global warming" produced nearly 200,000,000 results. Joseph Fourier, John Tyndall, Svante Arrhenius, and Thomas Chamberlin produced some of the initial research on the potential atmospheric impacts of greenhouse gases in the nineteenth century,[34] and study and evaluation has continued since. A complete picture of the science underlying climate change and its potential impacts spans a breathtaking scope of natural and anthropogenic phenomena including chemistry, meteorology, atmospheric science, biology, ecosystem studies, marine biology, agriculture, industrial processes, demographics, engineering, zoology, ichthyology, migration patterns, economics, refugee rights and more.[35] The dynamics and universality of our atmosphere, and its relation to other natural and anthropogenic systems is so pervasive it would be impossible to exhaust the topics under the rubric of "climate change." This section will provide some of the basic scientific concepts through reference to credible sources, but should be seen as an invitation to further study rather than an exhaustive primer.

In February of 2014, the UK Royal Society and the US National Academy of Sciences, with significant reliance on the IPCC, published a joint document to assist in climate policy development, entitled *Climate Change: Evidence and Causes* (CCEC).[36] CCEC explains that while some of the energy entering the earth's atmosphere from the sun is reflected back, the balance is absorbed by the earth's surface and atmosphere. Much of the absorbed energy is re-radiated as heat, some portion of which leaves the atmosphere into space. Alterations in the amount of energy absorbed, or in the amount re-radiated into space, will affect the earth's atmosphere.[37]

Certain gases – termed "greenhouse gases" – including carbon dioxide (CO_2), water vapour, methane, nitrous oxide and certain refrigerants, absorb and emit heat energy in all directions, preventing heat from escaping into space. As the concentration of these gases in the atmosphere increases, the heat "trapped" within the atmosphere increases and, when it increases above the amount of heat leaving the atmosphere, a new, higher energy balance is established.[38] Human activity can, therefore, potentially impact the climate through land surface alterations that increase or decrease absorption, by emitting greenhouse gases at levels that increase their atmospheric concentrations, and by altering "sinks and reservoirs" – areas such as forests that sequester CO_2 through photosynthesis, reducing its residency in the atmosphere.[39] Climate scientists

have concluded that these human activities have collectively altered the earth's climate towards warming, with the impact accelerating since the advent of the industrial revolution.[40]

This atmospheric alteration in turn creates other impacts with further effects on climate change and direct effects on the ecosystem. Reduction in polar ice caps both raises sea levels and reduces the span of ice cover that reflects energy away from the earth. Dissolution of increased atmospheric CO_2 increases acidification of the oceans, with further impacts on marine biota. The warming climate also alters the geographical ranges and lifecycle timing of plant and animal species.[41]

The IPCC Synthesis Report to AR5, published in 2015,[42] draws sobering conclusions respecting the state of climate change and its potential impacts. According to AR5, the warming of the climate system is unequivocal and unprecedented, and this is "extremely likely" to have been caused by the also unprecedented concentrations of anthropogenic greenhouse gases in the atmosphere.[43]

In projections with varying, but positive, levels of confidence, AR5 concludes that climate change has already impacted natural and human systems on all continents and in all oceans. These impacts include changed hydrological systems, affecting the quantity and quality of available water; shifts in geographic species ranges, seasonal activities, migration patterns, abundance and inter-species interactions; and net-negative impacts on crop yields. In the oceans, negative impacts on marine organisms from increased acidification have been noted.[44] Changes in extreme weather and climate events have also been noted, including a decrease in extreme cold temperatures, an increase in extreme warm temperatures, an increase in sea levels and an increase in heavy precipitation events, with associated flooding.[45]

These impacts are likely to get worse. Heat waves will "occur more often and last longer," "extreme precipitation events will become more intense and frequent," the "ocean will continue to warm and acidify," and "global mean sea level will [continue] to rise," "increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems."[46] Impacts will not be felt uniformly, with different areas experiencing different levels of precipitation, drought and sea level rise.[47] Several of these changes will negatively affect human health through heat stress, flooding, landslides and water scarcity, as well as increased pests.[48] In addition to direct human impact, these changes will increase the risk of extinction among plant and animal species unable to adjust quickly enough, and will further undermine overall human food security.[49]

A significant secondary impact of climate change will be increased displacement as populations face drought, starvation, flooding and severe weather events, with a related increase in human conflict.[50] Importantly, because greenhouse gases remain in the atmosphere for years, many of these impacts are now effectively inevitable. Efforts to mitigate greenhouse gases now may reduce the magnitude of the impacts, but it would be extremely difficult to remove greenhouse gases currently existing in the atmosphere to an extent sufficient to eliminate climate change.[51]

THE CLIMATE GOVERNANCE ECOSYSTEM

In this section, we turn to how climate-related science, governance principles and policy options have been employed by different stakeholders to create the evolving Climate Governance Ecosystem. Climate change is an enormous, complex challenge potentially affecting every aspect of our existence. Our international governmental institutions have played a critical role in responding to this challenge, but as Secretary General Guterres accurately stated, "governments aren't everything."[52] Instead, as discussed below, since climate first appeared squarely on the IEL agenda in the mid-1980s, an unprecedented array of actors, including states, sub-national governments, politicians, popular culture icons, international institutions, IGOs, trans-national corporations (TNCs) and their sustainability personnel, environmental non-governmental organisations (ENGOs), business non-governmental organisations (BNGOs), indigenous peoples organisations, international legal organisations, academics, law clinics, carbon traders, energy efficiency companies, foresters, botanists, oceanographers, biologists, coal miners and their representatives, architects, urban planners, engineers, transportation planners, agriculturalists, religious institutions, lobbyists, artists and others have thronged to the policy table. They have acted in different arrays in formal negotiating sessions, vast UN conferences, national and sub-national policy debates, heated demonstrations, research-driven debates, marketing opportunities, popular movies and art events, Twitter wars, cost-saving initiatives, product promotions – virtually any way that humans can interact they have done so on the topic of climate change. Particularly following US President George W. Bush's rejection of the Kyoto Protocol in 2001 and Australian Prime Minister Howard's rejection of the Protocol in 2002, these parties' activities have been directed at the problem of climate change itself, rather than solely at attempting to influence the IEL process. As the climate debate has evolved, the pivotal role of government, and of international institutions, has made way for a shared, parallel development where parties are empowered to act independently to drive results alongside or despite the absence of international governmental action. In the Climate Governance Ecosystem, these entities exist, interact, compete and strive together around a common topic, if not always a common desired endpoint.

EVOLUTION OF THE CLIMATE GOVERNANCE ECOSYSTEM

The Climate Governance Ecosystem has evolved against a backdrop of UN-driven milestones that are crucial in their own regard, and provide a useful measuring stick for the progress of the entire ecosystem.[53] This section will focus on the following stages in this evolution:

- Mobilising for action: The period up to and including the adoption of the UN Framework Convention on Climate Change (UNFCCC) at the 1992 UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil.

- Setting – and upsetting – new UNFCCC rules ("Top Down/Two Tier"): The period from UNCED up to and including the signing of the Kyoto Protocol in 1997 and its rejection by US President George W. Bush in 2001 and Australian Prime Minister John Howard's rejection of the Protocol in 2002.

Mobilising for action

On any IEL issue, the evolution from detection of potentially adverse environmental consequences, to scientific study and increased confidence on causes, to formation of appropriate responsive policies to a collective will to effectuate and enforce those policies may be short or long, influenced by the complexity of the issue, the availability of data, scientific attention, political imperatives, the timeframe of the potential consequences and other factors. Preliminary scientific inquiry on the potential impacts of greenhouse gas emissions began in the nineteenth century.[54] Improved meteorological instrumentation, computing and science in the 1950s led to the creation, in 1961 of the WMO World Weather Watch and the WMO/ICSU Global Atmospheric Research Programmme (GARP), with mandates to improve the infrastructure and scientific basis for climate and weather prediction.[55] In 1974, the WMO established an Executive Committee Panel of Experts on Climate Change, which reaffirmed the general scientific expectation of greenhouse warming, and initiated planning for the first World Climate Conference in 1979.[56]

The 1979 World Climate Conference, convened by the WMO and several expert partners was held in Geneva from 12 to 23 February 1979. The resulting World Climate Conference Declaration made an urgent appeal to support a World Climate Programme and to increase our knowledge of potential anthropogenic impacts on climate. At the Eighth World Meteorological Congress in April and May 1979 the WMO took the lead in establishing the World Climate Programme, consisting of several targeted study initiatives.[57]

In October 1985 the UNEP and partners convened an international climate assessment in Villach, Austria that warned in the Villach Declaration that the twenty-first century would see temperature rises greater than any in history, and called for additional funding of climate research and consideration of a global climate convention. The Tenth World Meteorological Congress and WMO Executive Council in 1987 authorised the UN Secretary General to consult with the Executive Director of UNEP to establish the IPCC.[58]

In addition to considering the Villach Declaration, the WMO considered the 1987 report of the UN Bruntland Commission, which influenced developing opinion on addressing climate change.[59] The Brundtland Commission's 1987 Report, *Our Common Future*, evaluated global progress on environmental strategies and established the foundational definition of "sustainable development": "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[60] Thus, the Report addressed the fundamental IEL issue of resolving

relative differences in past responsibility for environmental harm, differences in present need and capacity, and our obligations to future generations through the paradigm of sustainable development. While this paradigm relates to all of IEL, the Brundtland Report had specific relevance to the climate change issue. It noted the "environmental risks and uncertainties of a high energy future," and highlighted as one of the four that were most "disturbing . . . giv[ing] rise to several reservations . . . the serious probability of climate change generated by the 'greenhouse effect' of gases emitted to the atmosphere, the most important of which is carbon dioxide (CO_2) produced from the combustion of fossil fuels," and advocated "adoption of strategies needed to minimize damage and cope with the climate changes, and rising sea level," and, in particular, "negotiating new global and regional conventions or arrangements aimed at promoting cooperation and coordination in the field of environment and development (including, for example, new conventions and agreements on climate change)."[61]

The principle of sustainable development is connected to that of "common but differentiated responsibility" (CBDR). This principle "recognises historical differences in the contributions of developed and developing states to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems."[62] Thus, CBDR recognises that while all countries have a common role and responsibility to participate in addressing our common environmental problems, those roles and responsibilities need not be identical. Legitimate variation may reflect two factors: differences in respective responsibility among countries for contributing to the problem in question, and differences in respective capacity to contribute to the solution.

CBDR and Sustainable Development are particularly applicable to climate change because of the unequal concentration of responsibility for greenhouse gas emissions, the potential impact of greenhouse gas regulation on future development, and the incongruity between the jurisdictions responsible for climate change and the jurisdictions that will feel its impacts most significantly and soonest. Greenhouse gases may persist in the atmosphere for centuries, so individual countries' responsibility must consider both current and past emissions. (Of course, another implication of this fact is that greenhouse gases in the atmosphere today, unless removed, will continue to generate climate change impacts for centuries).[63] From the CBDR perspective, those past emissions relate to past economic activity that the emitting country enjoyed. Failure to account for this history, or setting uniform restrictions on all countries irrespective of past contributions, could arguably foreclose less developed countries from pursuing their own development in order to prevent a risk that they did little to create. According to the 2007 Summary Report of the UN Ad Hoc Group for the Modeling and Assessment of Climate Change, considering contributions since 1890 of the greenhouse gases regulated under the UN Kyoto Protocol, the US is nearly three times as responsible for year 2000 climate change than Southeast Asia, including India, and is two times as responsible as all of East Asia, including China.[64]

Moreover, there can be tremendous discrepancies between responsibility for climate change and vulnerability to its potential effects. One group of

researchers has found that 20 of the 36 countries with the highest greenhouse gas emissions were among the least vulnerable to climate change impacts, while 11 of the 17 countries with low or moderate greenhouse gas emissions were acutely vulnerable.[65] Another factor informing relative responsibilities is per-capita responsibility. Canada, the United States, and Russia emit more than two times the global average of greenhouse gases per person, while India emits one third the per-capita average.[66] These data helped support the CBDR principle: countries and individuals more responsible for climate change should do more to combat it, particularly when their past GHG-generating activity has produced wealth that has increased their capacity to respond.

A further conference, resulting in further calls for continued funding, study and development of a global Convention was held in Toronto, Canada in 1988, the same year as the first session of the IPCC, which issued its First Assessment Report in August, 1990.[67] The WMO and several partners sponsored a Second World Climate Conference in Geneva, Switzerland from 29 October to 7 November 1990, which consisted of six days of scientific and technical discussions and two days of ministerial sessions attended by participants from 137 countries. One purpose of the Second World Climate Conference was to review the work of the IPCC as a lead-in to negotiations for a climate framework convention, which were scheduled to begin in Washington, DC in February 1991 with the goal of having a Convention ready for signature at the planned Rio Earth Summit in June 1992.[68]

Alongside this development of a climate infrastructure on the international level, national and local governments began establishing climate-related programmes. The Alliance of Small Island States (AOSIS) formed in 1991 to evaluate and promote action to address their particular vulnerability to sea level rise and other climate-related events.[69] The International Council for Local Environmental Initiatives (ICLEI) was founded in 1990 by the representatives of 43 nations at the September 1990 World Congress of Local Governments for a Sustainable Future, held at the United Nations Headquarters in New York City.[70] In 1993 ICLEI fostered the Cities for Climate Protection Campaign (CCPC) which developed resources and frameworks for local governments to work together with national and international bodies on GHG reduction strategies.[71]

Civil society also began developing infrastructure and policy positions to address climate change. In fact, several of the same civil society parties that had participated in the successful creation of the Montreal Protocol on Substances that Deplete the Ozone Layer on 16 September 1987, were optimistic that they could rather seamlessly transfer to the climate issue.[72] The Climate Action Network (CAN), a coalition of several NGOs, was established in 1989, working

> to promote government and individual action to limit human-induced climate change to ecologically sustainable levels . . . through information exchange and the coordinated development of NGO strategy on international, regional, and national climate issues . . . [operating through] regional network hubs that coordinate these efforts around the world.[73]

The NGOs operating with CAN, however, remained divided along north-south lines, with "northern" NGOs focused more on environmental impacts and "southern" NGOs focused on development.[74] BNGOs also developed climate-related infrastructure through the formation of the Business Council for Sustainable Development (BCSD) in 1990 and the World Industry Council on the Environment, formed by the International Chamber of Commerce in 1993 (both groups later merged to form the World Business Council for Sustainable Development in 1995).[75]

On 21 December 1990, the UN General Assembly adopted resolution 45/212, establishing the International Negotiating Committee for a Framework Convention on Climate Change (INC).[76] The INC operated under the auspices of the General Assembly, supported by UNEP and WMO, with the mandate of preparing an effective framework convention on climate change to be opened for signature at the 1992 United Nations Conference on Environment and Development, which had previously been authorised in 1989. The INC met in five sessions between February 1991 and May 1992. On 9 May 1992, it agreed upon and adopted the text of the Convention, and recommended it for signature during the UNCED.[77]

Clearly, it was not as simple as that. Bodansky, a participant in several of the negotiating sessions, provides a discussion of the issues, challenges and insights that led to finalising the draft UNFCCC:

Negotiating History of the Intergovernmental Committee for a Framework Convention

Between February 1991 and May 1992, the INC held five sessions. Under the terms of the U.N. General Assembly resolution establishing the INC, each negotiating session could last only two weeks, and the INC was to complete its work in time for the Convention to be signed at UNCED. This included the structure of working groups, the venue for the negotiating sessions, the duration of the sessions, rules of procedure, the structure of the bureau, the Secretariat, and whether protocols should be negotiated simultaneously with the Convention. The question of who should conduct the negotiations had been looming in the background for some time. In 1989 and early 1990, most observers assumed that the negotiations, like the IPCC, would be conducted under the joint auspices of UNEP and WMO. Accordingly, these two organizations took the lead in the initial preparations for the negotiations. As developing countries became more actively involved in the climate change issue, however, the equation changed. The discussions in the INC followed a pattern common to international negotiations. At first, little progress was apparent. During most of 1991, states debated procedural issues and enunciated and reiterated their positions instead of bridging their differences by finding compromise formulations or engaging in tradeoffs or deals. Where they disagreed about a provision, participants simply bracketed the language in question (to indicate the disagreement) or added alternative

formulations. At the end of the year, much if not most of the text remained bracketed – sometimes in brackets within brackets within brackets.

This sparring process, although frustrating to those seeking rapid progress, played a necessary role by giving states an opportunity to voice their views and concerns. They learned about and gauged the strength of other states' views. They sent up trial balloons and explored possible areas of compromise. Indeed, without this mutual learning process, it is hard to imagine that agreement would have been possible. Real negotiations, however, began only in the final months before UNCED.

Given the public visibility of the UNCED process, most delegations wished to have a convention to sign in Rio. As one critic quipped, "The INC was doomed to success." Thus, when it became clear in the spring of 1992 that the United States would not accept definitive targets and timetables, that Western states would insist on some role for the Global Environmental Facility (GEF), and that developing countries would not accept strong commitments or implementation machinery, delegations finally got down to the hard work of crafting compromise language and produced a text that the INC adopted on the final night of the negotiations.

Obstacles to agreement

Several factors complicated the INC's task. First, the stakes in the negotiations were very high, since the world economy depends heavily on fossil fuels. As one observer notes, "[t]he causes of the greenhouse problem are deeply embedded in the central aspects of the world's economic and social activity: across transportation, industrial, agricultural, and forestry practices; from the developed to the developing world; and in the very growth of populations and economies. . . . A convention on climate change has the potential to affect economic and social activities profoundly," much more so than other international environmental agreements dealing with problems such as depletion of the ozone layer or acid rain, which have more limited and easily addressed causes. . . .

[S]tates have widely divergent interests that must be reconciled. They contribute to the climate change problem to varying degrees, have unequal costs of abating greenhouse gas emissions, and face different risks from global warming. Consider, for example, the differences between major fossil fuel producers, who fear that limitations on carbon dioxide emissions will depress oil prices, and small island states in the Pacific and Caribbean, who fear being inundated by rising sea levels. Although it is often stated that there would be no winners from global warming, some states in fact fear that the cure for climate change will be worse than the disease and are skeptical or even opposed to strong response measures . . .

[T]he climate change negotiations involved virtually every nation in the world. This was generally regarded as desirable, given the global nature of the problem. Indeed, developing country participation was actively promoted

through the establishment of a trust fund to subsidize attendance. However, this inclusiveness had its drawbacks, because, as a general rule, the more countries involved in a negotiation, the more difficult agreement becomes . . .[78]

[T]he climate change negotiators had less than eighteen months to conclude an agreement. Given the time needed for participants to formulate national positions and consult with other governments and for the INC Secretariat to translate documents into the six official U.N. languages, little time was left for the negotiations themselves. Most international environmental agreements have taken much longer to negotiate, even though they address less sensitive issues. Finally, the factor that may have introduced the most complications was that the INC involved not merely a negotiation within the North, between the 102 and 151 states participated in the various sessions of the INC. In contrast, 43 states participated in the negotiations for the Vienna Ozone Convention, and about 60 in the negotiations for the Montreal Protocol. Dozens of NGOs also participated in the INC. When the General Assembly established the INC it also established a special voluntary fund to ensure that developing countries are able "to participate fully and effectively in the negotiating process." In effect, the INC compressed into a single negotiation what had been a two-step process in the ozone negotiations. The Vienna Ozone Convention and Montreal Protocol had essentially been negotiations among developed countries; developing countries did not become heavily involved until the London Amendments were under consideration, after the initial agreements had already been adopted. In contrast, developing countries such as India, China, Brazil, Saudi Arabia, and the small island states participated actively in the INC from the start, disagreeing both with countries in the North and among themselves.

STATE INTERESTS AND GENERAL POSITIONS

OECD countries

Because Western developed countries – which make up the Organization of Economic Cooperation and Development (OECD) – account for a disproportionate share of greenhouse gas emissions, both the North and South assumed that developed countries would take the lead in addressing the climate change problem. OECD countries generally agreed that the Convention should institutionalize a strong process to address climate change, including regular meetings of the parties, scientific and implementation committees, detailed reporting requirements, and procedures to resolve questions about a country's compliance with the Convention. The most pronounced split within the OECD concerned targets and timetables to limit greenhouse gas emissions, which were favored by the European Community and vigorously opposed by the United States. . . .

Lesser developed countries

Although neither the North nor the South were monolithic, developed and developing countries tended to maintain quite different perspectives during the negotiations. Paralleling the split within the UNCED Preparatory Committee, the North tended to see climate change as an environmental issue, whereas the South saw it as a developmental issue. Despite widely divergent interests, the South, speaking through its political grouping – the so-called Group of 77 (G-77) – was united in arguing that the Convention must not hinder its ability to develop. Since increased greenhouse gas emissions, particularly of carbon dioxide, have traditionally been a by-product of industrialization and improved living standards, developing countries insisted that their emissions of greenhouse gases must be allowed to grow, eventually reaching the same per-capita level as the emissions of developed countries. Instead, industrialized countries should bear the main responsibility for addressing the climate change problem, since their excess emissions caused the problem in the first place.

The differences between the North and South were manifested most consistently in the discussions of financial resources. In the South's view, if the North wanted developing countries to take abatement measures, the North should pay for the costs, since it was responsible for causing the climate change problem. OECD countries, while conceding that they should provide financial resources to the developing countries, preferred to characterize these transfers in forward- rather than backward-looking terms.

Developed countries would undertake commitments to provide financial resources because of their greater capacity to pay, not because of their historical responsibility. Moreover, they insisted that their obligation to provide financial resources must be matched by corresponding undertakings by the South to develop and report on national policies and measures to limit greenhouse gas emissions and enhance sinks. Finally, the North believed that the GEF should serve as the financial mechanism for the Convention, while the South argued that a new institution should be established to administer the funds, under the collective authority of the parties to the Convention.

Apart from the financial issues, however, developing countries had difficulty acting as a bloc. Three groups emerged as particularly important: semi-industrialized developing countries, oil-producing states, and AOSIS. The big semi-industrialized developing countries – India, China, and Brazil – emphasized the development and equity issues. In their view, if anyone should limit greenhouse gas emissions, it should be the North, creating the "environmental space" necessary for the South to grow. . . . Finally, they regarded with suspicion proposals to establish strong monitoring, review, and enforcement mechanisms, since these would, in their view, be controlled by the North, which could use the mechanisms to criticize developing countries and interfere with their sovereign right to develop.

THE INC SESSIONS

INC 1: Chantilly, Virginia, February 4–14, 1991

At the invitation of the United States, the INC held its first meeting in February 1991 at the Westfields Conference Center in Chantilly, Virginia . . . Both the United Kingdom and the United States had prepared drafts of a climate convention in 1989, based on the Vienna Ozone Convention . . . Many delegations and non-governmental observers expressed frustration with what seemed to be the purely procedural nature of the Chantilly session. However, the discussions on the working groups' structure and mandates represented the initial skirmishes on the main substantive issues before the INC and served as a proxy for negotiations on a convention text.

INC 2: Geneva, June 19–28, 19912

The main source of controversy at INC 2 concerned "pledge and review," a concept introduced by Japan as a potential compromise on the targets and timetables issue. Under the Japanese proposal, states would be required to make unilateral pledges consisting of national strategies and response measures to limit their greenhouse gas emissions. An international team of experts would periodically review and evaluate the pledges and make recommendations. According to proponents, pledge and review would serve two purposes: the unilateral pledges would be a one-way ratchet toward stricter commitments by parties, and the international review process would promote transparency and accountability. Although the United Kingdom and France made similar proposals, most EC members expressed reservations about substituting "pledge and review" for internationally defined commitments. Environmental NGOs also sharply criticized pledge and review, dubbing it "hedge and retreat."[79]

INC 3: Nairobi, September 9–20, 1991

Progress continued to be slow at the third session, with the United States maintaining its opposition to targets and timetables for greenhouse gas emissions. Near the beginning of the session, the plenary held an extensive informal discussion of "pledge and review." Proponents of internationally defined targets and timetables insisted that such an approach should be adopted only as a supplement to, rather than a substitute for, international commitments to limit greenhouse gas emissions.

INC 4: Geneva, December 9–20, 1991

The fourth session continued the pattern established at INC 3. Rather than negotiate, states tended to reiterate their previously enunciated positions,

reintroducing proposals and language that had been omitted from the co-chairs' drafts. Perhaps the most notable aspect of INC 4 was the breakdown of the G-77. At INC 3, the G-77 had played a relatively low-key role, but early in the December session it had begun meeting on a regular basis in an attempt to draft proposals on the core provisions of the Convention. Initially, the G-77 initiative had some success when it agreed on a general principles text which other countries accepted in large part as a basis for discussion. During the second week of INC 4, however, the G-77 foundered on the question of what commitments to support. Unable to overcome this stumbling block, the G-77 Chair announced in plenary that the G-77 would no longer meet at the session as a group. Despite these problems, the INC made some progress, at least from a cosmetic standpoint. At the end of the session, the INC combined the various texts from the two working groups into a "Consolidated Working Document," allowing participants to claim that they had finally succeeded in preparing a negotiating text. In fact, this document was no different stylistically than the texts prepared for the session by the working group co-chairs, which the groups had agreed at the outset of the session to use as negotiating texts. However, by assembling the texts from the two working groups into a single document, the result looked more like a complete convention.

INC 5: New York, February and May 1992

Originally, the INC planned to hold only a single session in 1992. However, towards the end of 1991, the INC was still so far from completing its work that some delegations suggested the need for two sessions in 1992, one in February and another in April. Still, no final decision was made, for fear that, if delegations knew that there would be an additional session, they would merely continue to postpone making compromises. Ultimately, a resumed fifth session did prove necessary.

Part I: February 18–28, 1992

At the February session, intensive negotiations finally began. To expedite the discussions, the working group co-chairs encouraged contact groups to form on various issues such as financial resources, technology transfer, and implementation. While the more focused work style represented a substantial change from previous sessions, the INC succeeded in bridging few gaps in the text that emerged at the end of the meeting, Instead, with the Rio Summit fast approaching, states engaged in a game of chicken, hoping that the other side would blink first.

Extended Bureau Meeting: Paris, April 1992

At the end of the February meeting, the wide differences among delegations on the core issues of targets and timetables and financial commitments

and mechanisms, as well as the sheer volume of work remaining on the rest of the Convention, made many participants doubt that the INC would be able to finish the Convention at the resumed Fifth Session in April. The INC Chair therefore scheduled a meeting in mid-April of the so-called "Extended Bureau," a group consisting of the bureaus of the INC and of its two working groups and selected key delegations. While this quietly organized gathering technically violated the "no inter-sessional meeting" rule, no delegation objected. The Extended Bureau met from April 15 to 17 and discussed most aspects of the Convention, making progress on several issues. More importantly, however, the Bureau unanimously urged the Chair to develop his own compromise text for the final meeting, so that the INC would not have to work its way through the many brackets and alternatives remaining in the negotiating text. Somewhat reluctantly, the Chair agreed. Many participants believed that this move was critical to the ultimate success of the negotiations.

Part II: April 30–May 9, 1992

At the beginning of the resumed Fifth Session, the INC decided to abandon its working group structure and to divide instead into three groups to consider various clusters of articles. A group led by the INC Chair considered the core articles on commitments, financial mechanism, and reporting (restyled as "communication of information" to make it more politically palatable). A group chaired by the Algerian Vice-Chair examined the preamble and the objective and principles articles. Finally, a group led by the Argentine Vice-Chair considered the articles on institutions, dispute settlement, and final clauses. Toward the end of the session, this last group also served as a legal drafting group and considered articles from the other clusters. The core group met initially in an open-ended meeting, at which the U.S.- U.K. compromise text on specific commitments was heavily criticized, particularly by India and other developing countries. After giving all delegations the opportunity to express their views, the INC Chair reconstituted the extended Bureau, which met almost around the clock during the final days of the session to hammer out compromises on the outstanding issues. . . . Following a general discussion and some minor amendments, the Convention was finally adopted by acclamation on the evening of May 9, 1992.[80]

SETTING – AND UPSETTING – NEW UNFCCC RULES ("TOP DOWN/TWO TIER")

UNCED and the UNFCCC

UNCED, held from 3 to 14 June 1992, was the largest summit in UN history, bringing together heads of state and government from more than 160 countries and international organisations. More than 10,000 people attended the meeting

officially, and thousands more participated in parallel events organised by NGOs. Nearly 1,500 NGOs were accredited to attend formal and some informal meetings. This gave NGOs the opportunity to lobby governmental representatives, present documents, and meet and form coalitions among themselves, further increasing the complexity of the negotiations, even beyond the initial complexity generated from the participation of such a large number of member states.[81] The Treaty that emerged from the years of preparation and negotiation among government and non-governmental parties was the U.N. Framework Convention on Climate Change (UNFCCC).[82]

The UNFCCC reflects the challenges and policy objectives that had been developing over the previous decades. In the UNFCCC, the Parties found that human impact on the climate was a "common concern of mankind," establishing the international law basis for proceeding. They noted that developed countries were primarily responsible for current climate change and the need for developing country per-capita emissions to grow, specifically reflecting the principles of sustainable development and CBDR.[83]

While the UNFCCC noted the scientific difficulties in predicting climate change and its impacts, it strongly endorsed the "precautionary principle,"[84] stating that "Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost."[85]

The Convention sets out the Objective that would guide all further UNFCCC actions: "to achieve . . . stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[86] Article 4 of the UNFCCC sets out the "Commitments" the countries would make to achieve this. Article 4 also sets out the unique "Annex" structure, reflecting CBDR by incorporating different "Commitments" for different countries, based on the "Annex" in which they were included. The UNFCCC did not, however, contain legally binding limits on parties.[87]

Under Article 4.1, all parties committed to develop, periodically update, publish and make available to the Conference of the Parties "national inventories of anthropogenic emissions . . . of all greenhouse gases not controlled by the Montreal Protocol,[88] using comparable methodologies to be agreed upon by the Conference of the Parties."[89] All Parties further committed to implementing programmes and policies, such as environmental impact assessments,[90] for mitigation of and adaptation to climate change,[91] technology transfer and management of greenhouse gas "sinks and reservoirs,"[92] and to participating in scientific research and in their COP responsibilities.

Article 4.2 sets out additional commitments for "developed country Parties and other Parties included in Annex I."[93] The "other Parties" included Soviet bloc countries in the process of economic transition. The "Annex I Countries" committed to adopt policies and measures that would demonstrate that they were taking the lead in achieving the Convention's Objective, and communicating

these to the COP within six months, along with the results that the measures were expected to achieve. This communication would be the basis for the COP's review and, if necessary, augmentation of the measures at its first session and periodically thereafter, considering the "best available scientific information . . . as well as relevant technical, social and economic information." Annex II of the UNFCCC committed the most developed countries to provide financial resources to developing countries to meet their Convention obligations.[94]

A significant accomplishment of the UNFCC was the establishment, in Article 7, of the Conference of the Parties ("COP") as the "supreme body" of the UNFCCC. Article 7 afforded the COP significant authorities to manage and advance implementation of the Convention, including examining the parties' obligations and compliance therewith, facilitating information exchanges and joint compliance efforts, advancing climate change technologies and processes, and assessing the effects of the measures on achievement of the Convention's objective. By Article 17 the COP is authorised to adopt protocols to the Convention. The text of any protocol is required to be presented to the Parties six months prior to adoption, and the protocols were to establish their own requirements for entry into force.[95] Thus, the UNFCCC establishes the COP as a quasi-administrative agency, monitoring and facilitating ongoing compliance and advancing changes to promote achievement of the Convention's objective.[96]

The Convention was adopted at the United Nations Headquarters in New York on 9 May 1992 and was opened for signature at Rio de Janeiro on 4 June 1992.[97] In addition to the UNFCCC, another critical product of the Earth Summit, Agenda 21, addresses climate in its Chapter 9, with an extensive discussion of issues, proposed actions and costs of addressing climate change.[98] The UNFCCC entered into force on 21 March 1994. Currently, there are 197 Parties (196 States and 1 regional economic integration organisation) to the UNFCCC.[99]

While some were disappointed that the UNFCC did not set specific GHG limits, it did establish a credible basis for long-term management of the climate change issue. It clearly acknowledged CBDR and sustainable development, establishing both in its preamble statements and in its annex structure that developed countries would take the lead in addressing climate change without unduly burdening developing nations' ability to develop. It established the abiding objective that would predicate future requirements. It struck a balance between the precautionary principle's demand to act promptly, even in the face of scientific uncertainty, and the responsive need to do so at the lowest total cost, including through cooperative actions. It established the requirement for all parties to take the essential initial step in greenhouse gas management – creation of national GHG inventories – and to begin formulating programmes to reduce and remove emissions, particularly Annex I parties. By establishing the COP as, effectively, an ongoing administrative body continuously improving the climate regime, the UNFCCC sought to emulate successful models, such as under the Montreal Protocol, for managing a complex and evolving issue without a continual need for exclusive direct action by the parties.[100]

LEAD-UP TO THE 1997 KYOTO PROTOCOL

While the US administration of George H.W. Bush was viewed as negative or, at least cautious, respecting international action on climate change, November 1992 saw the election of the first Democratic US President in 12 years, William Clinton, and his Vice President Al Gore, together with Democratic control of both houses of the US Congress.[101] Vice President Gore had published his bestselling book, *Earth in the Balance*, strongly advocating action on climate change, shortly before his election.[102] This new administration inspired optimism of increased environmental leadership from the United States.[103] However, the Republican party won control of both houses of Congress in the 1994 mid-term election,[104] setting up a difficult dynamic for negotiating stronger climate measures to supplement the UNFCCC.

Ambassador Stuart Eizenstat, who led the US delegation at COP3 in Kyoto, explained the dynamic of developing the US negotiating position. Vice President Gore, who was deeply passionate and knowledgeable about the topic, was a tremendous catalyst for crystalising the position. Numerous other governmental and non-governmental entities also contributed to balance the level of scientific certainty, cost and environmental urgency.[105] TNC engagement in the UNFCCC negotiations reflected a spectrum of views, with some conservative sectors resistant to GHG regulation, but other very significant TNC representatives voicing support for long-term goals and market mechanisms to reduce GHGs.[106]

Kevin Fay, Executive Director of the International Climate Change Partnership (ICCP), an organisation representing TNCs supporting market mechanisms to control climate change,[107] notes that many of the more positive TNC interests included companies that had worked together successfully on the Montreal Protocol negotiations. He opines that the Kyoto negotiations may have represented an inflection point where TNC leadership began to view environmental regulation as an essential – or unavoidable – part of the industrial enterprise. Environmental regulations were essentially new in the 1970s, but by the mid-1990s, with a quarter century of experience, some significant successes, and several new C-Suite inhabitants, initial opposition had begun to evolve into strategies for how to best manage environmental impact.[108] At a minimum, TNC positions were not uniformly opposed to advancing the UNFCCC.

Ultimately, the US negotiating position had three essential components. First, any emission reduction targets assigned to the US would have to be less ambitious than those being advanced by the EU. The US position was that targets should be achievable, not quixotic. The belief was that the EU's proposed targets were unrealistic, and excessively driven by NGO input without adequate consideration of economic impacts. The US believed that reasonable targets would start on the path towards climate mitigation while still being politically feasible. Second, the US required that market mechanisms, such as emissions trading, would have to be permitted without limitation in achieving the targets. The US had confidence, based on its experience with its SO_2 programme, that trading would achieve the desired results at the lowest cost, again supporting political feasibility. The EU had less experience with emissions trading and proposed allowing trading only for a modest

portion of compliance reductions. Third, it was essential that the agreement include some commitment, even a commitment to slow emissions growth, from the G77 nations, particularly China and India. The belief was that without this there would be no hope of ratification.[109]

The first meeting of the UNFCCC COP (COP1) was held in Berlin in 1995. Pursuant to Article 4 of the UNFCCC the COP reviewed the climate measures undertaken by the Parties and, in the "Berlin Mandate," determined that they were inadequate for meeting the Convention's stated objective. The bases for this inadequacy included the lack of legally binding emissions limits, the lack of applicability to the post-2000 period, and, in the view of the US and certain others, the fact that emission limits did not extend to developing countries, such as China, whose GHG emissions were quickly rising.[110]

The COP then turned its attention to what to do about this inadequacy. The Mandate called for setting "quantified limitation and reduction objectives" (QLROs) with specified deadlines for Annex I countries, but not for non-Annex I countries.[111] However, the Berlin Mandate was unclear as to whether these QLROs would be legally binding and did not address extension of commitments to developing nations.[112]

In addition, at the urging of the United States, the Berlin Mandate agreed to pilot market-based compliance options, such as emissions trading.[113] The United States had achieved significant success with pollution emissions trading, particularly in the acid rain context, in the years leading up to the 1992 adoption of the UNFCCC, and was, therefore, a strong advocate of including trading in the IEL climate regime.[114]

Because the atmospheric impact of a greenhouse gas emission is effectively equivalent irrespective of where it is emitted,[115] and because emissions of different greenhouse gases or of utilising different fuels[116] can be equated through the concepts of GWP and CO_2e,[117] climate change governance provides significant opportunities for regulation through market mechanisms. The cost of greenhouse gas reductions can vary substantially depending on the source and location of the reductions, and the technologies utilised.[118] Since we should not care where or how GHG reductions are made, as long as they are documented and credible, there is an opportunity to simply state the desired reductions, and allow the market, the emitters and those who control reservoirs and sinks to determine the most efficient manner of making those reductions, without specifying the location or technology employed.[119]

Despite the inclusion of trading mechanisms in the climate regime negotiations, political dynamics in the US posed significant hurdles. And, because the US was, at the time, the largest emitter of greenhouse gases in the world,[120] the fate of the global climate governance system would be significantly affected by the US attitude towards climate change. The US Department of Energy's Amy Royden-Bloom provides insight into the challenges that the Clinton administration faced in negotiating an international climate agreement that was at odds with the views of the US Senate, which would be required for ratification:

> The so-called "Berlin Mandate" – in particular, the agreement of "developed countries go first" – would come to haunt the U.S. delegation in future negotiations because of domestic concerns about the trade implications of excluding China, India and Brazil from emissions reduction commitments. So, why did the United States agree to this? Senior officials in the government believed that the only way to move the process forward was to agree that the developed countries would reach an agreement first. The U.S.'s main objective in Berlin was to "keep the EU from pinning us [the U.S.] down on a target and to save JI [joint implementation]." The climate issue did not receive high-level attention at agencies other than the Department of State, though when representatives of the economic agencies weighed in, they expressed concern about compromising current economic growth to deal with a 100-year problem. Thus, at the usual interagency meetings that precede any major international negotiations, people may not have focused on the implications of developed countries agreeing to go first; there were no targets and timetables, so lots of flexibility remained.
>
> However, U.S. career staff at the Berlin negotiations realized that the Berlin Mandate would be "bad news on the Hill," but at this point, Congress was not focusing on the international climate change negotiations or U.S. positions. Agreeing to the Berlin mandate was a "tactical step to keep the process moving."[121]

COP2 was held in Geneva, Switzerland in August of 1996, soon after the IPPC's Second Assessment Report had confirmed that anthropogenic GHG emissions were contributing to climate change.[122] At COP2 the US, for the first time, through Under Secretary for Global Affairs Tim Wirth, announced its support for *binding* limits on GHGs, in part because they saw these as essential to the US's preferred policy alternative of emissions trading.[123] Ms. Royden provides insight on how domestic US policy interacted with international negotiations and the US position in the UNFCCC climate negotiations at this time:

> First, Wirth emphasized that the *negotiations* must focus on outcomes that are "real and achievable." By this, Wirth meant that any targets must be ones that countries could be expected to meet, rather than overly ambitious targets doomed to failure. Secondly, the U.S. would "continue to seek market based solutions that were flexible and cost-effective." Furthermore, Wirth's statement stressed that "it is the target that should be binding, not the individual measures, thus allowing maximum flexibility in implementation." Third, the U.S. believed that any agreement should "lay the foundation for continuing progress by all nations in the future . . . because all nations – developed and developing – must contribute to the solution to this challenge." The United States was committed to ensuring that all countries – developed and developing – "take steps to limit emissions, consistent with the mandate agreed upon last year in Berlin. . . ."
>
> The statement by Wirth paved the way for the negotiators to agree to the so-called "Geneva Declaration on Climate Change." In this Declaration,

ministers and other heads of delegations instructed their representatives to accelerate negotiations on the text of a legally binding protocol or another legal instrument to be completed in due time for adoption at COP-3. The agreement should contain for Annex I parties "quantified legally binding objectives for emission limitations and significant overall reductions within specified timeframes," and commitments for Annex I parties regarding policies and measures. Regarding developing countries, the Declaration welcomed their efforts to implement the Convention and make their initial communications, and called upon the Global Environmental Facility to provide support to them, recognizing that continued advancement by developing countries in meeting their commitments depended upon action by Annex II parties, in particular access to financial resources and environmentally-sound technology.

The U.S. announcement at COP-2 received widespread attention. While environmental groups were pleased with the U.S. announcement at COP-2, industry groups opposed any binding emissions limitations and were surprised by the U.S. proposal. Given this controversy, the White House tasked Katie McGinty, Council on Environmental Quality chairman, Gene Sperling of the National Economic Council, and Jim Steinberg of the National Security Council to head up policymaking on climate change and increase coordination among agencies in this policymaking process. While the White House had been involved in the policy meetings prior to COP-2, after COP-2 the White House led the climate change policymaking process.

1996 was a Presidential election year, and President Clinton defeated challengers Robert Dole and Ross Perot to win a second term in office. In addition, while the House and Senate remained in Republican control, their margin of control decreased. President Clinton had successfully used his battles with Congress over the budget, especially a shutdown of the federal government at the end of 1995 and beginning of 1996, to hammer Republicans for creating gridlock in the government. With a more favorable balance in the Congress, and some wins under its belt, the administration could perhaps feel more confident about achieving its goals.[124]

Despite the administration's confidence, on July 25, 1997, the U.S. Senate passed the Byrd-Hagel Resolution 95–0, expressing the "sense of the Senate" that the US should not agree to a GHG protocol that did not also require the developing countries to reduce or limit emissions, and opining that any such agreement would require the advice and consent of the Senate.[125]

The Geneva Declaration had called for development of a legally binding agreement under the UNFCCC at COP3, scheduled for Kyoto, Japan from 1–11 December 1997. US Under Secretary of State Wirth was originally scheduled to lead the US negotiations in Kyoto, but Ambassador Eizenstat was substituted a short time before the negotiations began. The Ambassador was accompanied by a US delegation of approximately 50 staff members from various federal agencies. While much of the delegation began negotiations on 1 December, senior

negotiators, including Ambassador Eizenstat, came for the last four days to attempt to finalise the agreement.[126]

The Ambassador's strategic approach was to build a coalition in juxtaposition to the EU. He managed to build an agreement among the US, Japan, Russia, Canada, Australia and New Zealand that developed its own proposed targets and advocated unlimited emissions trading. Thus, the US senior negotiators faced the challenge of coordinating and negotiating on several fronts. First, they had to coordinate this bloc of countries supporting the US approach. Second, they had to coordinate the input from the agencies represented by the 50 members of the US delegation. Third, they had to negotiate with the G77, and particularly China and India. As indicated above, it was critical to the US position to achieve some commitments on mitigation from these countries. Neither China nor India, however, would negotiate separately from the G77.[127] This bloc held strongly to the position that the developed countries were responsible for climate change due to past industrialisation, and the only fair approach was for developed countries to take the lead, rather than ask the developing nations to foreclose development to fix a problem they did not cause. Fourth, in addition to the official US negotiating delegation, members of both parties in Congress sent several representatives that had to be consistently briefed and whose views had to be considered.[128]

Ambassador Eizenstat benefitted from relationships formed during his experience as US Ambassador to the EU. Also, the chief negotiator for the EU was Lord John Prescott, Deputy Prime Minister of the UK. The UK's positions on climate were generally more aligned with those of the US when compared with other EU countries. In addition, the Ambassador benefitted from a close relationship with Vice President Gore, who had an international reputation on climate change. Mr. Gore made a dramatic speech at the negotiations, which demonstrated the depth of the US commitment.[129]

International NGOs, and particularly ENGOs, played an active role in the Kyoto negotiations, meeting frequently with the large delegations of the key countries.[130] However, their influence already showed signs of evolution since the 1992 Rio Conference. Betsil provides an interesting description of the challenges ENGOs faced in forming the cohesive structure necessary to impact formal negotiations around the Kyoto Protocol:

> During the Kyoto Protocol negotiations, ENGOs spent countless hours and hundreds of thousands of dollars attending international climate change meetings. American ENGOs worked hard to generate external pressure on the United States to alter its negotiating position. They also spent time lobbying the White House, hoping to capitalize on the arrival of the Clinton-Gore administration to push the United States forward on the climate change issue. However, American ENGOs virtually ignored Congress and the general public, which in retrospect was a missed opportunity.
>
> In the fall of 1997, members of the Clinton Cabinet embarked on a national tour to generate support for GHG reduction targets. Administration officials soon realized that there was little public support for emissions

reductions among members of the American public, whereas there was a large, vociferous, and well-financed constituency opposed to reductions. As cabinet members toured the country, they found no grassroots foundation on which U.S. decision makers could build a progressive negotiating position. As noted by one official, "the issue wasn't ready for the attention it was getting." Several American ENGO representatives now acknowledge they erred in not focusing more directly on the domestic political arena during the Kyoto Protocol negotiations, and have begun to put more resources into their domestic climate change programs.

Another significant challenge for ENGOs is the changing face of the environmental community. During the Kyoto Protocol negotiations, one of their greatest strengths was their ability to work together and speak with a single voice through CAN. However, it is becoming increasingly difficult for ENGOs to work together, due at least in part to their rising numbers. In addition, as the issues related to international climate change negotiations become more complex, ideological and geographical cleavages have become more pronounced.

As the Kyoto Protocol negotiations wore on, a growing number of ENGOs, many of whom had only recently taken up the issue of climate change, began attending the negotiating sessions. Thus, CAN members took on the additional task of educating new groups about both the substantive and procedural issues related to climate change negotiations. While recognizing the importance of increasing their membership and thus political reach, the core group of organizations and individuals who had been involved in global climate change negotiations from the beginning found they had to meet separately in executive committee meetings to discuss the more technical details of their positions and to decide which messages to promote during the negotiating sessions. As a result, CAN's organizational structure has become much more hierarchical than in the past. This leads to complaints that CAN no longer speaks for the environmental community as a whole, but instead represents the views of a small group of organizations based primarily in the North.

The issue of emissions trading has highlighted a fundamental ideological split among members of the ENGO community over the role of market mechanisms in addressing environmental problems. Efforts to create an international GHG emissions trading regime are largely based on the American experience with sulfur dioxide emissions. The EDF, and to a lesser extent the NRDC, have been particularly instrumental in this debate. During the Kyoto Protocol negotiations, EDF routinely advocated trading as a viable option for implementing the agreement's reduction targets. Many environmentalists objected to this position, arguing it would do little to bring about the fundamental social changes necessary to promote the sustainable use of resources and a just international economic order.[131]

In addition to the challenges noted by Betsil, it bears noting that Kyoto negotiations coincided with the investigations surrounding Whitehouse intern Monica

Lewinsky and US President Bill Clinton,[132] which may have diminished the US administration's effectiveness and bandwidth for building grassroots support for the Protocol. The negotiations drew to a close with major issues among the US, the EU and the G77 unresolved. Prior to the last plenary session, the parties had agreed that the US would have a lower target, but the EU continued to insist on language that reductions would only be driven through regulation, not through trading. In the last plenary, the hall was already being disassembled and the air conditioning disabled. The delegations were exhausted, with many delegation members sleeping right in the negotiating rooms. Ambassador Eizenstat compared the situation to a "neutron bomb" because it looked like the building was standing but everyone inside was dead.[133] There was a general belief that the US would concede on trading, in part because Vice President Gore had demonstrated how much he wanted an agreement. In the last plenary, however, Ambassador Eizenstat remained firm, and said he would go home without an agreement if they could not agree on unlimited emissions trading. At this point Kyoto Chairman Estrada called Prescott and the Ambassador into a private room, they agreed on language that arguably would allow for unlimited trading, and the agreement was signed.[134]

THE KYOTO PROTOCOL

The Protocol that emerged from COP3 in Kyoto, Japan set the framework of UN-based climate governance for the following several years. Just as the UNFCCC created an important administrative body with the COP, Article 13 of the Protocol required the COP to also serve as the Meeting of the Parties for the Protocol.[135] The COP/MOP became the key organisation administering this Protocol under the UNFCCC. The Protocol noted that its purpose was pursuit of the Objective set out in Article 2 of the UNFCCC.[136] It maintained the "Annex" structure of the UNFCCC, setting different obligations for Annex I countries and "non-Annex I" countries. Annex A of the Protocol defined the greenhouse gases that would be regulated,[137] and Article 3 committed the Annex I countries not to exceed the CO_2e emissions defined by quantified emission limitation and reduction commitments, (QELRs) which were recorded in Annex B.[138] The "commitment period" for the Protocol extended from 2008 to 2012.[139]

Article 5 of the Protocol required all Annex I countries to establish GHG inventory systems following methodologies, and formulae for calculating CO_2e and GWP approved by the IPCC and the COP.[140] Article 11 committed the most developed Parties to provide funding and technology transfer to the developing countries.[141]

Reflecting the influence of the US, the Protocol provides for three types of market mechanisms:[142] "emissions trading" among Annex I countries,[143] "clean development mechanism" or "CDM" trading between Annex I and non-Annex I countries,[144] and "joint implementation," which allows Annex I countries to jointly deploy emission reduction projects and compliance strategies.[145] The

CDM, established through Article 12 of the Protocol, became the most prolific. Article 12 provides that Annex I parties may utilise emission reductions from projects in non-Annex I countries to contribute to compliance with their QELRs. The Protocol assigned the COP/MOP authority to oversee the CDM. Article 12 requires the COP/MOP to ensure that a portion of the proceeds of CDM transactions would be devoted to assisting particularly vulnerable Parties with adaptation.[146] Thus, the CDM purported to address several policy objectives. By allowing Annex I countries to minimise compliance costs, CDM addressed the UNFCCC objective of least-cost approaches to climate change. Since CDM transactions were between developed and developing countries, they by definition would transfer funds and technology to the developing world. And, CDM addressed equity by dedicating a portion of CDM proceeds to adaptation in vulnerable countries.

The Kyoto Protocol established several principles and mechanisms that would shape climate change governance over the next decades. It identified the broad scope of fields in which GHG reductions could be sought, including energy efficiency,[147] protection of sinks and reservoirs, forest management, sustainable agriculture, renewable energy, carbon capture and sequestration (CCS), elimination of market imperfections, such as subsidies, that were adversely affecting a switch to lower carbon fuels, and reduction of emissions from transportation and landfills.[148]

The Protocol provides that

> [a]ny body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties serving as the meeting of the Parties to this Protocol as an observer, may be so admitted unless at least one third of the Parties present object.[149]

This provision establishes the basis for direct civil society participation in the Protocol processes. The Protocol also provides for establishment of provisions to deal with noncompliance[150] with and for ongoing modification of the Protocol, including by less than unanimous consent.[151]

POLITICAL CHANGE POST-KYOTO AND CIVIL SOCIETY'S RESPONSE

The Kyoto Protocol was adopted on 11 December 1997,[152] and was open for signature from 16 March 1998 to 15 March 1999, at which time it had 84 signatures. The Protocol was subject to ratification, and entered into force on 16 February 2005, upon ratification by 55 parties, including Annex I parties that accounted for at least 55 per cent of the total Annex I emissions of CO_2 for 1990.[153] Currently, there are 192 Parties to the Protocol, 191 states and the EU.[154]

While this ratification record is impressive, the fact that the largest GHG emitter at the time, the United States, in addition to Australia and certain other countries, did not immediately ratify the Protocol, raises significant questions about large-scale global MEAs, about the strategy of pursuing universal approaches to MEAs rather than "critical country" strategies, and about how global environmental governance can or should proceed in situations where countries with the greatest impact on the environmental issue under consideration cannot agree on a common path forward. As discussed below, the largest emitting country's refusal to ratify the Kyoto Protocol also drove significant civil society activity to supplement and goad the positivist, UN-based approach, but also to develop private law paths to climate governance which, in many ways, have supplanted the UN-based approach.

The US Senate Byrd-Hagel resolution of 25 July 1997, indicated the required Senate ratification of any agreement reached at Kyoto would be difficult.[155] Although the US participated in the COP3 adoption of the Kyoto Protocol in December of 1997, and US signed the Kyoto Protocol on 12 November 1998,[156] President Clinton made it clear that he viewed the Protocol as a "work in progress," which would not be submitted for ratification without "meaningful participation" by key developing countries.[157] The January 2001 advent of the administration of US President George W. Bush initiated further dramatic changes in the US approach to a global climate convention.

On 13 March 2001 President Bush wrote to several US Senators:

> Thank you for your letter of March 6, 2001, asking for the Administration's views on global climate change, in particular the Kyoto Protocol and efforts to regulate carbon dioxide under the Clean Air Act. My Administration takes the issue of global climate change very seriously.
>
> As you know, I oppose the Kyoto Protocol because it exempts 80 percent of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the U.S. economy. The Senate's vote, 95–0, shows that there is a clear consensus that the Kyoto Protocol is an unfair and ineffective means of addressing global climate change concerns.
>
> As you also know, I support a comprehensive and balanced national energy policy that takes into account the importance of improving air quality. Consistent with this balanced approach,
>
> I intend to work with the Congress on a multipollutant strategy to require power plants to reduce emissions of sulfur dioxide, nitrogen oxides, and mercury. Any such strategy would include phasing in reductions over a reasonable period of time, providing regulatory certainty, and offering market-based incentives to help industry meet the targets. I do not believe, however, that the government should impose on power plants mandatory emissions reductions for carbon dioxide, which is not a "pollutant" under the Clean Air Act.
>
> A recently released Department of Energy Report, "Analysis of Strategies for Reducing Multiple Emissions from Power Plants," concluded that

> including caps on carbon dioxide emissions as part of a multiple emissions strategy would lead to an even more dramatic shift from coal to natural gas for electric power generation and significantly higher electricity prices compared to scenarios in which only sulfur dioxide and nitrogen oxides were reduced.
>
> This is important new information that warrants a reevaluation, especially at a time of rising energy prices and a serious energy shortage. Coal generates more than half of America's electricity supply. At a time when California has already experienced energy shortages, and other Western states are worried about price and availability of energy this summer, we must be very careful not to take actions that could harm consumers. This is especially true given the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change and the lack of commercially available technologies for removing and storing carbon dioxide.
>
> Consistent with these concerns, we will continue to fully examine global climate change issues—including the science, technologies, market-based systems, and innovative options for addressing concentrations of greenhouse gases in the atmosphere. I am very optimistic that, with the proper focus and working with our friends and allies, we will be able to develop technologies, market incentives, and other creative ways to address global climate change.
>
> I look forward to working with you and others to address global climate change issues in the context of a national energy policy that protects our environment, consumers, and economy.
>
> Sincerely,
>
> GEORGE W. BUSH[158]

The US's rejection of the Protocol created, for a time, a "second pole" around which certain other countries could coalesce in rejecting the UN approach. Australia's Labor government participated in the Protocol negotiations while it was in power through 1996. However, 1996 saw the election of the Conservative Party, led by John Howard. The Howard government continued participation in the Kyoto negotiations and signed the Protocol in 1998. However, influenced by the US administration of George W. Bush, Prime Minister Howard announced in June 2002 that Australia would not ratify the Protocol due to its potential for damaging the Australian economy and because not all countries would participate in greenhouse gas reductions under the Protocol.[159] It was only after the Labor Party regained power that Australia finally ratified the Protocol in 2007.[160]

In addition to failing to pursue ratification, the US and Australia arguably undermined the Protocol by seeking to negotiate alternative multi-lateral climate agreements.[161] This international posture reflected concerns in both countries about the impact of greenhouse gas restrictions on domestic economies, particularly in view of the CBDR-based differences in the Kyoto Protocol's obligations for developed and developing nations. Thus,

> [a]t the domestic level in the US and Australia this agnosticism to climate change commitments was also reflected in a stagnation or outright opposition

> to the development or strengthening of public laws to address climate change. The US and Australia, at the time both opposed to the Kyoto Protocol, were key actors in engineering [a] fragmentation of the international dialogue on climate change.[162]

Ambassador Eizenstat, however, provides a nuanced assessment of the impact of the Kyoto Protocol, despite its rejection by major countries. If the formal IEL process is viewed as a whole, rather than in relation to discrete products, the Kyoto Protocol and subsequent debate did memorialise what the US might be willing to accept. Acceptable targets and unlimited trading were arguably achieved in the Protocol. If the "third piece" of developing country contributions could be achieved in the next round of negotiations, the Kyoto Protocol and subsequent negotiations indicated that the US would be willing to proceed to ratification.[163] It is worth noting, however, that the 2015 Paris Decision and Agreement did include developing country contributions, and it was still rejected by President Trump in 2017.

NOTES

1 https://www.ipcc.ch/about/history/
2 https://www.ipcc.ch/about/history/
3 https://history.aip.org/climate/index.htm.
4 http://www.un.org/humansecurity/climate-change/
5 Brad Plumer, "At Bonn Climate Talks, Stakes Get Higher in Gamble on Planet's Future," *NYT*, 18 November 2017, available at: https://www.nytimes.com/2017/11/18/climate/un-bonn-climate-talks.html?_r=0. Not all politicians have shared Chancellor Merkel's assessment of the importance of climate change. In November 2012, then candidate, and later U.S. President Donald Trump "tweeted" that "The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive," available at: https://twitter.com/realdonaldtrump/status/265895292191248385?lang=en. One policy approach that some political leaders and private individuals have taken, therefore, is to deny its existence. While this position appears at odds with scientific consensus, it is important to understand the climate deniers' position.

   Denial has been directed at various aspects of the climate change dynamic, including that CO_2 and other greenhouse gases represent too small a percentage of the atmosphere to have the hypothesised impact, that observed climate change is part of a natural, unalterable climate cycle, or that other phenomena, such as water vapour, account for observed climate change. Others claim that reported trends are faulty, and are artefacts of poor historical data, of the development of urban "heat islands" or other errors.

   Other deniers claim that, even if climate change is occurring, its impacts are grossly overstated. Warming climates may extend growing seasons, reduce negative impacts of severe cold weather, and open new shipping routes. Negative impacts that do occur can, deniers argue, be addressed through adaptation that would be far less costly and disruptive than extensive measures that will be required to mitigate climate change.
6 IPCC, Climate Change 2014, Synthesis Report, available at: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf, at 2.

7 Secretary-General's remarks on Climate Change [as delivered] (10 September 2018), available at: https://www.un.org/sg/en/content/sg/statement/2018-09-10/secretary-generals-remarks-climate-change-delivered.
8 As explained by Professor William Nordhaus of Yale:

> The 1648 Treaty of Westphalia established the central principles of modern international law. First, nations are sovereign and have the fundamental right of political self-determination; second, states are legally equal; and third, states are free to manage their internal affairs without the intervention of other states. The current Westphalian system requires that countries consent to joining international agreements, and all agreements are therefore essentially voluntary (Treaty of Vienna 1969, article 34).

William Nordhaus, "Climate Clubs: Overcoming Free-riding in International Climate Policy," *American Economic Review* (2015), 105 (4), 1339–70, available at: https://economics.stanford.edu/sites/default/files/climateclubs-aer-2015.pdf.
9 Benedict Kingsbury, "Sovereignty and Inequality," *Eur J Int Law* (1998), 9 (3), 599, 1, 75 (discussing erosion of traditional concept of international environmental law as solely the province of sovereign states).
10 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B1-B8.
11 See *infra* at pp. 261–64 and 314–16.
12 See Celine Germont Duret, "Paris Agreement: Success or Failure, and What Next?," Climatica, 24 August 2017, available at: http://climatica.org.uk/paris-agreement-success-failure-next (discussing how US President Trump's abrupt 2017 withdrawal from the 2015 Paris Climate Agreement placed the global climate regime in doubt).
13 See *infra* at pp. 286–96.
14 14 August 2017 email from Julia Casciotti, Sector Lead, Disclosure Services, CDP (on file with author).
15 Power Forward 3.0, "How the largest U.S. companies are capturing business value while addressing climate change," 2017, at 12, available at: http://buyersprinciples.org/wp-content/uploads/Power_Forward_3.0_-_April_2017_-_Digital_Second_Final.pdf.
16 https://www.blackrock.com/corporate/about-us.
17 https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.
18 State of the Voluntary Carbon Markets 2017, Ecosystem Marketplace, available at: http://forest-trends.org/releases/p/sovcm2017.
19 Stephen Leahy, "Half of U.S. Spending Power Behind Paris Climate Agreement," *National Geographic*, 15 November 2017, available at: https://news.nationalgeographic.com/2017/11/were-still-in-paris-climate-agreement-coalition-bonn-cop23/.
20 http://www.corporateecoforum.com/celebrating-10th-anniversary-letter-cef-founder-mr-rangaswami/.
21 As explained by Professor William Nordhaus of Yale:

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international agreements, and all agreements are therefore essentially voluntary (Treaty of Vienna 1969, article 34).

William Nordhaus, "Climate Clubs: Overcoming Free-riding in International Climate Policy," *American Economic Review* (2015), 105 (4), 1339–70, available at: https://economics.stanford.edu/sites/default/files/climateclubs-aer-2015.pdf; see also, Benedict Kingsbury, "Sovereignty and Inequality," *Eur J Int Law* (1998), 9 (3), 599, 1, 75 (discussing erosion of traditional concept of international environmental law as solely the province of sovereign states); Philip Allott, *The Health of Nations: Society and Law Beyond the State*, Cambridge: Cambridge University Press, 2002, 399–422.

22 Jessica T. Mathews, "Power Shift," *Foreign Affairs*, (1997), 76 (1), 50.

23 Harold H. Koh, "Review Essay: Why Do Nations Obey International Law?" *Yale LJ* (1996–1997), 106, 2599, 2630–31.

24 https://www.yahoo.com/news/un-chief-says-absolutely-essential-paris-climate-deal-205941302.html

25 Gerry J. Nagtzaam, "The International Whaling Commission and the Great White Whale of Preservationism," *Wm. & Mary Envtl. L. & Pol'y Rev.* (2009), 33, 375, 377–82.

26 Professor Cherie Metcalf has noted that "[t]ransnational firms have increasingly become the focus of attention as active participants in the process of generating and implementing law and norms internationally. The world's largest companies are increasingly undertaking voluntary commitments that overlap with goals and standards drawn from within the realm of traditionally public regulation. . . . The geographic reach of the world's largest companies, combined with a lack of corresponding international regulatory authority, raises the question of whether voluntary self-regulation by firms through corporate social responsibility can operate as an effective channel for transnational norm implementation." Cherie Metcalf, "Corporate Social Responsibility as Global Public Law: Third Party Rankings as Regulation by Information," *Pace Envtl. L. Rev.* (2010), 28, 145, 145–46.

27 http://wearestillin.com/; see also, http://www.france24.com/en/20170601-cities-states-companies-climate-paris-agreement-trump; https://www.nytimes.com/2017/06/01/climate/american-cities-climate-standards.html?_r=0; https://business-humanrights.org/en/usa-ngos-firms-reaffirm-commitment-to-fight-climate-change-following-trumps-limitations-to-climate-actions.

28 Julian Borger, "Bush Kills Global Warming Treaty," *The Guardian*, 29 March 2001, available at: https://www.theguardian.com/environment/2001/mar/29/globalwarming.usnews.

29 U.S. Department of State, "United States Signs the Kyoto Protocol," 12 November 1998, available at: https://1997-2001.state.gov/global/global_issues/climate/fs-us_sign_kyoto_981112.html.

30 "Australia Rejects Kyoto Pact," BBC News, 5 June 2002, available at: http://news.bbc.co.uk/2/hi/asia-pacific/2026446.stm. After a change in government, Prime Minister Kevin Rudd signed the instrument of ratification for the Protocol on 3 December 2007. "Australia Ratifies the Kyoto Protocol," *The Sydney Morning Herald*, 3 December 2007, available at: https://www.smh.com.au/news/environment/rudd-signs-kyoto-deal/2007/12/03/1196530553203.html.

31 Greenhouse gases are emitted from a vast array of natural and anthropogenic processes. Moreover, the rate of generation is often affected by activities divorced

from the actual process generating the emissions. For example, an electric device may use the same amount of electricity irrespective of how that electricity is generated, but that use will account for more CO_2 emissions if that electricity is generated with coal than if it is generated through solar panels. Similarly, two companies with the same number of employees will account for different levels of greenhouse gas emissions if one company's employees commute with personal gas powered vehicles and the other company's employees commute by bicycle. The climate change governance ecosystem has addressed this complexity through the concept of "scope," with Scope 1 emissions being direct GHG emissions from sources owned or controlled by the reporting entity (e.g., on-site gas-fired boilers); Scope 2 emissions being indirect GHG emissions from the consumption of electricity, heat or steam where the combustion to generate these takes place at the utility or other off-site source; and Scope 3 emissions being other indirect emissions from things like employee travel, outsourced activities, etc. *The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard*, available at: https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

32 The Working Group on the Anthropocene of the International Geological Congress recommended designating the current era as the Anthropocene in August of 2016. https://www.sciencealert.com/scientists-just-declared-the-dawn-of-a-new-human-influenced-epoch.

33 See Cinnamon P. Carlane and Jeffrey M. Bielicki, Chapter 10.2, "The Role of Environmental Law," in Matilda van den Bosch and William Bird (eds), *Oxford Textbook of Nature and Public Health*, Oxford, Oxford University Press, 2018, at 298 ("'Environmental law' is an expansive term frequently used to discuss the legal and regulatory strategies used to control pollution, manage natural resources, and generally mediate how humans interact with the natural environment.").

34 https://history.aip.org/climate/index.htm.

35 See USEPA, "Climate Impacts on Society," available at: https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-society_.html (describing breadth of societal impacts from climate change).

36 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf.

37 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B1.

38 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B1. One critical issue in addressing climate change is that different greenhouse gases have different greenhouse impacts. If comparability among them can be achieved then policies can address the totality of climate change impact in a more consistent, efficient and targeted way. Comparability among greenhouse gases has been established through a measure called "global warming potential," or GWP (similarly expressed as "CO_2e" or carbon dioxide equivalence). As explained by the United States Environmental Protection Agency:

> Different GHGs can have different effects on the Earth's warming. Two key ways in which these gases differ from each other are their ability to absorb energy (their "radiative efficiency"), and how long they stay in the atmosphere (also known as their "lifetime").
>
> The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of

how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases.

CO_2, by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO_2 remains in the climate system for a very long time: CO_2 emissions cause increases in atmospheric concentrations of CO_2 that will last thousands of years.

Methane (CH_4) is estimated to have a GWP of 28–36 over 100 years . . . CH_4 emitted today lasts about a decade on average, which is much less time than CO_2. But CH_4 also absorbs much more energy than CO_2. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH_4 GWP also accounts for some indirect effects, such as the fact that CH_4 is a precursor to ozone, and ozone is itself a GHG.

Nitrous Oxide (N_2O) has a GWP 265–298 times that of CO_2 for a 100-year timescale. N_2O emitted today remains in the atmosphere for more than 100 years, on average.

Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are sometimes called high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO_2. (The GWPs for these gases can be in the thousands or tens of thousands).

See https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.

By allowing the equation of greenhouse gases of different types and locations, the concepts of GWP and CO_2e open up opportunities to assess sources of climate change impact and identify the least-cost methods of GHG mitigation, potentially minimising the overall cost of addressing climate change.

39 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B2. One mechanism for reducing CO_2 concentrations in the atmosphere is to increase, or at least preserve, the rate of photosynthesis. According to some measures, deforestation accounts for up to 18% of global greenhouse gas emissions, more than global transport and aviation combined. Vivienne Holloway and Esteban Giandomenico, "Carbon Planet White Paper: The History of REDD Policy," 4 December 2009, available at: http://redd.unfccc.int/uploads/2_164_redd_20091216_carbon_planet_the_history_of_redd_carbon_planet.pdf, at 3.

Protecting CO_2 sinks and reservoirs – such as vegetated areas sequestering CO_2 – by paying owners and surrounding communities to preserve them potentially has the additional benefits of preserving habitat and biodiversity, and providing revenue to populations co-located with those vegetated areas. Under a Reducing Emissions from Deforestation and Degradation (REDD) project, project proponents typically negotiate with governments and communities with ownership or other interests in a vegetated area to preserve and/or manage the area in a sustainable way to maximise carbon sequestration. Sink and reservoir protection is explicitly endorsed in Articles 2 and 3 of the Kyoto Protocol, and public–private partnerships engaged in collaborative sink/reservoir protection projects from the time the Protocol was

signed. Vivienne Holloway and Esteban Giandomenico, "Carbon Planet White Paper: The History of REDD Policy," 4 December 2009, available at: http://redd.unfccc.int/uploads/2_164_redd_20091216_carbon_planet_the_history_of_redd_carbon_planet.pdf, at 5–7. REDD projects can generate tradeable credits through the CDM program under the Kyoto Protocol. See http://cdm.unfccc.int/Statistics/Registration/RegisteredProjByScopePieChart.html.

40 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B2–B3.
41 http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf, at B5–B6.
42 IPCC, "Climate Change 2014, Synthesis Report," available at: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf.
43 Ibid., at 2–4.
44 Ibid., at 6.
45 Ibid., at 7–8.
46 Ibid., at 8–10.
47 Ibid., at 11–13.
48 Ibid., at 15.
49 Ibid., at 13.
50 Ibid., at 16.
51 Ibid., at 16. Climate change policies have considered a variety of human-engineered solutions focused directly on altering the natural environment. Referred to collectively as "geoengineering," this approach includes both measures to remove greenhouse gases from the atmosphere and sequester them safely, and measures to increase reflection of solar energy away from the earth ("albedo" modification). In 2015 the US National Academy of Sciences completed an exhaustive review of both categories of geoengineering, concluding that neither would substitute for efforts to mitigate greenhouse gas emissions. https://nas-sites.org/americasclimatechoices/other-reports-on-climate-change/climate-intervention-reports/.
52 https://www.yahoo.com/news/un-chief-says-absolutely-essential-paris-climate-deal-205941302.html
53 The UN provides a useful timeline of many of the key milestones in the IEL climate regime at http://www.un.org/sustainabledevelopment/climate-negotiations-timeline/.
54 https://history.aip.org/climate/index.htm.
55 https://public.wmo.int/en/bulletin/history-climate-activities.
56 https://public.wmo.int/en/bulletin/history-climate-activities.
57 https://public.wmo.int/en/bulletin/history-climate-activities.
58 https://public.wmo.int/en/bulletin/history-climate-activities.
59 In 1983 the UN General Assembly established the World Commission on Environment and Development (WCED), often referred to as the Brundtland Commission after its Chairperson, Gro Harlem Brundtland.
60 http://www.un-documents.net/our-common-future.pdf.
61 http://www.un-documents.net/our-common-future.pdf.
62 http://cisdl.org/public/docs/news/brief_common.pdf.
63 USEPS, Overview of Greenhouse Gases, https://www.epa.gov/ghgemissions/overview-greenhouse-gases.
64 https://unfccc.int/files/methods/other_methodological_issues/application/pdf/match_summary_report_.pdf.

65 https://www.nature.com/articles/srep20281.
66 https://wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters.
67 https://public.wmo.int/en/bulletin/history-climate-activities
68 https://public.wmo.int/en/bulletin/history-climate-activities
69 http://aosis.org/about/.
70 https://www.freedomadvocates.org/wp-content/uploads/2017/01/icleicharter2003.pdf
71 Gard Lindseth, "The Cities for Climate Protection Campaign (CCPC) and the Framing of Local Climate Policy," *Local Environment* (2004), 9 (4), 325–36, 326.
72 Interview 13 June 2018 with Kevin Fay, Executive Director, ICCP (on file with author).
73 http://www.climatenetwork.org/about/about-can.
74 Joyeeta Gupta, "A History of International Climate Change Policy," *Wires Climate Change* (2010), 1, 636, 640.
75 http://www.uia.org/s/or/en/1100044048, http://old.wbcsd.org/about/history.aspx.
76 http://www.un.org/documents/ga/res/45/a45r212.htm.
77 http://legal.un.org/avl/pdf/ha/ccc/ccc_ph_e.pdf.
78 Author's Note: This is a recurring debate in the IEL arena and, in particular, with respect to climate change: what we will call the "Critical Country Approach" (CCA), or what has been referred to as the "E-9" or "E-8" approach. The history of IEL has often been one of mega-conferences with thousands of formal and informal governmental and non-governmental participants attempting to reach consensus among all or nearly all of the UN member nations.

As described by US Special Envoy for Climate Change Todd Stern and William Antholis of the Miller Center:

> [IEL] negotiations typically involve over 150 nations, often grouped into competing negotiating blocs, which must negotiate internally as well as among themselves. Environmental issues rarely motivate top-level decision-makers, so negotiations are conducted by bureaucrats empowered to make technical level decisions, but not political compromises. Moreover, substantial UN bureaucracies often grow up around the issues, further slowing the pace of progress. When political energy is finally brought to bear by ministers, arriving with too little time left in a session, the results are too often continued stalemate or modest compromise. And that doesn't count the difficulties of getting a signed treaty ratified, or ensuring the implementation of a treaty once it has entered into force. This is no way to run a planet.

Todd Stern and William J. Antholis, "Climate Change: Creating an E8," 1 January 2007, available at: https://www.brookings.edu/articles/climate-change-creating-an-e8/.

In fact, while there are 193 current member states in the UN, for many IEL issues a small subset of this number has the capacity to materially impact the global environmental problem under consideration. The CCA approach focuses on the countries with the most significant impact and opportunity respecting environmen- concerns, rather than on the 193 current members of the UN. Worldwatch Institute has advocated creation of an "E-9" as an organizing structure for mobilizing the most environmentally critical countries around IEL issues. The proposed "E-9" would be a coalition of developed and developing countries with a dominant level

of consequence for IEL issues by virtue of their population, GDP, greenhouse gas and other emissions and collective biodiversity. Thus, the "E-9" countries are those with a disproportionate ability and responsibility to design and effect IEL outcomes. Worldwatch Institute argues that these countries should be organized along the lines of the G-8 to meet regularly and consider the range of pressing IEL problems and opportunities and to promote sustainable development. While Worldwatch anticipates that the "E-9" negotiations would still confront the central questions currently consuming larger UN negotiations, they posit that this smaller number of consequential parties would have a better chance of achieving North-South consensus and of negotiating solutions with an enhanced chance of success. Worldwatch does not propose that the E-9 would supplant broader international institutions but would rather lead the effort of shaping options and moving nimbly in urgent circumstances. Its initiatives would serve as models and catalysts for compatible efforts by the broader international community. In addition, the "E-9's" less formalized structure could make it more conducive to collaboration with civil society, and more able to incorporate elements of the broader governance ecosystem. Worldwatch cites climate change as a particularly appropriate case for an "E-9" approach, given the large proportion of the world's consumption of fossil fuels accounted for by the leading economies. A shift by these economies to low-global-warming-potential measures would have a significant impact on global emissions and would also spur innovation and models for other countries to utilize. Worldwatch Institute, *State of the World 2001*, Available at: http://www.worldwatch.org/node/1040, at 19.

Stern and Antholis similarly advocate an "E8" approach. Todd Stern and William J. Antholis, "Climate Change: Creating an E8," 1 January 2007, available at: https://www.brookings.edu/articles/climate-change-creating-an-e8/. This approach is also informally recognised in UN procedures through the "Friends of the Chair" device, in which critical nations may be separated from negotiations to resolve contentious issues when broader negotiations have reached an impasse. International Institute for Sustainable Development [IISD], *Summary of the Copenhagen Climate Change Conference, 7–19 December 2009*, (UK), 22 December, 2009, available at: http://www.iisd.ca/vol12/enb12459e.html. The potential practicality of the CCA may be most appealing in the aftermath of the significant failures that have plagued UN efforts to forge progress among all or nearly all of its member states, together with thousands of participating non-state bodies. Following the perceived failure in 2009 to reach a global climate agreement at the Conference of the Parties to the UNFCCC in Copenhagen, Brazil's delegate pointed out: "There are 20 countries that produce almost 95 percent of global greenhouse gas emissions . . . These are the countries that should be talking about greenhouse gas reductions," causing Professor Gerry Natzgaam to suggest "[t]he key may be to create a new body with a small number of vital states to effect cooperation which others can slipstream behind." Gerry Nagtzaam, What Rough Beast? Copenhagen and Creating a Successor Agreement to the Kyoto Protocol, *Monash University Law Review* (2010), 36, 215, 236–37.

The CCA acknowledges that the most effective and efficient path towards addressing our pressing environmental concerns, including climate change, may be to focus negotiating resources on the countries with the most control over the solution. If the vast majority of carbon emissions, demand for fossil fuel and protection of carbon sinks and reservoirs could be addressed by an agreement among a relatively small number of countries, efforts to negotiate a broader agreement may be consuming time and

creating complexity that we simply cannot afford. See World Resources 2002–2004, available at: http://pdf.wri.org/wr2002_fullreport.pdf, chapter 7, at 150:

> International negotiating processes must accommodate the differing views of as many as 190 governments. As a result, they are often excruciatingly slow, often with a decade passing between the time the international community begins to mobilize and the time a final treaty is signed. Even then, the treaty does not immediately enter into force, since it can take years to be ratified by some minimum number of countries. The negotiations for the UN Law of the Sea, one of the primary treaties dealing with management of coastal and deep sea waters, spanned a period of 9 years before its signing in 1982, and required another 12 to muster the ratifications it required to enter into force (United Nations 2003). This delay between identifying a problem and acting on it is particularly troublesome because environmental problems can amplify quickly, calling for rapid response.

However, the CCA may be resisted by parties advocating an "all in" approach on the basis that decisions made by a small number of "critical countries" would be undemocratic and illegitimate. Gerry Nagtzaam, What Rough Beast? Copenhagen and Creating a Successor Agreement to the Kyoto Protocol, *Monash University Law Review* (2010), 36, 215, 237.

79 It is interesting to note that the international community effectively returned to the "pledge and review" approach in the Copenhagen Accord of 2009 and, more robustly, in the Paris Decision and Agreement of 2015. One can question whether the international climate regime would have had more success if it had pursued this approach in the 1992 UNFCCC.

80 Daniel Bodansky, "The United Nations Framework Convention on Climate Change: A Commentary," *Yale J. Int'l L.* (1993), 18, 474–92. Available at: http://digitalcommons.law.yale.edu/yjil/vol18/iss2/2. Citations omitted.

81 Chiara Giorgetti, "From Rio to Kyoto: A Study of the Involvement of Non-Governmental Organizations in the Negotiations on Climate Change," *N.Y.U. Envtl. L.J.* (1999), 7, 201, 205–6.

82 http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

83 Ibid., at 2–3.

84 The Precautionary Principle provides that, when significant adverse, and possibly irreversible, impacts may result from action or inaction, scientific uncertainty respecting those potential impacts shall not be relied on as a basis to avoid taking measures to avoid them. The Principle thus emphasizes the prevention of the adverse effects, even in the absence of scientific certainty. The issue of climate change entails numerous and significant uncertainties, including the impact of synergistic effects, the challenge of modelling complex global systems, the precise nature of responses to climate change, etc. The Precautionary Principle would suggest that, despite these uncertainties, the potentially calamitous impacts of climate change warrant action without waiting for these uncertainties to be resolved. See http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=437.

85 http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf, at Art. 3.3.

86 Ibid., at Art. 2.

87 Susan Biniaz, "Comma But Differentiated Responsibilities: Punctuation and 30 Other Ways Negotiators Have Resolved Issues in the International Climate Change

Regime," June 2016, available at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/biniaz_2016_june_comma_diff_responsibilities.pdf, at 21.

88 The UN's 1987 Montreal Protocol on Substances that Deplete the Ozone Layer was enacted to control production, consumption, and emissions of ozone-depleting substances (ODSs). Many ODSs controlled by the Montreal Protocol are also greenhouse gases, however, they are excluded from the UNFCCC. See Guus J. M. Velders, Stephen O. Andersen, John S. Daniel, David W. Fahey and Mack McFarland, "The Importance of the Montreal Protocol in Protecting Climate," *PNAS* (2007), 104 (12), 4814–19, available at: http://www.pnas.org/content/104/12/4814.

89 The importance and difficulty of this Commitment cannot be overstated. Before you can manage or regulate greenhouse gases, you need to be able to identify and quantify what you are managing. Creating a greenhouse gas inventory is therefore a critical foundation of any system of greenhouse gas governance. In discussing the criticality of a credible, uniform GHG inventory and accounting methodology, Professor Glen Peters of the Oslo Centre for International Climate Research stated "if you can't track progress sufficiently . . . you basically can't do anything. So, without good data as a basis . . . it just becomes a talkfest without much progress." See http://www.bbc.com/news/science-environment-40669449.

The measurement challenge cannot be overstated, since greenhouse gas emissions derive from virtually every anthropogenic and natural process, comprise numerous types of gases, and include Scopes 1, 2 and 3 emissions. GHGs are often not measured directly, but must be calculated from models respecting the relevant combustion processes. Any effective global climate programme will require an ability to apply common quantification and measurement standards across different countries that might have very different greenhouse gas generation conditions. In 2010 the Scripps Institute held a workshop on "Greenhouse Gas Emissions Quantification and Verification Strategies," which detailed the criticality of accurate and consistent measurement, reporting and verification of GHGs to the entire enterprise of GHG governance. This effort is confounded by different measurement systems in different jurisdictions. Also, different types of measurement systems may be needed for intense sources, such as industrial discharge points, and for diffuse sources, such as landfills or deforestation, and for converting energy use to the emissions corresponding to the generation of that energy from different sources. "Greenhouse Gas Emissions Quantification and Verification Strategies Workshop Summary Report June 2–3, 2010," Scripps Institution of Oceanography La Jolla, California, available at: https://web.archive.org/web/20160331071803/http://events.energetics.com/NISTScripps2010/pdfs/GHGWorkshopReport.pdf.

In addition to being a building block for all other greenhouse gas governance, disclosure of credible greenhouse gas inventories can itself be a significant driver of greenhouse gas reduction activity. Proactive sustainability programmes, reputational concerns, customer procurement policies, investor interest, Trade Commission enforcement and other factors help ensure that when companies disclose their greenhouse gas emissions, they will have incentives to consistently reduce them. An instructive global model for this approach is the US Toxics Release Inventory (TRI), which was created under the Emergency Planning and Community Right to Know Act in 1986. TRI doesn't set emission reduction requirements, but it requires parties with emissions of specified pollutants above prescribed limits to report on those emissions, with the reports then made public

by the US Environmental Protection Agency. Speaking on the 30th anniversary of TRI, US Senator Tom Udall stated:

> After 30 years, the Emergency Planning and Community Right-to-Know-Act has exceeded expectations in driving down the use and release of toxic chemicals. This law created EPA's TRI Program and has given concerned citizens, researchers, and others access to information that should be a basic right to know. While it was a new approach in 1986, today more than fifty countries have established their own registries, using the TRI as a model. These registries, in the U.S. and abroad, have allowed companies to learn best practices from each other and, simply by shining a spotlight on releases of toxic chemicals, have led to dramatic reductions.

Available at : https://www.epa.gov/toxics-release-inventory-tri-program/30th-anniversary-toxics-release-inventory-tri-program.

Inventory and disclosure, therefore, is both an essential precursor to any GHG governance, and a formidable control strategy in its own right.

90 The requirement to evaluate the potential environmental impact of a proposed project through an Environmental Impact Assessment or EIA has become so widespread that the International Court of Justice has determined this to be required by customary international law, see Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) (April 20, 2010), par. 204. Under the EIA process, the scope of the project and its potential environmental impacts must be evaluated. Once potential impacts have been identified, the project proponent is required to explain how those impacts can be justified or mitigated. Throughout the world, many countries now require consideration of greenhouse gas and climate implications as part of the potential impacts considered in an EIA. See http://conferences.iaia.org/2013/pdf/Final%20papers%20review%20process%2013/Greenhouse%20Gases%20and%20Climate%20in%20Environmental%20Impact%20Assessment%20%E2%80%93%20Practical%20Guidance.pdf. The EIA therefore provides another policy option for addressing climate change.

91 Another concept essential to understanding climate change governance is the distinction between mitigation and adaptation. Because atmospheric loading of greenhouse gases is already extensive and will remain so for centuries, policies must be directed to both limiting future damage (mitigation) and helping populations cope with the climate change consequences that will inevitably occur (adaptation). According to National Aeronautics and Space Administration (NASA):

> Mitigation – reducing climate change – involves reducing the flow of heat-trapping greenhouse gases into the atmosphere, either by reducing sources of these gases (for example, the burning of fossil fuels for electricity, heat or transport) or enhancing the "sinks" that accumulate and store these gases (such as the oceans, forests and soil). The goal of mitigation is to avoid significant human interference with the climate system, and "stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner . . ."
>
> Adaptation – adapting to life in a changing climate – involves adjusting to actual or expected future climate. The goal is to reduce our vulnerability to the harmful effects of climate change (like sea-level encroachment, more intense extreme weather events or food insecurity). It also encompasses making the

most of any potential beneficial opportunities associated with climate change (for example, longer growing seasons or increased yields in some regions).

Throughout history, people and societies have adjusted to and coped with changes in climate and extremes with varying degrees of success. Climate change (drought in particular) has been at least partly responsible for the rise and fall of civilisations. Earth's climate has been relatively stable for the past 12,000 years and this stability has been crucial for the development of our modern civilisation and life as we know it. Modern life is tailored to the stable climate we have become accustomed to. As our climate changes, we will have to learn to adapt. The faster the climate changes, the harder it could be.

See https://climate.nasa.gov/solutions/adaptation-mitigation/.

An important IEL policy distinction must be drawn between mitigation and adaptation regarding the respective bases for international action. Mitigation – reduction of greenhouse gas emissions and increase of removal of these gases through sinks – is *prima facie* of global concern because emissions anywhere affect the climate everywhere. Adaptation, however, often relates to how citizens and ecosystems within a particular jurisdiction will be impacted by climate change. While the ethical imperative of global assistance to populations adapting to climate change may be apparent, mitigation simply will not work without an international effort. This ethical and practical disjunction becomes starker considering, as discussed above, that there is not parity among the nations most responsible for climate change and the nations most susceptible to its impacts.

92 Through the process of photosynthesis, plants and certain other organisms use the sun's energy, water and carbon dioxide to form carbohydrates. In this way, photosynthesis sequesters ambient CO_2, and vegetated and other areas where significant photosynthesis is taking place are "carbon sinks" and "carbon reservoirs." Since climate change results, in part, from the concentrations of CO2 in the atmosphere, photosynthesis potentially provides an avenue for mitigating climate change. One policy approach available to decision makers, therefore, is to establish programmes to protect existing photosynthesising areas and to provide incentives for increasing such areas. This approach can be "married" to a "cap and trade" system by allowing parties to meet their caps by funding carbon sink or reservoir projects, or allowing parties to generate tradeable credits by protecting or improving sinks or reservoirs.

This approach relates to climate change in a number of ways. First, removal of CO_2 from the atmosphere, and sequestration of that CO_2 in biomass, contributes to mitigation. Protection of forested areas additionally supports the health of surrounding vegetated areas by, for example, reducing erosion, thus compounding the mitigation effect, and can also assist with adaptation as open spaces contribute to flood control. Protecting vegetated areas for mitigation can also increase habitat, which can improve biodiversity, particularly with species stressed by climate changes. While there may be some conflicts between sink and reservoir protection and biodiversity where, for example, vegetation that may be optimal for carbon sequestration may not be optimal for habitat, when designed carefully this approach should provide mitigation, adaptation and habitat benefits. Annecoos Wiersema, "Climate Change, Forests, and International Law: REDD's Descent into Irrelevance," *Vand. J. Transnat'l L.* (2014), 47, 1, 10.

93 The Annex I Countries were (the superscript "a" indicates countries that were undergoing the process of transition to a market economy): Australia; Austria; Belarusa; Belgium; Bulgariaa; Canada; Czechoslovakiaa; Denmark; European Economic

Community; Estoniaa; Finland; France; Germany; Greece; Hungarya; Iceland; Ireland; Italy; Japan; Latviaa; Lithuaniaa; Luxembourg; Netherlands; New Zealand; Norway; Polanda; Portugal; Romaniaa; Russian Federationa; Spain; Sweden; Switzerland; Turkey; Ukrainea; United Kingdom of Great Britain and Northern Ireland; United States of America.

94 The Annex II countries were: Australia; Austria; Belgium; Canada; Denmark; European Economic Community; Finland; France; Germany; Greece; Iceland; Ireland; Italy; Japan; Luxembourg; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; Turkey; United Kingdom of Great Britain and Northern Ireland; United States of America.

95 http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

96 See UNFCCC COP website, available at: http://unfccc.int/bodies/body/6383.php.

97 http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php.

98 https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf, at Chapter 9.

99 http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php.

100 Joyeeta Gupta, "A History of International Climate Change Policy," *Wires Climate Change* (2010), 1, 636, 640.

101 https://www.nytimes.com/1992/11/04/us/1992-elections-president-overview-clinton-captures-presidency-with-huge.html.

102 https://www.algore.com/library/earth-in-the-balance.

103 Amy Royden, "Rio's Decade: Reassessing the 1992 Earth Summit: Reassessing the 1992 Climate Change Agreement: U.S. Climate Change Policy Under President Clinton: A Look Back," *Golden Gate U.L. Rev.* (2002), 32, 415, 418.

104 https://www.nytimes.com/1994/11/10/us/1994-elections-congress-overview-gop-celebrates-its-sweep-power-clinton-vows.html.

105 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).

106 Chiara Giorgetti, "From Rio to Kyoto: A Study of the Involvement of Non-Governmental Organizations in the Negotiations on Climate Change," *N.Y.U. Envtl. L.J.* (1999), 7, 221.

107 Don Mayer, "Commentary: Corporate Citizenship and Trustworthy Capitalism: Co-creating a More Peaceful Planet," *Am. Bus. L.J.* (Summer, 2007), 44, 237, at n. 134.

108 Interview on 13 June 2018 with Kevin Fay, Executive Director, ICCP (on file with author).

109 Interview with Ambassador Stuart E. Eizenstat, conducted on September 7, 2018 (on file with author).

110 Susan Biniaz, "What Happened to Byrd-Hagel? Its Curious Absence From Evaluations of the Paris Agreement," http://columbiaclimatelaw.com/files/2018/01/Biniaz-2018-1-Byrd-Hagel-article-Working-Paper.pdf (January 2018), at 2.

111 https://unfccc.int/resource/docs/cop1/07a01.pdf, at 5.

112 Susan Biniaz, "An Overview of International Climate Change Law, including the Paris Agreement," *Australian Law Journal* (2018), 90, 750, 752; Interview 19 September 2018 with Susan Biniaz (on file with author); Susan Biniaz, "What Happened to Byrd-Hagel? Its Curious Absence From Evaluations of the Paris Agreement," http://

columbiaclimatelaw.com/files/2018/01/Biniaz-2018-1-Byrd-Hagel-article-Working-Paper.pdf (January 2018), at 3.

113 Amy Royden, "Rio's Decade: Reassessing the 1992 Earth Summit: Reassessing the 1992 Climate Change Agreement: U.S.Climate Change Policy Under President Clinton: A Look Back," *Golden Gate U.L. Rev.* (2002), 32, 415, 425.

114 David M. Driesen, "Capping Carbon," *Envtl. L.* (2010), 40, 1, 13–20.

115 Impacts other than greenhouse effect impacts may, of course, differ. For example, CO_2 conributes to ocean acidification, and CO_2 emissions from burning of fossil fuels may be coincident with other emissions with other harmful effects.

116 Because CO_2 and other greenhouse gases are released through combustion, generation of energy without combustion through, for example, solar, wind or hydro power, presents an opportunity to produce energy without contributing to climate change. Other opportunities derive from combustion of fuels containing carbon that is part of the current "carbon cycle" rather than "fossil fuels." Plants utilise and store ambient carbon dioxide in the process of photosynthesis. When these plants and other organisms die and decompose or are combusted, this carbon may be released to the atmosphere to potentially be reutilised through a perpetual "carbon cycle." Where, however, decayed plant and animal matter has been trapped beneath the earth's surface exposed to heat and pressure over hundreds of millions of years, it may be converted to crude oil, coal, natural gas, or heavy oils, collectively, "fossil fuels."

When the carbon cycle is essentially in balance in terms of carbon being removed from the atmosphere through photosynthesis and re-emitted into the atmosphere through decomposition or combustion, there is minimal impact on ambient CO_2 concentrations. However, when fossil fuels are combusted or otherwise utilised, their sequestered carbon may be emitted, creating a carbon loading on the atmosphere above and beyond what can naturally be managed through the carbon cycle. Fossil fuels differ significantly respecting the amount of CO_2 emitted during combustion, with anthracite coal emitting approximately 230 pounds per Btu, and natural gas emitting approximately 120 pounds per Btu, see https://www.eia.gov/tools/faqs/faq.php?id=73&t=11. If, on the other hand, "biofuel" can be manufactured directly from plant matter, its combustion emits essentially the carbon that would have been emitted by those plants through decomposition, and which, in general terms, should be accommodated by the carbon cycle.

Opportunities exist, therefore, for policies that encourage increased generation of non-combustion-related energy, or to encourage the use of biofuels. Also, opportunities for reducing CO_2 emissions may exist by encouraging switching from fuels with higher to lower CO_2 emission levels. The effectiveness of such policies should reflect the full life-cycle emissions of each alternative, to ensure that some step in the production chain does not eliminate apparent reduction benefits.

117 See https://history.aip.org/climate/index.htm

118 See Per-Anders Enkvist, Tomas Nauclér, and Jerker Rosander, "A Cost Curve for Greenhouse Gas Reduction," *McKinsey Quarterly*, February 2007, available at: https://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/a-cost-curve-for-greenhouse-gas-reduction.

119 Although "command and control" regulation, specifying the required performance standard, technology or process that must be utilised, is direct, it is inefficient. For example, oxy-fuel technologies can remove carbon dioxide during fuel combustion, best management practices can reduce greenhouse gas emissions from agriculture and methane controls can reduce methane emissions from landfills. The principal objection

to command and control regulation is that contributions to climate change are effectively fungible when normalised to a GWP. If, as the UNFCCC specifies, the objective is to mitigate climate change with the least possible impact on the economy and development, it may be more efficient to allow parties to identify the most efficient way to achieve the total required GWP reduction, including allowing the least-cost reducer to make the reductions and then trade credits for the resulting reductions in order to recoup the costs, rather than impose uniform technologies on all generators.

Under CO_2e "cap and trade" systems, trading entities, whether they are countries, companies, municipalities or any other regulated entity, must first create a verified "baseline" accounting of their current CO_2e balance. A CO_2e "cap" is then assigned to the entity reflecting the desired emission reductions. The "cap" reflects the total amount of net CO2e emissions for which the organisation may be responsible. The organisation must, at a minimum, satisfy this "cap." It may also go further and reduce emissions below the cap, generating CO2e credits that it may sell to other regulated entities. Each regulated entity, therefore, has several compliance options. It may modify its own operations to reduce emissions to meet its cap or to generate credits. Alternatively, it may emit above the cap, but purchase CO2e credits from other entities in the amount necessary to meet its cap, if this would be less expensive. This purchase of credits may include actually financing the emission reduction projects that generate the credits, or allow the seller to complete the reductions to generate marketable credits. When the emission reduction projects are in developing nations, this transaction may have the further benefit of transferring technology and funding from the complying entity to the developing country project host. Michael Gillenwater and Stephen Seres, "The Clean Development Mechanism: Review of the First International Offset Program," Pew Center on Global Climate Change, 2011, available at: http://www.indiaenvironmentportal.org.in/files/clean-development-mechanism-review-of-first-international-offset-program.pdf, at 29–31.

System wide, an effectively administered cap and trade system allows all regulated entities to identify their own least-cost option, with the cumulative result that the desired GHG reductions will be attained at the least cost, with tremendous incentives for creative GHG reduction efforts to reduce compliance costs and to potentially generate valuable credits for sale, and potentially with significant resulting transfer of resources to developing countries performing reductions, thereby respecting the principles of CBDR and sustainable development. The largest global carbon markets value was reached in 2011 for an amount of nearly 97 billion Euros. Carbon Market Monitor 2016, Thomson Reuters, Carbon Market Monitor, 12 January 2018, available at: http://www.comex.kz/images/acer/2017.pdf at 1.

The potential efficiencies and incentive alignments of a cap and trade system are highly attractive, but it can be challenging to accurately baseline emissions, set reduction requirements and verify that reductions have been accomplished and maintained. Opportunities for fraud exist, for example, by creating GHG emissions solely for the purpose of later eliminating them to earn valuable credits. See e.g., http://carbonmarketwatch.org/wp-content/uploads/2010/08/EIA_Response_WB_Report-310810.pdf.

120 https://www.nytimes.com/2007/06/20/business/worldbusiness/20iht-emit.1.6227564.html (China did not surpass the US in greenhouse gas emissions until 2006).

121 Amy Royden, "Rio's Decade: Reassessing the 1992 Earth Summit: Reassessing the 1992 Climate Change Agreement: U.S. Climate Change Policy Under President Clinton: A Look Back," *Golden Gate U.L. Rev.* (2002), 32, 415, 425. Citations omitted.
122 https://archive.ipcc.ch/pdf/climate-changes-1995/ipcc-2nd-assessment/2nd-assessment-en.pdf
123 Amy Royden, "Rio's Decade: Reassessing the 1992 Earth Summit: Reassessing the 1992 Climate Change Agreement: U.S. Climate Change Policy Under President Clinton: A Look Back," *Golden Gate U.L. Rev.* (2002), 32, 415, 427–28; Susan Biniaz, "What Happened to Byrd-Hagel? Its Curious Absence from Evaluations of the Paris Agreement," available at: http://columbiaclimatelaw.com/files/2018/01/Biniaz-2018-1-Byrd-Hagel-article-Working-Paper.pdf (January 2018), at 3.
124 Amy Royden, "Rio's Decade: Reassessing the 1992 Earth Summit: Reassessing the 1992 Climate Change Agreement: U.S. Climate Change Policy Under President Clinton: A Look Back," *Golden Gate U.L. Rev.* (2002), 32, 415, 429–31. Citations omitted.
125 https://www.nationalcenter.org/KyotoSenate.html.
126 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).
127 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author). Professor Biniaz points out that China may have seen a strategic advantage in staying closely aligned with the G77, since this resulted ultimately in no legally binding emission reductions for these countries. Interview 19 September 2018 with Susan Biniaz (on file with author).
128 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).
129 Ibid.
130 Ibid.
131 Michele Betsill, "Environmental NGOs Meet the Sovereign State: The Kyoto Protocol Negotiations on Global Climate Change," *Colo. J. Int'l Envirl. L & Pol'y* (2002), 13, 49, 63–4. Originally published in the *Colorado Journal of International Environmental Law & Policy*, Copyright 2002, now referred to as the *Colorado Natural Resources, Energy & Environmental Law Review*. All rights reserved. Citations omitted.
132 "A Chronology: Key Moments in the Clinton-Lewinsky Saga," available at: http://www.cnn.com/ALLPOLITICS/1998/resources/lewinsky/timeline/.
133 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).
134 Ibid. See also Susan Biniaz, "Comma But Differentiated Responsibilities: Punctuation and 30 Other Ways Negotiators Have Resolved Issues In The International Climate Change Regime," June 2016, available at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/biniaz_2016_june_comma_diff_responsibilities.pdf, at 5–6 (explaining how careful drafting in the Kyoto Protocol resulted in language acceptable to parties on both sides of the emissions trading debate).
135 Kyoto Protocol, available at: http://unfccc.int/resource/docs/convkp/kpeng.pdf, at 12.
136 Ibid., at preamble.
137 Annex A provided:

Greenhouse gases: Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_20) Hydrofluorocarbons (HFCs) Perfluorocarbons (PFCs) Sulphur hexafluoride (SF_6)

Sectors/source categories:

Energy:

Fuel combustion:

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels:

Solid fuels

Oil and natural gas

Other

Industrial processes:

Mineral products

Chemical industry Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

Solvent and other product use

Agriculture

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

Other

Waste

Solid waste disposal on land

Wastewater handling

Waste incineration

Other

138 Annex B provides:

Party Quantified emission limitation or reduction commitment (percentage of base year or period)

Australia 108

Austria 92
Belgium 92
Bulgaria* 92
Canada 94
Croatia* 95
Czech Republic* 92
Denmark 92
Estonia* 92
European Community 92
Finland 92
France 92
Germany 92
Greece 92
Hungary* 94
Iceland 110
Ireland 92
Italy 92
Japan 94
Latvia* 92
Liechtenstein 92
Lithuania* 92
Luxembourg 92
Monaco 92
Netherlands 92
New Zealand 100
Norway 101
Poland* 94
Portugal 92
Romania* 92
Russian Federation* 100
Slovakia* 92
Slovenia* 92
Spain 92
Sweden 92
Switzerland 92
Ukraine* 100
United Kingdom of Great Britain and Northern Ireland 92
United States of America 93

* Countries that are undergoing the process of transition to a market economy.

139 Kyoto Protocol, http://unfccc.int/resource/docs/convkp/kpeng.pdf, at 3.
140 Ibid., at 6.
141 Ibid., at 10.
142 See Joyeeta Gupta, "A History of International Climate Change Policy," *Wires Climate Change* (2010), 1, 636, 644.
143 Kyoto Protocol, http://unfccc.int/resource/docs/convkp/kpeng.pdf, at 15.
144 Ibid., at 11.
145 Ibid., at 3–5.
146 Ibid., at 11–12.

147 The overwhelming majority of atmospheric greenhouse gases derive from fuel combusted for energy. This includes fuels combusted to generate electricity, fuels burned on-site at factories and buildings for direct energy production and fuels burned for transportation. See https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data#Sector.

If we reduce the amount of energy we use, we will reduce these emissions, in addition to reducing other negative impacts of fuel combustion such as particulate matter and other contaminants. Energy use reductions can come from energy conservation (eliminating or reducing an energy-consuming use) or energy efficiency (reducing the amount of energy consumed in a specific use). Economic "tailwinds" support policies encouraging energy conservation or efficiency. Energy costs money, which is saved when less energy is purchased. For utilities, encouraging conservation may be "cheaper" than constructing new generating facilities, savings from which can then be passed on to ratepayers. Energy conservation and efficiency can also be combined with other policy options, such as emissions trading or carbon taxes by allowing documented energy savings to generate tradable credits or to result in lower taxes.

Because energy is used in virtually every facet of our society, options for reducing its use are vast. Regulatory standards may specify efficiency performance standards for equipment or vehicles. Building codes, certification programs and corporate sustainability programs can encourage efficient construction through use of natural light, insulation, shading, green roofs and other measures. Energy efficient equipment can be installed in industrial, commercial and residential settings. Programmes can encourage employee trip reductions through carpooling, bike paths or increased public transportation.

Because of the broad scope of incentives, including cost savings, regulatory compliance, voluntary sustainability objectives, credit trading and others, many companies have developed robust programmes to audit operations, identify and execute energy efficiency or conservation measures, and track and report results. The International Organisation for Standardization has promulgated protocols, ISO 14064 and ISO 50001, outlining best practices for greenhouse gas and energy management systems and providing for third-party certification. See https://www.iso.org/standard/38381.html, and https://www.iso.org/iso-50001-energy-management.html. TNCs bring their significant experience in systems deployment from quality and other areas to deploy these protocols effectively in the energy efficiency area.

Another significant enabler of conservation/efficiency efforts is the Energy Savings Performance Contract (ESPC) and related financial models. Energy conservation and efficiency measures often require initial capital before the savings from reduced energy purchases accrue. Several organisations, often supported by specific legislation, have developed financing models to utilise future energy cost savings to fund the initial investment. Under an ESPC, a company with energy conservation and efficiency expertise will audit a client facility for conservation and efficiency opportunities and install appropriate capital equipment or deploy new systems, at no cost to the client. Payment for the service comes over time out of the documented energy cost savings that result from the new equipment and measures. See https://energy.gov/eere/slsc/energy-savings-performance-contracting

The vastness of the energy conservation and efficiency area suggests a substantial role for market innovation supported by appropriate legislation. By leveraging market ingenuity, and with the built-in incentive of lower fuel costs, this area provides a fertile ground for climate change policy measures.

148 Kyoto Protocol, http://unfccc.int/resource/docs/convkp/kpeng.pdf, at 2–3.
149 Ibid., at 14.
150 Ibid., at 15.
151 Article 20 provides that the Parties should first try to reach decisions by consensus but, failing that, decisions could be taken by a three-fourths majority vote. Ibid., at 15–16.
152 http://unfccc.int/kyoto_protocol/items/2830.php
153 http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php
154 Ibid.
155 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).
156 U.S. Department of State, "United States Signs the Kyoto Protocol," 12 November 1998, available at: https://1997-2001.state.gov/global/global_issues/climate/fs-us_sign_kyoto_981112.html.
157 The White House, Office of the Press Secretary, Statement by the Press Secretary (November 12, 1998), available at: https://clintonwhitehouse4.archives.gov/CEQ/19981112-7790.html.
158 https://georgewbush-whitehouse.archives.gov/news/releases/2001/03/20010314.html
159 "Australia Rejects Kyoto Pact," BBC News World Edition, 5 June 2002, http://news.bbc.co.uk/2/hi/asia-pacific/2026446.stm.
160 Hari M. Osofsky and Jacqueline Peel, "Litigation's Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance," *Geo. Int'l Envtl. L. Rev.* (2013), 25, 207, 229–30.
161 Dr. Jeffrey McGee and Professor Ros Taplin, "The Asia-Pacific Partnership and Market-Liberal Discourse in Global Climate Governance," *International Journal of Law in Context* (2014), 10 (3), 338–56; "Australia, US Plan Alternative to Kyoto Protocol," *New York Times*, 27 July 2005, available at: https://www.nytimes.com/2005/07/27/world/asia/australia-us-plan-alternative-to-kyoto-protocol.html.
162 Dr Jeffrey McGee and Professor Ros Taplin, "The Asia-Pacific Partnership and Market-Liberal Discourse in Global Climate Governance," *International Journal of Law in Context* (2014), 10 (3), 338–56.
163 Interview with Ambassador Stuart E. Eizenstat, conducted on 7 September 2018 (on file with author).

Chapter 7

Climate change II

INTRODUCTION

As discussed in the previous chapter, US and Australian rejection of the Kyoto Protocol created a "two pole" system with countries that were or were not pursuing Protocol ratification. This period also coincided with significant development of private and sub-national aspects of the Climate Governance Ecosystem. This chapter continues the discussion with a focus on the following periods:

- The Kyoto/non-Kyoto period and the Climate Governance Ecosystem: The period from 2001 up to and including the UN Bali Action Plan in 2008 and the Copenhagen Accord in 2009;
- Setting – and upsetting again – new UNFCCC rules ("Bottoms Up/Inclusive") and the persistence of the Climate Governance Ecosystem: The period from the Copenhagen Accord up to and including the signing of the Paris Decision and Agreement (PDA) to the UNFCCC in 2015 and its rejection by U.S. President Donald Trump in 2017; and
- Slouching towards global climate governance: The post-PDA period, defining the future of the Climate Governance Ecosystem.

THE KYOTO/NON-KYOTO PERIOD AND THE CLIMATE GOVERNANCE ECOSYSTEM

The actions of the US and Australia prompted a global reaction with two key implications. First, positivist global governance of climate would enter a two-system phase, separated by whether jurisdictions were or were not moving towards ratification of and governance under the Kyoto Protocol. Ratifying countries and civil society organisations were aghast at the seemingly abrupt change in the US and Australia policy positions.[1] Also, several UN bodies lent their support for ratification of the Kyoto Protocol. For example, the 2002 Plan of Implementation of the World Summit on Sustainable Development provided in part:

> 36. Change in the Earth's climate and its adverse effects are a common concern of humankind. We remain deeply concerned that all countries, particularly developing countries, including the least developed countries and small island developing States, face increased risks of negative impacts of climate change and recognize that, in this context, the problems of poverty, land degradation, access to water and food and human health remain at the centre of global attention . . .
>
> Recalling the United Nations Millennium Declaration, in which heads of State and Government resolved to make every effort to ensure the entry into force of the Kyoto Protocol to the United Nations Framework Convention on Climate Change . . . and to embark on the required reduction of emissions of greenhouse gases, States that have ratified the Kyoto Protocol strongly urge States that have not already done so to ratify it in a timely manner . . .[2]

However, for several years the Kyoto regime proceeded on a separate path from that of non-ratifying countries.

And second, widespread dismay among civil society organisations resulted in an increased effort to develop private regulation to address climate change, perhaps in response to increased pessimism respecting the ability of traditional IEL to address the issue.

Civil society action addressed every facet of climate change governance. In broad terms, a climate change regime could consist of:

- A mechanism and process for accurately and transparently accounting for and reporting greenhouse gas emissions;
- A process for establishing goals or requirements respecting greenhouse gas emission reductions or GHG sink and reservoir improvements;
- Various mechanisms, such as emissions trading, taxes, technology requirements, protection of carbon sinks and reservoirs, knowledge sharing, etc., for meeting goals;
- A process for monitoring progress towards or compliance with those goals; and
- A process for effecting positive or negative consequences depending on success at goal deployment and compliance.

Following the US and Australian rejection of the Kyoto Protocol each of these elements of a climate change governance regime has been implemented through private law, often with supporting measures by national and sub-national governmental bodies. In particular, the period between the US rejection of the Kyoto Protocol in 2001 and when Kyoto went into effect in 2005 saw significant innovation in private, national and sub-national measures. After 2005, in Kyoto-ratifying jurisdictions, governmental measures had a stronger influence, but were still supplemented by private law. In non-Kyoto jurisdictions, these private, national and sub-national mechanisms have assumed the preeminent place.

The motivations for private, national and sub-national law addressing this quintessentially global issue were various. Corporate reputational concerns, driven in part by increased public and shareholder attention, drove TNCs to develop or support public measures to address climate change under uniform protocols, and to require similar measures from their suppliers. States and non-state actors sought to change the US position on climate change. Organisations often assumed that climate regulation would be forthcoming and took measures to prepare for it by assembling GHG inventories and taking public mitigation measures. And increasingly, companies associated with the "green economy" – companies marketing energy efficiency or low global warming products and services or renewable energy or who wanted to advertise that their products had a low "life cycle" global warming impact – began to see action on climate as an opportunity.

This section will discuss some of the most significant private and joint public–private law developments in the period after 2001.

Private and joint public–private developments

The first step in establishing GHG governance is to understand the scope of GHG emissions and their sources. The period following the US rejection of the Kyoto Protocol saw the emergence of a number of private and public–private regimes encouraging organisations to carefully inventory their greenhouse gases, and establishing protocols for doing so.

The most comprehensive response came, not from state-centric IEL, but through collaboration among ENGOs and BNGOs. A partnership led by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) produced the *Greenhouse Gas Protocol*, first published in 2001, the year the US withdrew from the Kyoto Protocol. These organisations worked with a variety of stakeholders from industry, ENGOs, associations, governments and others to establish "comprehensive, global, standardized frameworks for measuring and managing emissions from private and public sector operations, value chains, products, cities, and policies," and the "world's most widely used greenhouse gas accounting standards" used by "virtually every corporate GHG reporting program in the world," "national GHG emissions programs based on the GHG Protocol," and "hundreds of cities across the globe."[3]

In addition, the *GHG Protocol* organisation provides training and capacity building for different stakeholders to improve their greenhouse gas inventory practices. This foundational tool has gained widespread acceptance both for its own quantification value, and as a critical support to other public and private programmes, including reporting protocols, emissions trading, reduction targets and others. The *GHG Protocol* provides separate standards for businesses and organisations, countries, and cities.[4]

Once greenhouse gases are measured, one critical strategy is to have those inventories publicly published. Transparency is, in itself, a significant lever in effecting environmental change. As the US demonstrated through its Toxic Release Inventory programme,[5] public visibility to emissions inventories provides

incentives for reductions and information sharing. Soon after the US decision to withdraw from the Kyoto Protocol – and with the *Greenhouse Gas Protocol* available for consistent measurement – several private and public–private programmes to encourage greenhouse gas emission disclosure emerged.

The most significant of these is The Carbon Disclosure Project (now CDP). Founded in the UK in 2000 but initiating its first survey in 2003, CDP is an NGO that has developed a GHG public disclosure and goal-setting programme that is now followed by 70 per cent of the S&P 500.[6] Rather than relying on public authority, CDP leverages the influence of institutional investors, whom they enlist to support their request that public companies log onto their website and complete a lengthy questionnaire with details on greenhouse gas emissions and mitigation plans. The reported data are then issued in a publicly available report and scored per CDP's proprietary system. CDP currently claims to represent 827 large investors with over 100 trillion US dollars in assets, and that more than 5,600 companies respond to their questionnaire. In addition, CDP supports a process for companies to request greenhouse gas data from their suppliers, thereby pushing climate-related activity up and down the supply chain. CDP currently claims that 89 companies with more than two trillion US dollars in assets are participating in their supply chain programme. CDP has also developed programmes to facilitate GHG reporting by cities, states and regions.[7]

CDP has, therefore, with minimal involvement by government, become a critical component of the Climate Governance Ecosystem. As with other Ecosystem components, its presence both relies on and supports other aspects of the Governance Ecosystem. For example, CDP explicitly espouses the *Greenhouse Gas Protocol* as a basis for reported data, thereby supporting the Protocol's use,[8] and, in fact, more than 90 per cent of the Fortune 500 companies reporting to CDP use the GHG Protocol.[9] In turn, the US Securities Exchange Commission explicitly relied on the prevalence of CDP reporting to support requiring evaluation of climate issues in SEC filings.[10]

The SEC's guidance also reflected increased shareholder attention to the risks and policies associated with climate change. The number of shareholder proposals directed towards companies' actions and disclosure relating to climate change tripled between 2000–2001 and 2004–2005 to a total of 25. This number had risen to 43 by 2007, some of which received nearly 40 per cent support, compared to the low single-digit support that shareholder proposals typically muster.[11] According to Professor Hoffman of the University of Michigan, "[i]n the 2003 proxy season, there were as many as nineteen resolutions filed regarding climate change issues, two-thirds of which received more than twenty percent supporting votes, including GE (twenty-two percent), American Standard (twenty-nine percent), Eastman Chemical Co. (twenty-nine percent), and AEP (twenty-seven percent)."[12] Thus, each of these "Governance Ecosystem" components are mutually reinforcing: consistent reporting protocols support transparency, which supports investor interest, which supports corporate programmes that are responsive to this interest, etc. None would be as successful without the others.

While CDP has emerged as the dominant private-law greenhouse gas reporting programme, other programmes have emerged as well, sometimes also including a process for third-party certification to compliance with the standard.[13] The Carbon Trust Standard, a product of the UK Carbon Trust NGO, allows companies to achieve certification of their measurement and management of GHGs.[14] In another example of cross-pollination within the Climate Governance Ecosystem, in 2007 the UK government initiated the Carbon Reduction Commitment (CRC), a regulatory GHG inventory and reduction programme, which explicitly incorporated certification to The Carbon Trust Standard in its compliance obligations.[15]

National and sub-national organisations also formulated GHG inventory, verification and reduction goal-setting programmes during this period. The United States Environmental Protection Agency established its Climate Leaders Program in 2002. Under this voluntary programme, participants would complete a GHG inventory based on the Greenhouse Gas Protocol (another example of cross-pollination), and set and meet a reduction goal that was approved by EPA and publicly published. Inventory data were reported to EPA to validate goal progress, and participants were required to establish a GHG inventory management plan to ensure continued progress.[16] As of 2009, 281 companies with operations in all 50 states had joined the Climate Leaders Program.[17]

TNCs were also active in developing voluntary GHG inventory and reduction programmes during this period. A 2004 member survey conducted by the Business Roundtable (BRT), an association of chief executive officers of leading corporations with a combined workforce of more than 10 million employees in the United States and $4 trillion in revenues, found that:

- *All* of the survey respondents (100 per cent) took action to establish GHG management programmes in 2003 or were taking such actions in 2004.
- Ninety-two (92) per cent of the respondents had already implemented or were in the process of implementing measures to manage GHG emissions.[18]

In 2002 BRT established Climate RESOLVE (Responsible Environmental Steps, Opportunities to Lead by Voluntary Efforts). Climate RESOLVE was highly flexible, recognising the diversity of preparedness and capacity existing within different businesses. However, participants were encouraged to establish GHG management programmes, inventory their emissions, set mitigation goals appropriate to their organisations, report on their progress and share information with other companies.[19]

The last component of the inventory/disclosure facet of climate governance developed through private and private-public efforts was third-party verification of reported data. As noted by the Pew Center on Global Climate Change[20] in 2001, "In today's environment, in which most GHG emissions reporting and reduction is voluntary, questions about when verification is necessary, how it should be performed, and who should perform it are still being answered."[21] In its 2001 *Overview of Greenhouse Gas Emissions Verification Issues*, Pew began the process of sorting through and providing guidance to parties seeking verification.[22] This

process has expanded to the point where, in 2015, two-thirds of the S&P 500 companies reporting to CDP had voluntary third-party verification of at least part of their greenhouse gas emissions.[23]

GHG trading and carbon taxes

The variety of GHG-producing activities, and the fungible nature of GHG emissions, potentially creates an appropriate environment for market-based approaches to GHG reductions. One such approach, "cap and trade," sets an overall cap on emissions, allocates rights to emit within that cap and allows emitters to trade those emission rights. This allows the market to determine the most efficient means of reaching the cap, and provides incentives for reduction innovations in order to avoid having to purchase rights or to acquire the opportunity to create rights to sell.[24]

While highly promising, GHG cap and trade systems face several challenges.[25] First, a credible baseline inventory must be established so that appropriate cap and allocations can be determined. Multiple policy choices arise at this stage including appropriate inventory methodologies,[26] where to establish the cap to ensure appropriate progress towards the overall climate protection goal,[27] and how to equitably allocate credits.[28] Assuming these complications can be resolved, the projects or measures to achieve emission reductions must be identified, and the actual reductions must be verified, along with verification of any ongoing measures that must be taken to ensure the reductions are sustained. All of this must be done with a level of credibility to allow either certification to compliance or to verify creation of a "credit" that is recognised and saleable in a free market.[29] Finally, a market must be established to endorse the validity of tradable "credits," and manage the communication and settlement of payments between credit buyers and sellers. And all of this must be done at an economic cost that does not outweigh the market benefits of the trading system.[30]

This approach has proven very successful in programmes trading less ubiquitous emissions among more controlled market participants, such as the US SO_2 trading program[31] A GHG market, however, relating to global compliance and trading GHG emission credits that, in principle, should be equally valid whether they are created in Beijing or Bermuda, creates a significant administrative challenge.

In 2003, economist Richard Sandor organised the Chicago Climate Exchange (CCX), a non-governmental GHG market in which the compelling force was contractual rather than regulatory. An explicit purpose of the CCX was to demonstrate the viability of the cap and trade model. Its members included several Fortune 500 companies as well as utilities and municipalities. Full members of CCX would establish a GHG baseline based on the average of their 1998–2001 emissions, and were required to reduce that baseline by 1 per cent per year. Participants were authorised to create and trade verified "Carbon Financial Instruments" (CFIs), which each accounted for 100 metric tons of CO_2e. Each year members were required to demonstrate that they had met their reduction goals through a combination of emission reductions

and purchased credits. With no governmental involvement, compliance was monitored both by CCX and by the National Association of Securities Dealers (NASD). Violations of the CCX rules became legally addressable as a matter of contract law, as CCX members contractually agreed to comply with the CCX requirements.[32] In 2007 CCX traded 23 million tons of CO_2e for a market value of US$72 million dollars.[33]

The other principal market mechanism considered for greenhouse gas reductions is the CO_2e tax. Under such a system, a tax is imposed per unit of CO_2e emitted above a prescribed baseline. Incentives are therefore created to minimise carbon footprints to avoid paying the taxes. The climate impact can be expanded by committing that some portion of taxes will be devoted to advancing low carbon technologies. A significant utilisation of a carbon tax has been the UK Carbon Reduction Commitment (CRC), first introduced in a UK government white paper in 2007.[34] The CRC applies to organisations that consume more than 6,000 MW of energy, and that are not already covered by other GHG reduction regulatory schemes. The CRC effectively taxes such parties for each tonne of CO_2 emitted, thereby creating incentives to reduce emissions.[35] The UK Government anticipated that the CRC would be responsible for at least 4.4 million metric tons of UK CO_2 emissions per year by 2020.[36]

CO_2e taxes have the benefit of potentially being easier to administer than a cap and trade system while driving similar reduction behaviours.[37] The absence of a trading component, however, reduces societal abilities to find the least cost CO_2e reduction options. Also, a cap sets a firm ceiling on emissions, while it is impossible to predict emissions under a tax, since it is impossible to predict willingness to pay the tax.[38] In principle, however, it would be possible to combine a tax and cap and trade system by, for example, requiring or allowing that CO_2e taxes be "paid" with CO_2e reduction credits purchased from over-performing participants.[39]

Private litigation

Another significant feature of the Climate Governance Ecosystem following the US and Australian rejection of the Kyoto Protocol was the global emergence of efforts to force climate protection through private litigation. These efforts arose in multiple national and international venues. Beyond any specific relief granted, a significant impact of this private litigation was its contribution to the overall expectation of increased climate governance through international and national public and private means. Organisations making decisions about their own climate-related activities now had to consider the implications of those activities in potential litigation.

Thus, in 2004 several states and ENGOs in the US sued power generators who, they alleged, were the largest emitters of GHGs in the United States, collectively emitting 650 million tons of carbon dioxide annually. The plaintiffs claimed that by contributing to global warming the defendants were violating the federal common law of interstate nuisance.[40] In 2005 representatives of the Iwherekan community in Delta State of Nigeria sued Shell Petroleum

Development Company of Nigeria under the Nigerian Constitution and various human rights laws claiming, among other things, that Shell's practices increased greenhouse gas emissions in violation of plaintiffs' right to a safe environment.[41] Also in 2005, an Inuit group filed a petition in the Inter-American Commission on Human Rights, arguing that US's failure to reduce its emissions violated their community's rights to culture, life, health and shelter,[42] and a group of private US plaintiffs sued a number of oil companies on a variety of tort theories alleging that emissions of GHGs had exacerbated climate change and thus the impacts of Hurricane Katrina, which resulted in damages to plaintiffs.[43]

In 2006, in *Greenpeace New Zealand v. Northland Reg'l Council*,[44] the ENGO Greenpeace sued the New Zealand Northland Regional Council regarding its consideration of climate change in granting approval of the coal retrofit of an energy generation plant. And, in 2007 *Friends of the Earth v. Canada*,[45] FoE sued the Canadian Government for noncompliance with the Kyoto Protocol Implementation Act, which required the Canadian Government to take steps towards compliance with the Kyoto Protocol despite the Prime Minister's stated intention not to comply with the Protocol. In 2008 the native community of Kivalina, in the US State of Alaska, filed suit against several oil companies based on a number of tort theories alleging that they had contributed to climate change, which was eroding their land base.[46] And, in 2013,[47] a broad-based NGO representing several civil society segments concerned with climate change sued the Kingdom of the Netherlands, claiming that the State owed a duty of care to present and future generations to increase its climate change mitigation efforts. The court ruled, in *Urgenda Found. v. Netherlands* that, in fact, the State had breached its duty of care and required adaptation of a more ambitious target.[48]

The impact of these cases goes well beyond any specific rulings or resulting relief, or any debate over whether private litigation is the optimal forum for shaping IEL policy. What these cases – and their long pendency – undeniably achieved was to imbue the Climate Governance Ecosystem with the understanding that, if governments and private entities, including TNCs, failed to act on climate, they faced a risk that they would be acted upon through an adjudicatory tribunal.

Popular culture

Another factor affecting the global approach to climate change was the popularisation of the issue through various media.[49] Popular culture has affected both how GHG emitters determine their own policy choices and how the consequences of those choices will be interpreted by the public, which includes customers, shareholders, regulators and the families of public and private decision makers. The period following the US rejection of the Kyoto Protocol saw an increase in popular media addressing climate change. Most notably, May 2006 saw the release of the documentary *An Inconvenient Truth*, written by and starring US Vice President Al Gore and presenting a detailed discussion of the causes and potential effects of climate change. Made with a budget of approximately

$1,000,000, *An Inconvenient Truth* grossed more than $85,000,000 in cinema and home viewing sales,[50] and was a principal basis for Vice President Gore's being awarded the Nobel Peace Prize in 2007.[51] This movie had been preceded by the more popular 2004 *The Day After Tomorrow*, a fictitious account of a climate-change-induced apocalypse. In 2010, *CLIMARTE*, an Australian non-profit was founded to use art to inspire climate change action, and increasingly climate change became a focus in contemporary art projects.[52]

These developments were accompanied by a suite of popular culture figures using their renown to bring attention to climate change, culminating in the 2014 Emmy-winning television documentary series *The Years of Living Dangerously*, in which each episode was hosted by a well-known celebrity. This highlights an important feature of the IEL Governance Ecosystem – the breadth of influences that create change or result in action. IEL issues, including climate change, result from complex geophysical phenomena and anthropogenic influences, and the consequences of poor management are often diffuse, and take many years to materialise. A question arises, therefore, over the best way to harness popular support for prudent choices around issues that may impose costs and are hard to understand. Popular culture, art and celebrity arguably have a role to play. In discussing his role in *The Years of Living Dangerously*, participant Arnold Schwarzenegger stated, "I think the environmental movement only can be successful if we are simple and clear and make it a human story. We will tell human stories in this project. The scientists would never get the kind of attention that someone in show business gets."[53] Newsweek added that the celebrity hosts "lend sparks to an issue that sends most viewers for the exits."[54]

This component of the Climate Governance Ecosystem cannot be ignored, and should perhaps be embraced. Popular and celebrity advocacy for action on climate change supports the industry-driven assessments of corporate responsibility, shareholder assessments of financial risk, and international, national and sub-national policy-makers' choices. It is important to remember that TNC and governmental decision makers and their families are affected by popular culture. If 30 minutes of pop culture catalyses more action that 30 months of ultimately unproductive negotiation, it must be accounted for as part of the equation.

Voluntary corporate initiatives and "Green Claims"

As discussed in Chapter 2, TNCs are increasingly active participants in the Governance Ecosystem of IEL generally. This is particularly true in the area of climate change. The advent of environmental reporting laws such as the US TRI in the 1980s habituated TNCs to transparent reporting on their environmental footprints, which then led to a TNC practice of establishing "beyond compliance" environmental goals, and publishing their programmes and progress proactively.[55] According to the Governance and Accountability Institute, the proportion of S&P 500 companies engaged in sustainability reporting rose from 20 per cent in 2011 to 82 per cent in 2016.[56] The data included in these reports are amplified, increasingly, by companies collecting, collating, verifying, scoring,

establishing protocols for, and otherwise mining these data for provision to end users such as investors, consumers and the public.[57]

There were multiple motivations for TNCs to pursue this path. Corporate culture imperatives impelled companies to implement measures that comported with their view of appropriate corporate citizenship.[58] "Command and control" regulations – standardised technology requirements across varying industries – are not well tailored to what an industry can achieve, and there is an incentive to identify voluntary environmental footprint reductions to forestall inefficient regulation.[59] Also, many environmental footprint reductions reduce costs, by, for example, reducing energy expenditures.[60] The monitoring requirements required by reporting mandates from TRI and other laws allowed companies to identify environmental footprint reduction opportunities that would also save costs. These reductions also allowed companies to enhance their brand identities and reputations with the public and with shareholders. The overall trend towards increased environmental regulation meant that reduction of environmental footprint became good corporate practice, even in areas that were not regulated at the time. And, as discussed further below, the development of the "green economy" drove a requirement that corporations reduce their environmental footprint as a "price of entry" to marketing green economy products.

No area of environmental governance has been impacted by the TNC sustainability trend more than the area of climate change. In 2005, over 85 per cent of the G250 addressed climate change in their corporate social responsibility reports and 67 per cent measured and reported on their GHG emissions.[61] As Hoffman stated, respecting the 2005 timeframe:

> [S]ome U.S. companies also see an opportunity in the present situation. They are taking advantage of the lack of a mandatory U.S. GHG emission reduction program to set targets at their own pace and in their own way; a way that fits with their own strategic objectives. Often, these companies have chosen to initiate voluntary GHG reduction programs by drawing on the expertise of: industry associations (such as the Business Roundtable); non-profit organizations (such as Environmental Defense, the World Resources Institute, and the Pew Center on Global Climate Change); and the federal government (such as the Climate Leaders Program). To date, as many as sixty corporations, with net revenues of roughly $1.5 trillion, have set reduction targets. Hundreds more are considering such steps.[62]

Systems expertise contributes to TNCs' ability to develop effective GHG programmes. TNCs produce wide-scale, complex results in multiple jurisdictions and with numerous participants through systems that allow them to prioritise and organise processes, track performance and continuously improve effectiveness and efficiency across jurisdictional, language and cultural boundaries. In 2002 the International Organization for Standards (ISO), the global private, non-profit organisation responsible for many of the key systems employed by the TNC community, began working on Standard 14064, specifying standards

applicable to inventory, management and reduction of GHGs. Publication of this standard in 2006 was followed in 2011 by ISO 15001, which specified standards applicable to energy management. Once standard systems were in place, TNCs could address to them their optimisation techniques, such as Lean Management and Six Sigma, to continuously improve the processes.[63]

Concurrently, the market for energy efficiency, including products and services that would enable the user to reduce their energy demand, saw significant growth, reaching global investment of $221 million US dollars by 2015.[64] Although it is difficult to get a global estimate of jobs in any sector, due to differences in economies, definitions, and other factors, several million people globally are employed in the energy efficiency sector.[65] Writing in 2005, Hoffman stated:

> Increased activity in GHG reductions could create new markets or enhance existing ones for companies and industries. For example, there is an entire service and technology sector that specializes in GHG (and other pollution) reduction technologies. Environmental industries in Canada employed more than 120,000 people and had 1997 sales in excess of $20 billion, representing just over two percent of Canada's GDP. In the United States, there are 45,000 firms in the environmental technology sector. That sector enjoyed a $186 billion U.S. market in 1997, while the global market was estimated at $468 billion. (The other two major markets include Western Europe at $137 billion and Japan at $89 billion.) Some estimates see the sector for new energy technologies growing to between $10 and $20 trillion by 2025. However, with the U.S. abstention from Kyoto, there is concern over limited market access for U.S. clean technologies and the development of this growing industry.[66]

This market and employment scope created robust incentives for companies to both market products and services in this sector and to ensure their internal operations were efficient as the "price of entry" to market participation. Voluntary TNC initiatives are also impacted by consumer protection regulations respecting the integrity of those initiatives. Several national consumer protection agencies regulate the content of claims about environmental benefit on the basis that exaggerated or unsubstantiated "green" claims may constitute consumer fraud. In 2009–2010 the OECD Committee on Consumer Policy conducted an extensive review of how environmental claims were used throughout the world, stating: "[e]nvironmental claims, also termed 'green claims', are assertions made by firms about the environmentally beneficial qualities or characteristics of their goods and services. They can refer to the manner in which products are produced, packaged, distributed, used, consumed and/or disposed of. In addition to environmental aspects, these claims are sometimes defined to include the socially responsible or ethical manner in which products are produced and distributed."[67]

The OECD noted in particular the use of green claims relating to climate change, stating that "In response to growing consumer concern about . . . climate change, self-declared environmental claims are increasing as a corporate

marketing tool . . . Some of the claims are very general, *e.g.* eco-friendly, carbon neutral, green; others are not well-defined, *e.g.* . . . energy efficient . . . [or] low carbon."[68]

The OECD also stated that governments around the world had taken various measures to improve the reliability of green claims, including enforcement:

> Governments can take actions on environmental claims under existing general false advertising laws or under specific rules that apply to particular claims. While the requirement that an advertiser have a reasonable basis to make a claim at the time the claim is made is a longstanding legal requirement in most countries, and is not unique to environmental claims, it is noted that governments have become more active in assuring that environmental claims are verifiable and substantiated. Penalties for false claims, including green claims, include criminal convictions and fines, infringement notices and injunctions. The Australian government, for example, has taken more than 30 court actions against misleading environmental claims in recent years to enforce the country's *Trade Practices Act*; this is seen as strengthening jurisprudence in the courts. At the same time, other countries, such as Canada and the United States, have taken action or secured voluntary agreements with business to address problematic environmental claims and schemes.[69]

The US FTC first issued its "Green Guides," specifying allowable use of specific "green" terms and requirements for substantiation and qualification of claims in 1992, with substantial revisions in 1996, 1998 and 2012.[70] The 2012 revision extensively considered the marketing implications of measures relating to greenhouse gas controls. They noted that greenhouse gas reductions were used in marketing both by the companies making the reductions and, where the reductions were "monetized" and sold as credits, by the individuals and companies purchasing those credits. With respect to renewable energy claims, the FTC considered both the requirements necessary to verify such claims and also the impact of "hosting" renewable energy (e.g., through rooftop solar panels) but selling any resulting renewable energy credits to others.[71] The final 2012 Guides require "competent and reliable scientific and accounting methods to properly quantify claimed emission reductions," for carbon offsets,[72] specify detailed recordkeeping requirements for renewable energy claims, and forbid using renewable energy claims if renewable energy credits have been sold based on the renewable energy created.[73] Marketing claims that violate the Green Guides can be the basis of FTC enforcement.[74]

More significant than any FTC fines is the threat of business reputational impact from the perception that the defendant company has not been fully transparent about the environmental benefits of its products or activities.[75] The attention of the FTC and related state consumer agencies to the accuracy and substantiation of climate-related marketing claims added another layer of support to how TNCs planned and executed their greenhouse gas activities, irrespective of the competence *vel non* of the UNFCCC program.

TNC behaviour respecting climate change, therefore, was impacted during the 2000s by a variety of factors. For operations in jurisdictions that had ratified Kyoto, or that had implemented national or sub-national requirements, these legal requirements applied. In all jurisdictions, the expectation that climate regulation would become more prevalent and stricter prompted action to prepare organisations for eventual compliance. In both jurisdictions that were or were not subject to climate regulation, NGO, customer and investor attention, supported by TNC initiatives, measuring and reporting protocols and reporting platforms spurred action to measure, report and reduce GHG emissions.

These reporting efforts were increasingly reinforced by third-party verification services, investor and stock analyst attention and the potential for false claims liability if reports were inaccurate. TNC management systems, which had already developed to identify and manage other environmental risks, became effective mechanisms for identifying and implementing GHG reduction opportunities. Once efficiency opportunities were identified, the corresponding energy cost savings became increasingly attractive, particularly where emission reductions created the opportunity for profitable emissions trading on the international, national, regional or voluntary markets. And this collective activity spurred substantial increases in the energy efficiency market, which itself became a motivating force for action. Collectively, this suite of influences significantly informed TNCs' approach towards climate change, driving voluntary programmes resulting in very substantial reductions in GHG emissions beyond those prescribed by law, and despite the US rejection of the Kyoto Protocol. For example, one significant US-based non-governmental sustainability organisation, Corporate Eco Forum (CEF), estimates that its membership has been responsible for more than 64 million metric tons of carbon dioxide equivalent reductions from 2008 to 2017.[76]

THE KYOTO PROTOCOL GOES INTO EFFECT

On 16 February 2005, the Kyoto Protocol went into effect, ratified by 140 countries accounting for 55 per cent of the world's GHG emissions. The US, the world's largest emitter of GHGs, and several other countries, had not ratified the Protocol at the time it went into effect.[77] This ushered in a period of "two systems," in which states that had and had not ratified the Protocol, and the non-state actors in each, continued to progress GHG mitigation and adaptation strategies and to bridge the gap between Kyoto and non-Kyoto countries. This GHG system schism particularly affected multi-national organisations that operated in both countries that had and had not ratified the Kyoto Protocol. As explained by Hoffman in 2005:

> In regions where Kyoto is ratified, it amounts to the establishment of a new worldwide market in pollution, pollution credits, capital, and emissions abatement technology. Companies that will find advantage in the emerging climate change market transition are adept at: reducing their GHG emissions by altering products or processes; trading in emission credits so as to

capitalize on this new commodity market; or marketing new management skills or technologies that produce less greenhouse gases. In regions where Kyoto remains unratified, companies may still find themselves in an altered landscape, as their competitors, suppliers, buyers, consumers, investors, and governments adopt concerns for GHG reductions either because they operate in ratified regions or because they see a proactive stance in GHG reductions as wise business strategy.

In either case, the key to financially successful emissions reductions requires an assessment of a company's strategic positioning vis-a-vis GHG emissions. To do this, companies must ask new kinds of questions and undertake new kinds of analyses. How energy efficient are your operations? How much carbon dioxide and other greenhouse gases does your company produce? Do you know the available technologies or alternatives for reducing those emissions? Do you know how to engage in commodity trading of GHG emissions? These questions are unfamiliar to most corporations and many companies simply do not know their potential exposure and strategic positioning on this issue.[78]

CO_2e trading under the Kyoto Protocol

When the Kyoto Protocol went into effect, those countries that had accepted reduction targets were faced with the challenge of how to meet them. A principle strategic path for these countries was through the market mechanisms provided for in the Protocol. Of the three trading mechanisms established in Kyoto, CDM has seen the most trading activity.[79] The CDM process is overseen by the CDM Executive Board, elected by the Parties to the Kyoto Protocol. Because the CDM trades Certified Emission Reduction Credits (CERs) on a global market with significant value, the regulation of how CERs may be created and verified is strict.[80] After an appropriate period of operation, the project developer must hire an accredited auditor to verify that the promised emission reductions were actually achieved. The monitoring and verification reports are then submitted to the CDM Board, which issues the CERs. This verification process must be repeated periodically throughout the life of the project.[81]

Once the CDM had established a mechanism for credibly verifying CERs, this mechanism could be utilised by jurisdictions developing GHG emission trading systems to fulfil their obligations under the Kyoto Protocol, and even jurisdictions that were not subject to the Kyoto Protocol, such as several US states that developed GHG trading mechanisms, in part, to push the US towards climate change regulation.[82] Incentives for carbon trading range from compliance with programmes to fulfil Kyoto Protocol requirements, to compliance with regulatory trading programmes implemented outside the scope of Kyoto, to voluntary trades by organisations seeking to "retire" carbon credits for environmental purposes or to offset emissions as part of corporate sustainability programmes. These combined voluntary and regulatory markets traded nearly 97 billion Euros of CO_2e in 2011.[83] The more systems that can link through a

common "currency," such as CDM CERs, the more liquidity the market will have, and the more global demand can be focused on the lowest cost and most impactful GHG emission reductions.

Of course, once credits are created there must be a credible, robust market for trading them. The most successful market for trading emission credits under the Kyoto Protocol is the European Union Emissions Trading Scheme (ETS), which applies to the member states of the EU plus Iceland, Lichtenstein and Norway, and is linked to an emissions trading programme in Switzerland.[84] Under the EU ETS, participants must submit an EU Emission Allowance (EUA) for each ton of CO_2e that they emit each year. They may purchase EUAs for emissions above their initial allocation, or they may act to reduce emissions to meet their initial allocation. If they take action to reduce their emissions below their initial allocation they may generate EUAs for sale in the market. The EU ETS was established by law in 2003 and was phased in through a Phase 1 pilot programme in 2005–2007, with a Phase 2 compliance period extending from 2008 to 2012 to coincide with the first compliance period under the Kyoto Protocol. In this phase, EU ETS participants were able to utilise and trade credits generated under the Protocol's Joint Implementation and CDM processes. In 2009 the EU enacted an extension of the EU ETS that will run from 2013 to 2020, even though the Kyoto Protocol ended in 2012.[85] CDM and JI credits may be used on the ETS throughout this period.[86] Moreover, some trading programmes in non-Kyoto countries accept credits created under the CDM.[87] As of 2016, 56 jurisdictions representing 40 per cent of global GDP were operating carbon trading systems.[88]

THE BALI ROADMAP AND ACTION PLAN (2007) AND THE COPENHAGEN ACCORD (2009)

As the first reporting period of the Kyoto Protocol was to end in 2012, negotiations began in advance of this date to plan the next phase under the UNFCCC. COP13 under the UNFCCC (and MOP3 of the Kyoto Protocol) was held in Bali, Indonesia from 3 to 15 December 2007,[89] resulting in the Bali Roadmap and Action Plan (RAP).[90] This RAP established an Ad Hoc Working Group on Long-term Cooperative Action under the Convention,[91] which was charged with advancing plans for a post-Kyoto agreement for presentation at COP15 (MOP 5), planned to be held in Copenhagen in 2009.[92]

Political developments generated optimism respecting negotiation of a new agreement encompassing the world's major GHG emitters. The People's Republic of China adopted a National Climate Change Program in 2007, followed by a UN speech in 2009 by Chinese President Hu Jintao in which he indicated support for progress in Copenhagen.[93] In addition, the US and China began a series of bilateral climate discussions in 2007,[94] leading to a joint announcement, on 18 June 2008, of a "Framework for Ten-Year Cooperation on Energy and Environment."[95] Australia, which had previously followed the US lead in rejecting the Kyoto Protocol under Conservative Prime Minister John

Howard, reversed course and ratified the Protocol in December 2007, following the election of the Labor Party.[96] In 2009 China and the US adopted a "Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and Environment," noting that: "Cooperation on climate change, clean and efficient energy and environmental protection can serve as a pillar of the bilateral relationship, build mutual trust and respect, and lay the foundation for constructive engagement between the United States and China for years to come, while also contributing to multilateral cooperation."[97]

Another significant development was the 2007 ruling by the United States Supreme Court in *Massachusetts v. Environmental Protection Agency*[98] that the USEPA had erred in previously finding that it did not have authority to regulate GHGs under the US Clean Air Act. Section 202(a)(1) of the CAA[99] requires the USEPA to regulate "any air pollutant" from motor vehicles or motor vehicle engines "which in his [*sic*] judgment cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." In 2003, the USEPA determined that it lacked authority under the CAA to regulate GHGs and, even if it had such authority, it would decline to do so with respect to GHG emissions from vehicles. In *Massachusetts*, a suit brought by numerous states and NGOs, the Supreme Court held that greenhouse gases did, indeed, fit within the CAA definition of "air pollutant" and remanded the case to EPA to review, in light of the Court's opinion, its decision not to regulate GHGs.

Also in 2007, a coalition of major US ENGOs and TNCs formed the US Climate Action Partnership (USCAP) throwing substantial civil society support behind GHG governance through the issuance of a *Call for Action*.[100] The *Massachusetts* decision, and the significant civil society support represented by USCAP, set the stage for potential regulation of GHGs under the CAA which, in the view of many in the regulated community, might be less desirable than a more holistic international approach.[101] Finally in 2007 the Military Advisory Board of the CNA Corporation, a nonprofit conducting research for policy makers, consisting of 11 high ranking retired military officers, published a report entitled *National Security and the Threat of Climate Change*.[102] In their cover letter to this report, the Military Advisory Board concluded that:

> Global climate change presents a new and very different type of national security challenge. . . . The nature and pace of climate changes being observed today and the consequences projected by the consensus scientific opinion are grave and pose equally grave implications for our national security . . . The consequences of climate change can affect the organization, training, equipping, and planning of the military services. The U.S. military has a clear obligation to determine the potential impacts of climate change on its ability to execute its missions in support of national security objectives. Climate change can act as a threat multiplier for instability in some of the most volatile regions of the world, and it presents significant national security challenges for the United States. . . . The increasing risks from climate change should be addressed now because they will almost certainly get worse if we delay.[103]

These significant climate-related events in 2007 were followed by the election of Democratic President Barack Obama in 2008, which was followed by additional measures to advance the US position on climate change. On 26 June 2009, the US House of Representatives approved *The American Clean Energy and Security Act of 2009* (H.R. 2454), known as the Waxman-Markey Bill, which would have established a "cap and trade" system for GHGs similar to the ETS, and would also have provided $60 Billion US dollars for development of "clean coal," which potentially would have mollified some political opposition.[104] This Bill was viewed as indicating a significant potential for an international climate agreement at the Copenhagen COP.[105] Just as the Clinton Administration may have had modest energy to focus on the Kyoto negotiations because of other concerns, however, the Obama Administration's focus on the financial crisis and health care reform may have limited its capacity to devote sufficient attention to the UNFCCC negotiations.[106]

On 30 October 2009, EPA published a rule for the mandatory reporting of GHGs from several sources that emit 25,000 metric tons or more of CO_2e per year in the United States.[107] On 7 December 2009, the USEPA reversed its previous determinations and found that the projected concentrations of six GHGs did, in fact, threaten public health and welfare, setting the stage for regulation, particularly if negotiations in Copenhagen were fruitless. [108]

COP15/MOP5 in Copenhagen

> was the most complex international negotiation ever undertaken with 192 negotiating states and approximately 34,000 participants. In the end 115 state leaders were reported as attending the high-level decision-making segment at the end of the Conference. The negotiations were followed through websites, blogs, and conventional media by a large proportion of the global community.[109]

Several ENGO representatives attended, sometimes reacting to the slow progress with violent protests.[110] While some view the Copenhagen Conference with disappointment,[111] it arguably brought to a head and transformed – for better or worse – certain paradigms underlying the climate governance regime, and perhaps of IEL more broadly. The paradigms affected by the Copenhagen Conference include:

(1) The core CBDR principle underlying the UNFCCC, while not abandoned, underwent an evolution. China's emergence as both the largest overall emitter of GHGs, and its rising economic and geopolitical stature, began to disrupt the north-south alignment that had predicated climate discussions, shifting towards an increased recognition that climate mitigation actions should be based on actual emissions rather than past relative culpability. This created an opportunity for increased Sino-US alignment and more distance between China and the least developed nations. As Lin Feng and Jason Buhi put it, "Nations came in allied between the developed-developing and

rich-poor divide institutionalized at Kyoto, but may realign or at least overlap around a new axis: overall emissions."[112] As the prospect of greenhouse gas emissions limitations for developing countries became more credible, the issue of how compliance with those limitations could be verified consistently with developing nation sovereignty gained importance.[113]

(2) The IEL approach championed since the 1992 Rio Conference that produced the UNFCCC of very broad state and civil participation in negotiating climate measures saw a shift at Copenhagen towards the "critical country approach," in which the minimal number of states most critical to the specific environmental end reach a core agreement, to be moderated by other parties' concerns once the principles of an agreement are determined. The Chinese government recognised before the summit that "[w]hether the Copenhagen Conference succeeds will be decided by the positions of China and the United States."[114] As discussed below, this "critical country" approach was further evidenced by the "Friends of the Chair" negotiating sessions in which major portions of the eventual Copenhagen Accord were developed. NGOs also faced decreased receptivity to their participation. As described by Nagtzaam:

> While the NGOs had a large presence at the Copenhagen Meeting, their impact on proceedings was negligible. They organized colorful protests, provided logistical support and translation for representatives of the LDCs who lacked the resources but were unable to directly influence delegates. Many NGOs were effectively locked out of the Bella Centre where the Conference was held while some groups were actually banned. By December 18 only 300 were allowed into the building (problems started on the 16th of December) ostensibly for security reasons. On the final Friday only 54 representatives of CAN were allowed inside. Friends of the Earth were initially banned and then only allowed 12 members to enter the Bella Centre. This frustrated attempts by NGOs to put pressure on delegates at this critical juncture. Given their impotency at Copenhagen, NGOs need to reassess their strategies to influence climate proceedings or they will become irrelevant.[115]

Copenhagen arguably evidenced the shift in the balance of TNC consensus that, rather than a constraint on growth, climate change mitigation measures were inevitable from a policy perspective and opened an enormous array of business opportunities. Obviously climate mitigation measures would affect different industries differently. However, the Copenhagen Summit coincided with a growing consensus that the net impact of the "green economy" would be positive.[116] Nagtzaam provides a valuable account of the complex negotiations at the Copenhagen Summit:

> Copenhagen Conference-Week One:
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> One of the major problems for delegates with limited time to grapple with the complex issues to be negotiated was the plethora of competing

texts vying for attention. At the COP/MOP Plenary on Thursday 10th December, proposals regarding Protocol amendments were received from Australia; Belarus; Bolivia; Columbia; Japan; the European Union (EU); New Zealand; Papua New Guinea; the Philippines; China and two from Tuvalu. Costa Rica and the U.S. also submitted proposals (CP/2009/3–7) for the adoption of new protocols under Article 17 of the Convention. The one that garnered the most attention was the one from Tuvalu which, its delegate argued would complement but not replace the Kyoto Protocol by creating a contact group to bring about a protocol amendment and a new "Copenhagen Protocol" requiring binding emissions targets from both wealthy and developing nations. The draft set the goals of limiting temperature increase to below 1.5°C and stabilising GHG concentrations at 350 parts per million (ppm).

For the Climate Action Network (CAN) and some of the poorer LDCs and Island nations, the main concern at this point was that developed states' proposal could undermine the Kyoto Protocol and the work done to date. States from AOSIS, Latin America, Africa and Non-Governmental Organizations (NGOs) supported Tuvalu's approach. However, India and China opposed the idea arguing it would undermine negotiations on a second commitment period for Annex I parties under the Kyoto Protocol and it was better to focus on the AWG- LCA's draft to come. Even at this early stage of the conference a crack could be observed in the G-77/China coalition between wealthier LDCs on one side and a grouping of poorer LDCs and Island states.

Tuvalu's and other state proposals, led to the suspension on Wednesday of both the COP and COP/MOP, pending talks on whether to create contact groups to consider proposed new protocols and proposed amendments to the Kyoto Protocol. Tuvalu led a group of African, Latin American and AOSIS states in wanting a formal contact group to consider the proposals. These states resisted attempts to move the procedural question to an informal setting with a review of progress in plenary on Saturday. Some saw the suspension as good strategy but to other delegates it threatened delay on other key issues. However, as one NGO delegate pointed out, "It hasn't slowed the informals under the AWG-LCA."

The AWG-KP text in the first week, when first presented, was a sea of brackets (language considered problematic by negotiators). The AWG-KP members could not decide what the overall range of reductions of emissions should be (30 to 45% below 1990 levels); nor could it determine the commitment period (2013–2018 or 2013 to 2020).

The draft document from the AWG-LCA was also a work in progress that included dozens of bracketed sections but it had been pared down to seven pages, from 246 pages and thousands of brackets six months ago. The draft set a limit of between 1.5 C and 2 C compared to pre-industrial levels and asked states to cut global GHG emissions by either 50%, 85%, or 95% (still to be determined) from 1990 levels by 2050. To reach that target, developed states would cut their emissions by anywhere from 75% to more than 95%

by 2050 and be legally bound to do so from 25% to 45% from 1990 levels by 2020. For the first time, wealthier developing states such as China, India, Indonesia, and Brazil would be subject to emissions cuts in the range of 15% to 30% by 2020. Crucially however, they would not be held to an established baseline, a condition previously demanded by developed states, but rather a 'business-as-usual scenario'. The draft also sought to create a new compliance period that would run from 2013 to the end of 2020. Michael Zammit Cutajar, Chair of the AWG-LCA commented without irony, "There is still work to be done. . ."

Many developed states argued the draft was "seriously problematic," with some concerned how it could bring about their goal of a unified protocol covering both developed and developing states. LDCs were generally happy since it presaged an amended Kyoto Protocol that was one of their key objectives. The U.S., one of the key states at the Meeting, rejected the AWG-LCA draft as a starting point for negotiations due to the lack of binding commitments on LDCs, in particular China and India. Their Chief Negotiator Todd Stern argued that the AWG-LCA draft was flawed in that it: "does not in any sense call upon major developing countries to step forward with their own actions or stand behind them."

The Danish Agreement:

The biggest controversy of the first week was the public leaking by the UK's *Guardian* newspaper of the text for a political "Copenhagen Agreement under the UNFCCC," (referred to as the Danish Agreement). It was created under the auspices of the Danish government, host of the conference and unnamed developed states. The document argued that the process it was undertaking was pursuant to the Bali Road Map and was building on the two Ad Hoc Working Groups currently operating (Article 2).

Article 3 gave weight to "the scientific view that the increase in global average temperature above pre-industrial levels ought not to exceed 2 degrees C." To this end the Parties agree to work towards the goal of a peak of global emissions as soon as feasible but no later than potentially 2020 (in brackets in text). Further, Article 2 required support for: "the goal of a reduction of global annual emissions in 2050 by at least 50 percent versus 1990 annual emissions, equivalent to at least 58 percent versus 2005 annual emissions. The Parties' contributions towards the goal should take into account common but different responsibility and respective capabilities and a long-term convergence of per capita emissions." Under Section 7 developed states were expected to commit to individual economy wide targets in the year 2020. The developed states would be required to reduce their emissions of greenhouse gases in aggregate by 80% or more by 2050 versus 1990 or a percentage versus 2005 (as yet undetermined). Under Section 9, wealthier LDCs (poorer LDCS could elect to do so), for the first time, would be required to commit to "nationally appropriate mitigation actions." Under S 31 the Parties would commit to the Copenhagen Process with a view to completion at an undefined COP.

Reaction to Danish Text:

UN climate chief Yvo de Boer and Denmark insisted the draft was an out of date, informal text and was merely a mechanism to garner opinions among states. However, many LDCs saw it as a realisation of their fears that they would not be included in critical decisions at the Conference and the text lacked substance and legal form. The text is a "serious violation that threatens the success of the Copenhagen negotiating process," declared G-77 leader Sudan's Lumumba Stanislas Dia Ping. Individual ENGOs, including Friends of the Earth, the Third World Network also reacted negatively to the Danish draft accusing Danish leaders of "undemocratic practices" and of "convening small and exclusive groups of countries before the Copenhagen meeting." The Danes thought they were to table their draft accord in the second week, but given the wide unhappiness amongst LDCs to the text (only the U.S. liked it) the accord was for all intents and purposes, defunct.

More importantly, but receiving nowhere near as much publicity, was another leak to a newspaper. *Le Monde* obtained a copy of a proposed outcome document – the "Copenhagen Accord" supposedly developed by China, India, Brazil, and South Africa (the BASICs). However, those states argued that the draft document had "limited status" and was just a "working draft."

Effectively as at many such conferences, the first week saw little movement on vital issues. The President of the UN climate conference, Connie Hedegaard on Saturday, argued that midway through the Meeting "we have made considerable progress over the course of the first week" in areas such as how to supply new green technologies to LDCs and in promoting use of forests to soak up carbon dioxide emissions.

There were some positives to be observed. States like China, India, Brazil, and Indonesia were actively involved in climate negotiations for the first time. Indeed, China, the hosts Denmark and the small island state of Tuvalu were all strong advocates for their respective positions. In the first week, under heavy U.S. pressure, China indicated they might be willing to allow externally financed national mitigation actions to be subject to measurement and verification. However, when it came to the issue of overall emissions levels China was not so accommodating with its negotiators refusing international monitoring of internally funded domestic, mitigation programs.

The U.S. was also not prepared at this stage to compromise over the push for reparations by some LDCs for past actions nor were they willing to allow the LDCs not to be bound to cut emissions. Stern also argued that the U.S. would not agree to a new treaty unless the LDCs, in particular China, would "take real action." On December 11th he continued to press China to accept binding commitments, saying a new global climate agreement hinges on whether it and other rapidly developing nations join richer, developed nations in committing to binding actions. "The United States is not going to do a deal without the major developing countries stepping up to take real action," stated Stern. Meanwhile the African Group proposed that developed states give 5% of their Gross Domestic Product (GDP) to

LDCs for climate mitigation and adaptation programs; an idea that did not impress developed states.

Problematically in the first week, the Danish COP Chair chose to diverge from the troubled AWG approach, and instead rely on "friends of the chair" groups to facilitate debate. To many LDCs such an approach was an abuse of process that threatened the UN two-track system in place since the Bali Conference and they argued that only AWG texts should be used. However, the Chair continued with such groups in the hope of galvanising the delegates to produce a binding text.

Week two-Copenhagen:

Monday: 14th December

UN Secretary-General Ban Ki-Moon proved prescient when he warned on Monday that leaving all major decisions to Heads of State risked ". . . having a weak deal or no deal at all, and this will be a failure of potentially catastrophic consequences." However, initially the week started well with the U.S. announcing that developed states would spend $350 million over 5 years with 85 million of that coming from the United States to promote global energy efficiency. In a further good sign, China conceded to a U.S. point that it would not seek monies from developed states under any new agreement (a demand it had insisted on previously at other meetings and in the first week).

However, negotiations collapsed when the African Group and Lesser Developed Countries comprising forty-six states, supported by the G-77/China, requested suspending all negotiations under the AWG-LCA and AWG-KP (except for talks on Annex 1 parties' further emissions reductions). The action was precipitated by LDCs unhappy that only AWG-LCA outcomes were to be discussed at the Ministerial level and not the AWG-KP. The issue was resolved five hours later when it was agreed to hold informal consultations on "crunch issues" under the auspices of both tracks and guided by a Minister from both a developed and less developed state. The boycott pushed back a number of key meetings such as the AWG-KP which was meant to report by December 15 to the plenary meaning delegates will have less time to consider that report and the proposal put forth by Tuvalu in the first week.

Tuesday 15th December

By Tuesday the 15th of December India was pointing out the AWG-KP was well behind where it should be with much of the text "bracketed." The draft AWG-KP, version dated 15/12/09, 17.30pm, indicated that many key issues were as yet unresolved relating to emissions cuts and the compliance years. Given the many meetings occurring, many delegates were complaining that it was difficult to keep track of proceedings. Others were upset about a perceived lack of transparency and the slowness of proceedings that threatened to derail the Kyoto Protocol process. Members could not decide even on whether to limit global temperature increases to 1.5 or 2 degrees.

US Secretary of State Hillary Clinton acknowledged that the world expected the West to take the lead but argued that developing states had

to play their part. The problem was that behind closed doors, negotiations between the Americans and Chinese were increasingly acrimonious, with China accusing the U.S. of "playing tricks" and the U.S. upset at perceived Chinese intransigence. By Tuesday night Ban Ki-Moon, realizing that the Conference was in trouble and in danger of producing no significant achievement, exhorted delegates that: "We do not have another year to deliberate," he said, "Nature does not negotiate." At the welcoming ceremony of the high level segment Prime Minister Rasmussen of Denmark stated that "the world is holding its breath" while Yvo de Boer argued "now it is time to deliver."

Wednesday 16th December

The final AWG-KP text (42 pages) was presented to President Connie Hedegaard for review at 5:30 p.m. local time Dec. 15 and given to delegates in the morning of the 16th, five days later than planned. The draft still had numerous bracketed options including the level of GHG emissions reductions to be required of industrialized countries after 2012. Not surprisingly, the draft had the support of most of the G-77 but was vehemently opposed by the developed states rendering it essentially moribund as a text to be built on.

The AWG-LCA, while released on December 11, had already been updated twice in five days. To add to the confusion, Denmark stated it would also be releasing another draft Protocol on December 17th. Brazil queried COP President Rasmussen on a point of order as to why the COP Plenary had not met to consider the AWG-LCA report. Without irony, given the creation of the later Copenhagen Accord, Brazil and China then argued that creating and debating new texts gave the impression that any text put forth by members would not become the basis for further discussions. China argued the issue was "one of trust between the host country and parties" and that legitimacy could only be conferred by an outcome from the AWG process, not "put forward text from the sky." Tuvalu, opposed by the Indian delegation, noted its "extreme disappointment" with the progress made at the AWG-KP negotiations and asked delegates to examine proposals for Protocol amendments and to treat them as "a lifeboat for a sinking process."

The Report of the AWG-LCA was meant to be given to the COP Plenary on Wednesday 16th of December. But given that many states had not seen the draft, they objected and the COP Plenary did not convene till the late evening while attempts to resolve objections were undertaken. Problematically the conference Chair, Denmark's former climate minister Connie Hedegaard, was trying to push proceedings along before consensus had formed as to the way forward. This led to the establishment of "friends of the chair" consultations on issues being discussed by the AWG-LCA, undermining the entire UN process. Some states saw this as a way to facilitate debate while others, primarily developing states, felt excluded and argued the process was not transparent.

Rumors that the Danish Chair was going to table two texts led to many LDCs expressing "outrage" at what was perceived as an attempt to marginalise

the AWG process. This led to some states and coalitions, in anticipation of the COP Presidency's provision of a "Copenhagen Agreement," to put forward their own texts. Informal consultations thus devoured much of the negotiating time on Wednesday the 16th, a "critical point" in the Conference. Further, the texts provided by the AWGs were too obtuse and filled with undetermined issues to provide a text to move forth with. Further, there was intransigent behavior by a number of key states and groups during this key period. China was accused of using technical objections all week to stall negotiations. That night the African group again boycotted proceedings that were meant to create a definitive document by Thursday. The U.S. representative Todd Stern argued publicly that he was unsure that agreement could be reached.

At the closing plenary for the AWG-LCA the parties agreed to adopt the entire package as "unfinished business" since, given the lack of agreement on the text, the Group felt it could proceed no further. Similarly, the AWG-KP closing plenary finished up just after midnight on the 16th December with the delegates recommending that it was up to the COP/MOP to decide how to proceed and the issues raised were best resolved at the higher, political level.

Thursday 17th December

An overnight closed session descended into farce as a proposed text, designed to be the basis for final negotiations, was diluted by delegates and Brazil, China, India and the G-77 bloc objected to the draft, arguing that the work of the negotiators was being overridden by politicians. A possible solution proposed was another "two-track process" that would have resulted in an extension of the Kyoto Protocol and an agreement to work on a second, linked treaty covering all states but several LDCs opposed this approach. Yvo de Boer had not given up hope stating: "I still believe it's possible to reach a real success . . . the next 24 hours are absolutely crucial and need to be used productively." When Secretary Clinton arrived, her first order of business was to meet with the Chinese delegation. However, the U.S. and China remained locked in a dispute over reporting and verification of domestic emissions reductions. Other states knew where any potential solution lay. "The key is China and the United States," which together emit half the world's greenhouse gases, said Indonesian delegate Emil Salim.

However, the U.S. was upset at what it believed was unfair practices by certain states. The U.S. Secretary of State Hillary Clinton alluded to the breaking of pledges by LDCs about transparency on carbon emission and declared that not getting clear acceptance would lead to the U.S. walking away. China and India said they were willing to take voluntary measures to slow their surges in GHG emissions. But they were reluctant to accept stringent international inspection and insisted developed states shoulder the main burden by accepting large GHG reduction targets. By Thursday evening, leaders were concerned about the possibility of the conference producing nothing of substance. The French President Nicolas Sarkozy warned that: "There is less than 24 hours. If we carry on like this, it will be a failure."

> *Friday 18th December*
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> When the Heads of State arrived in Copenhagen to ostensibly sign an agreement, no such instrument had been concluded. Rather than concede defeat, the U.S. and the BASICs took it upon themselves, under the umbrella of "friends of the chair," to create the 'Copenhagen Accord'. The Accord appeared as delegates realised that Russia had already left the Meeting and that the Japanese and Chinese leaders were about to do the same, intensifying the need to produce a deal. This however led to the unedifying sight of the majority of leaders forced to wait in the plenary hall. When the document eventually was handed out, many leaders were upset at both the perceived lack of respect and the failure to be consulted. Many delegates, to their consternation, only learnt of the existence of the document from the internet or the media. Some states were critical, arguing that announcing a deal by a small group was neither democratic nor diplomatic and left too much work to be done at a later date. Others took a more *realpolitik* approach arguing that getting the big emitters to agree was the only way to resolve the impasse.
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> Interestingly, China's attitude toward the U.S. on the final Friday of the Meeting was almost contemptuous and gives a sense of the growing political authority China was wielding at the Meeting. President Obama, rather than meeting with Premier Wen Jiabao as promised, was twice sent a lower level functionary to talk with in meetings designed to create the Accord. This left the U.S. President upset and demanding to talk to Premier Wen. On Friday evening the President was startled to learn that a Meeting he was meant to be having with Premier Wen was already occurring, with the Chinese Premier meeting with the Heads of South Africa, Brazil, and India. The President was reduced to rushing to the meeting and asking from the doorway "Mr. Premier, are you ready to see me?"[117]

On December 19 President Obama announced that five key nations, Brazil, China, India, South Africa and the United States, had reached a deal, which he formally submitted to the COP. [118] This separate negotiation prompted concern and protests from a number of states and NGO parties who felt they had been excluded from important negotiations. Eventually, 114 parties decided to "note" the Accord, and required consensus at a future general meeting to incorporate it into a treaty. That number later rose to 141.[119]

The Copenhagen Accord established important transitional developments in the implementation of the UNFCCC. It reiterated global concern about climate change and the Convention's objective, translating this to be the "scientific view" that this meant ensuring that global temperature rise should be less than 2 degrees Celsius.[120]

The Accord reiterated the principle of CBDR, and that Annex I would lead by submitting strengthened emission measures for 2020.[121] Importantly, though, the Accord required non-Annex I parties to implement "nationally appropriate mitigation actions" ("NAMAs"), and measure, verify and report on their results.[122] It endorsed various means of achieving the Parties' targets, including

REDD[123] and emissions trading, together with increased funding and technology transfer for developing countries.[124]

Although the Copenhagen Accord was, arguably, an agreement among "critical nations" that was simply "noticed" by a broader state constituency as a potential basis for a later treaty, it did several important things to facilitate an eventual treaty. By requiring non-Annex I countries to implement "nationally appropriate mitigation actions" (NAMAs), the Accord brought these countries into the scope of monitoring and oversight conducted by the COP/MOP. The COP/MOP itself provided an administrative presence normalising progress. Moreover, the Copenhagen Accord embodied the shift in the international approach from "top down" GHG emission limitations to "bottom up" development of targets and approaches, which could then be approved and monitored through the IEL agreement. Copenhagen therefore arguably set the stage for the most critical emitters to identify and implement mitigation measures under the auspices of an administrative process that could eventually lead to more robust progress. [125]

Also, the Copenhagen Accord established a premise for China and the US, the world's two major GHG emitters, to work together on climate change. In May 2010 the two countries "reiterate[d] to continue to actively implement the China-US Memorandum of Understanding on Strengthening Climate Change, Energy and Environment Cooperation and the 10-Year Cooperation Framework of Energy and Environment,"[126] and continued to collectively look at development of clean energy and energy efficiency as a fruitful area of cooperation between the two countries.[127]

THE PARIS CONFERENCE, COP 21 AND THE PARIS DECISION AND AGREEMENT

Despite arguably tentative measures adopted in Copenhagen, the stage was set to both implement its terms and to begin negotiations for further development of the climate regime. The UNFCCC process continued following the Copenhagen Accord in preparation for a more substantive agreement at COP 21 in Paris in 2015 – potentially one that would substantially alter the formal IEL climate regime. The question of "continue Kyoto or forge something new" was addressed through a series of COP and less formal meetings.

A number of significant shifts were apparent from the Copenhagen Accord and subsequent UN meetings. One of these was the increased potential for US-China cooperation on a climate regime (an example of the "critical country" approach). China faced significant international criticism for its negotiating positions at Copenhagen, particularly its coordination with other developing nations to strongly reject legally binding emission reduction targets, and not sending senior negotiators to key sessions.[128] This, together with increasing internal pressure for improved environmental performance, may have increased incentives for China to shift towards finding other routes for seeking more substantive progress in Paris.[129]

Other developments included a shift away from the Annex I/Non-Annex I dichotomy of the Kyoto Protocol, and a shift away from top-down mandated reductions to an approach of nationally developed climate programmes reflecting state-specific characteristics, which would then be monitored on an international basis. Thus, rather than an extension of the Kyoto-based regime, COP21 gave promise of a new type of IEL climate regime, one that was more universal in its requirements, and more devolved in its methods and targets, with the central administration focused on verification, transparency, and alignment of devolved targets with evolving climate science.

The UNFCC-related developments during the period from Copenhagen to Paris are described by Daniel Bodansky:

> The 2010 Cancún Agreements formally incorporated the main elements of the Copenhagen Accord into the UNFCCC regime, including the pledges made by countries to reduce their emissions. But the Copenhagen/Cancún pledges addressed only the period through 2020, leaving open what to do next. Moreover, Cancún did not resolve whether to extend the Kyoto Protocol beyond 2012. These two issues became the focus of the 2011 Durban Conference.
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> The Durban Platform for Enhanced Action, which launched the negotiations leading to the Paris Agreement, resolved these issues through a finely balanced compromise among the principal negotiating blocs in the UNFCCC process. On one side, the European Union and other states with Kyoto targets such as Switzerland, Norway, and New Zealand agreed to a second Kyoto commitment period, which they formally adopted the following year in Doha. In exchange, China, India, Brazil, and South Africa accepted a mandate to negotiate a new instrument with "legal force" to apply from 2020. This mandate was acceptable to the United States because it did not differentiate between developed and developing countries, but instead called for the negotiation of an instrument "applicable to all [UNFCCC] parties." Finally, small island and other vulnerable states succeeded in establishing a separate workstream focusing on increasing pre-2020 mitigation ambition.
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> The Durban Platform established the Ad Hoc Working Group on the Durban Platform (ADP), which met fifteen times over the next four years. Milestones of the ADP process included the 2013 Warsaw decision on "Further Advancing the Durban Platform," which first articulated the hybrid structure of the new agreement and called on states to submit their intended nationally determined contributions (INDCs)[130] well in advance of the Paris conference, and the 2014 Lima Call for Action, which elaborated informational norms for parties' INDCs.
>
> In November 2014, the United States and China made a joint announcement on climate change, signaling greater cooperation between the world's two biggest emitters and bolstering a more positive dynamic in the negotiations (a positive spirit reinforced by a U.S.-China Joint Presidential Statement in September 2015, shortly before COP-21). The ADP produced

> a draft negotiating text in February 2015. Throughout the year, countries began submitting their INDCs and, by the time the Paris conference began, more than 180 states had done so. The ADP concluded its work at the end of the first week in Paris, forwarding its draft negotiating text to ministers.[131]

The September 25, 2015 Joint Statement by Chinese President Xi Jinping and US President Barack Obama provided significant momentum for the Paris negotiations, since it appeared to demonstrate that the two largest emitting countries were committed to progress, making it more credible that an agreement would be forthcoming.[132] In the Joint Statement, the Presidents reaffirmed their shared conviction that climate change is one of the greatest threats facing humanity and that their two countries had a critical role to play in addressing it. Importantly, the Presidents recognised the INDCs their respective countries had communicated, thus lending impetus to INDC submission by other parties.[133]

Momentum for important progress on climate also continued on other fronts. On 25 September 2015 the United Nations adopted a new series of Sustainable Development Goals, including Goal 13 to "Take Urgent Action To Combat Climate Change And Its Impacts."[134] President Obama's White House also worked with major TNCs to set and announce voluntary GHG emission reduction goals in the lead-up to the Paris Conference.[135]

COP-21 and the Paris United Nations Climate Conference ran from 30 November until 12 December 2015. It

> involved more than 19,000 government participants (including 150 heads of state), more than 6000 representatives of NGOs and business, including many CEOs, and roughly 2800 members of the press. It provided the occasion, and in some cases the catalyst, for a wide variety of pledges by public and private actors at all levels – countries, regions, cities, international organisations, businesses, and NGOs. [136]

The Paris outcome took the form of a COP Decision, which adopts the Paris Agreement as an annex (collectively, the Paris Decision and Agreement or PDA).[137]

The Decision adopted the Agreement under the UNFCCC.[138] It recognised the INDCs that had been submitted and asked countries that had not submitted INDCs to do so,[139] also noting that the INDCs submitted to date would not maintain global temperature rises below 2 degrees Celsius.[140]

The Decision further gave prominent place to civil society, establishing a website for the registration of climate actions by non-Party stakeholders.[141] The Agreement similarly provides for qualification of civil organisations to obtain observer status.[142] This constitutes significant recognition of the importance of non-state actors in achieving climate goals and of the collective force of the Climate Governance Ecosystem. At Paris itself many NGO actors made significant pledges of private action on climate change, including the Breakthrough Energy Coalition, a private initiative spearheaded by Bill Gates to invest in clean energy technologies, financed by 26 investors from 10 countries, including Jeff Bezos and

Mark Zuckerberg,[143] and the Paris Pledge for Action, which promises the support of non-state stakeholders in implementing the Paris Agreement and meeting or exceeding its 2 degree temperature goal. Over 1,300 non-Party stakeholders ultimately signed the Pledge.[144] Also significant are the Lima to Paris Action Agenda (LPAA)[145] and its associated NAZCA portal, which records actions by sub- and non-state actors. Currently, the NAZCA portal lists approximately 11,000 commitments with more than 2,000 from cities and a roughly equal number from private companies, and more than 230 from civil society organisations.[146] Finally, the Compact of Mayors, launched by the UN General Secretary to create a standard framework for municipal action respecting climate change, now involves over 9,000 cities and local governments from 6 continents and 132 countries, representing more than 800 million people.[147] According to former New York City Mayor Michael Bloomberg, "[t]he group of American cities, states, and businesses who remain committed to the Paris Agreement represents a bigger economy than any nation outside the U.S. and China."[148]

The Agreement specified the objective of holding the increase in global average temperature to "well below" 2 degrees Celsius, and to pursue limiting it below 1.5 degrees Celsius.[149] All Parties were required to submit INDCs. "Developed country Parties" were encouraged to include economy-wide absolute emission reductions in their INDCs, and developing country Parties were encouraged in their INDCs to enhance their mitigation efforts and to move over time to "reduction or limitation targets in the light of different national circumstances."[150]

Biniaz describes the PDA as "a hybrid between the thoroughly binding nature of Kyoto and the thoroughly non-binding nature of Copenhagen,"[151] pointing out that, unlike other portions of the PDA, the NDCs do not impose legal obligations. Biniaz also points out the "hybrid" nature of the PDA in allowing the NDCs to be determined by individual states, but requiring those states to provide sufficient information for the NDCs to be understood and validated.[152]

Article 5 of the Agreement provided strong support for sink and reservoir measures, including REDD.[153] Article 6 provides for emissions trading and for an expanded CDM-type measure.[154] Article 7 established a global goal of enhancing adaptation and reducing vulnerability to climate change,[155] and Article 9 committed the Developed Parties to provide funding for both mitigation and adaptation.[156]

An issue concomitant with expanding mitigation requirements to developing countries was creating a transparency mechanism that provided acceptable assurance of compliance, but also was not excessively burdensome for countries with constrained budgets and did not unduly impinge on their sovereignty. This mechanism is set out in Article 13 of the Agreement, and includes national inventories and tracking methodologies, to be implemented flexibly to minimise costs.[157]

The Agreement provides that the COP will serve as the Meeting of the Parties (MOP) for the Agreement, and that the Secretariat of the UNFCCC will serve as the Secretariat for the Agreement.[158] Article 14 established the important "global stocktake" process, under which, every five years, the COP is instructed to evaluate progress towards achieving the UNFCCC's objective, and taking such actions

as necessary, including inducing countries to enhance their INDCs to ensure the objective is met.[159]

As the culmination of extensive negotiation on several fronts since Copenhagen and before, the PDA outlines a path forward on climate governance that reflects significant evolution from the UNFCCC and the Kyoto Protocol in several important respects. Daniel Bodansky points out eight key distinguishing features of the PDA:

> First, it is a legally binding instrument (albeit with many non-binding elements), in contrast to the Copenhagen Accord, which was a political deal.
>
> Second, it is global. It applies not only to developed countries, like the Kyoto Protocol's mitigation targets, but also to developing countries, which account for a growing share of global emissions. As of March 15, 2016, 188 countries had put forward intended nationally determined contributions, representing roughly 95 percent of global emissions. This, in itself, is extraordinary.[160]
>
> Third, it specifies the same core obligations for all countries. In doing so, it abandons the static, annex-based approach to differentiation in the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, in favor of a more flexible, calibrated approach, which takes into account changes in a country's circumstances and capacities and is operationalised differently for different elements of the regime.
>
> Fourth, it establishes a long-term, durable architecture, in contrast to the Copenhagen Accord, which involved one-shot pledges addressing only the period up to 2020.
>
> Fifth, the long-term architecture institutionalizes an iterative process, in which, every five years, parties will come back to the table to take stock of their collective progress and put forward emission reduction plans for the next five-year period.
>
> Sixth, it sets an expectation of progressively stronger action over time.
>
> Seventh, it establishes an enhanced transparency and accountability framework that reflects Justice Brandeis's admonition, sunlight is the "best of disinfectants." States will have an incentive to carry out their NDCs because, if they don't, everyone will know, subjecting them to peer and public pressure.
>
> Eighth, it appears to command universal, or near universal, acceptance.[161]

Biniaz suggests several reasons that the PDA may be a more sustainable model than the Kyoto Protocol. The party-established NDCs may be less contingent and more independent than centrally agreed limits. When the central agreement must specify targets, those targets are the result of intense, contingent negotiation, so if any one party later reneges the entire system may fall apart. Since NDCs are based on what individual parties determined that they could accomplish, without reference to what other parties signed up for, the failure of any one party may have less impact on the others. Also, the PDA's extensive recognition of non-state party action means that these parties can fill gaps left if parties abandon the agreement.

Finally, by extending requirements more broadly to developing nations, the PDA addresses one of the key concerns raised by the US throughout the history of the climate negotiations.[162]

The COP Decision adopting the Agreement also created the Ad Hoc Working Group on the Paris Agreement (APA) with the mandate to prepare detailed guidance on implementation of the PDA for approval by the COP.[163] The APA has been a primary organ developing the "Paris Rulebook" in subsequent COP meetings.[164]

POST PARIS

The PDA was momentous on several grounds. The context of the PDA was also momentous for what it revealed about the Climate Governance Ecosystem. As a candidate for US President in 2016, Donald Trump claimed that he would "rip up" the agreement.[165] After Mr. Trump was elected US President in 2016, the private for-profit sector, led by both investors and by manufacturers, including manufacturers of goods and services that could assist in meeting global climate targets, rallied strongly in favor of the PDA. Global institutional investors managing $15 trillion US dollars sent a letter to the leaders of the Group of 7 stating "[a]s long-term institutional investors, we believe that the mitigation of climate change is essential for the safeguarding of our investments. . . . We urge all nations to stand by their commitments to the Agreement."[166]

Despite this support, on 31 May 2017 President Trump announced that he "was elected to represent the citizens of Pittsburgh, not Paris," and that he would take steps to withdraw the US from the PDA.[167] However, on 7 June 2017, the *New York Times* published an Opinion from Mayor Anne Hidalgo of Paris and Mayor William Peduto of Pittsburgh that stated "In the absence of executive leadership in the United States . . . [w]e are being joined by business leaders, governors, university presidents and millions of citizens across the United States to pledge 'We Are Still In' — and we will achieve and exceed America's commitment to the Paris Agreement."[168] Once again, the formal sovereign state-based IEL process had demonstrated that it was not the sole determinant of international environmental policy.

SLOUCHING TOWARDS GLOBAL CLIMATE GOVERNANCE: CONTINUED EVOLUTION OF THE CLIMATE GOVERNANCE SYSTEM

One potential lesson from President Trump's rejection of the PDA is that the Climate Governance Ecosystem may be sufficiently robust to survive defaults by individual participants. Trump's rejection of the PDA did have potentially significant ramifications for geopolitical alignment on climate change. As discussed above, COP 21 showcased the clear emergence of China as a major determinant of global climate strategy, and a realignment of the former Annex I/non-Annex I alignments under the UNFCCC. On 15 and 16 September, 2017, the EU,

Canada and China hosted a Ministerial Meeting in Montreal, Canada to "further galvanise global momentum for the implementation of the Paris Agreement."[169] Respecting this Ministerial Meeting, Li Shuo, senior global policy advisor at Greenpeace East Asia, stated in an interview that:

> It is worth noting that this is one of the only high-level climate processes that is a collaboration between developed and developing countries. It is also a very concrete case in point that China is lending support to the international climate process as part of collective/shared leadership.[170]

From 6–17 November 2017 the Republic of Fiji organised COP 23 in Bonn, Germany.[171] At COP 23 the Fijian government endorsed a "Talanoa Dialogue," which is a facilitative dialogue among parties and civil society to examine and strengthen climate commitments and share best practices.[172] COP 23 also announced various platforms and programmes to advance the PDA and the "Paris Rulebook" to guide PDA implementation, including important advances on the climate-related impacts of agriculture.[173] A residual controversy relating to the transition from the Annex I/non-Annex I dichotomy, however, also received attention. While the PDA envisioned a more demanding role for developing countries, these countries charged that the developed countries were trying to ignore their previously envisioned pre-2020 actions and concentrating only on post-2020 actions embodied in the PDA. Ultimately, the COP 23 decision text included several measures to reiterate "Pre-2020 implementation and ambition."[174]

As the first COP after President Trump's announced intention to exit the PDA, the US position – or positions – naturally drew significant attention. Some NGOs sought to bar US participation, and Syria announced on Day 2 that it would sign the PDA, leaving the US as the only country in the world not supporting the agreement.[175] In addition to the official US delegation, however, a separate "We Are Still In" delegation of state, municipal and civil society representatives established a large pavilion at COP 23 and issued an "America's Pledge" report outlining how states, cities and businesses purporting to constitute "more than half of the US economy," with a global stature of "the third largest economy in the world, larger than Japan or Germany" would continue to support the US pledges in the PDA.[176]

The non-UN components of the Climate Governance Ecosystem also continued to evolve post-PDA. On 15 June 2017, the Financial Stability Board's Taskforce on Climate-Related Financial Disclosures issued its Final Report proposing methodology and content for evaluation and reporting of climate risk in mainstream financial reports. The Taskforce included senior executives from the financial, insurance, accounting, investment, and manufacturing communities.[177] On 17 July 2017, the State of California and the City of Imperial Beach, later joined by several other California governmental entities, sued several fossil fuel companies, claiming that the defendants knew, and concealed, that their activities contributed to climate change with resulting damages,[178] and on 23 May 2018, a group of European individuals, with support from ENGOs, filed the "Peoples

Climate Case" in the EU General Court, claiming that the EU's insufficient climate programmes endangered their livelihoods.[179] In January of 2018 Larry Fink, Chairman and CEO of Blackrock, Inc., the world's largest investment firm,[180] sent a letter to the CEOs of the companies in which Blackrock invested, stating: "To sustain . . . performance . . . you must . . . understand the societal impact of your business as well as the ways that broad, structural trends . . . [including] climate change – affect your potential for growth."[181] Similarly, in April 2018, a group of 32 multinationals with operations in Spain issued a "manifesto" calling on the Spanish government to pass legislation to facilitate the transition to a non-carbon economy.[182]

And, in October of 2018 the Nobel Prize for Economics was awarded to Professor William D. Nordhaus for his research integrating climate change into long-run macroeconomic analysis,[183] and the IPCC published a Special Report (SR15) on the impacts of global warming above 1.5 degrees Celsius, which re-confirmed the evidence of anthropogenic impact on climate and outlined the increased risks of global warming of 2 degrees Celsius versus the 2 degrees Celsius targeted under prior UNFCCC actions.[184] Finally, on 23 November 2018, the U.S. Global Change Research Program (USGCRP) released its Fourth National Climate Assessment (NCA4),[185] including a Climate Science Special Report[186] issued as Volume I of the NCA4, and containing the best assessment of relevant US federal agencies of the current state of climate science.

SR15 and NCA4 both strongly confirmed that climate change was already affecting the environment, agriculture, human health and, increasingly, the economy, and that these impacts would increase, particularly if GHG emissions were not severely reduced. Despite his administration's authorship of NCA4, U.S. President Trump proclaimed: "I don't believe it."[187] This proclamation set the stage for COP24 of the UNFCCC, convened in Katowice, Poland from 3–14 December, 2018.[188]

The roughly 23,000 delegates who descended on the Selesian coal mining town of Katowice, Poland had, as their primary objective, finalisation of the "Paris Rulebook" to guide implementation of the PDA.[189] While the US and Australia presented arguments supporting continued use of fossil fuels,[190] there was also significant focus on the concept of a "just transition," recognising the need for resources for workers and fuel users to transition to a lower carbon economy.[191] In the end, major portions of the Rulebook were agreed to, generally applying common rules to all parties, although with significant latitude for developing countries having difficulty meeting their requirements. Several portions of the Rulebook, however, were postponed to Chile's COP25 in 2019.[192]

NOTES

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Countries from both developed and developing worlds have announced low-carbon economic plans and are moving forward.") State procurement itself can powerfully support policy choices encouraging a green economy. According to the WTO, government procurement accounts for an average of 10%–15% of a country's GDP, see https://www.wto.org/english/tratop_e/gproc_e/gproc_e.htm. Government policies to purchase energy efficient products or to give purchasing preference to suppliers with strong energy conservation, renewable energy and efficiency or greenhouse gas reduction programmes can significantly impact supplier performance. The same measures can be taken by large private organisations with substantial procurement expenditures.

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parties' questions. "Intended" was expected to reflect that, while NDCs could change before the final PDA, they were not subject to approval by other parties. Susan Biniaz, "Comma But Differentiated Responsibilities: Punctuation And 30 Other Ways Negotiators Have Resolved Issues In The International Climate Change Regime," June 2016, available at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/biniaz_2016_june_comma_diff_responsibilities.pdf, at 15.

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Chapter 8

Biological diversity

INTRODUCTION

Biological diversity[1] loss is one of the great challenges of this generation.[2] Environmental degradation, as well as a combination of human activities including land use change, invasive alien species, overexploitation, pollution and climate change,[3] has led to species extinction at an unprecedented rate.[4] The increased loss of biological diversity has reached the point where biologists talk about the world as living through a sixth mass extinction of biodiversity comparable in scale to the loss of the dinosaurs.[5]

In 1992 when the scale of the issue became readily apparent, it was estimated that with the rate of species extinction, the next 30 years would result in a loss of 25 per cent of the planet's total biodiversity or 100 species per day. This would equate to 1000x the rate of natural species which is 9 per cent of species per million years.[6] To compound the problem, scientists have not even catalogued the number of species that do exist. In the 1990s, only 1.4 million species were scientifically identified[7] out of an estimated 30–100 million. By 2011 biologists estimated that the world contained "only" 8.7 million species, give or take 1.3 million, narrowed down from previous estimates of between 3 million and 100 million. However, that still meant that 86 per cent of land species and 91 per cent of marine species remained undiscovered.[8]

In 2010, the Millennium Ecosystem Assessment brought 1,360 experts from 95 countries together with international organisations, scientists, academics and non-profits to conduct one of the most comprehensive studies of the Earth's biodiversity.[9] They found that, "over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, and fuel." Furthermore, they found that with current activities, this degradation of ecosystems could heighten over the next 50 years.[10]

The advancements in technology have allowed humans to hunt much more effectively,[11] but the lack of care and conservation has led to unprecedented rates

of extinction. Studies in the past few years have shed light on just how much the animals are paying for human needs.[12] A study at the University of Queensland found that human activity had impacted 84 per cent of species around the world.[13] Since 1970, populations of mammals, birds, fish and amphibians have declined by 60 per cent.[14] In terms of composition, only 4 per cent of the world's mammals, by weight, are wild and the remaining 96 per cent consist of humans and livestock.[15]

The hunting, trapping and poaching of large animals, whether intentional or unintentional, has led to the extinction of 9 megafauna species in the past 250 years. A recent study examined 362 megafauna species and found that 70 per cent had declining populations, with 59 per cent classified by the International Union for Conservation of nature as threatened.[16] This trend is not only limited to megafauna species. More than 1,200 species around the world face threats across more than 90 per cent of their habitat, and without conservation assistance, will inevitably face extinction.[17]

The same study found that 25 per cent of species assessed faced threats across more than 90 per cent of their distribution and 7 per cent of species experienced at least one threat across their entire habitat range.[18] The Living Plant Index contains more than 10,000 representative populations of mammals, birds, reptiles, amphibians, and fish, and illustrates a 52 per cent decrease in populations since the 70s.[19] Particularly important is the 76 per cent decline in populations of freshwater species and 39 per cent in marine and terrestrial species.[20] If the elimination of wild habitats, poaching and anthropogenic pollution stopped within the next 50 years, it would still take the planet 5–7 million years to rebound.[21]

The question is often asked, why protect biodiversity? There are several reasons why biodiversity conservation is an important priority from an anthropogenic standpoint. In the past, efforts to do so focused on conservationist approaches, "assessing the importance of biodiversity loss to ecosystem functioning while analysing the relationship between biodiversity and the 'services' ecosystems provide."[22] Genetic material can be extracted and used for agricultural purposes, or for pharmaceutical purposes. One example of genetic material being utilised for medicine is that of the Madagascar periwinkle. This plant has been used to treat lymphocytic leukaemia.[23]

Biodiversity is necessary for healthy, functioning ecosystems but also for the economic and social importance of its genetic resources.[24] In fact, in 2010 economists estimated that conserving a healthy level of biological diversity would save trillions of dollars of benefits, such as, "clean air and water, productive soil and wetlands, bio-commerce, recreation, eco-tourism, health costs and insurance savings."[25] Biodiversity is also valued in that it allows society to adapt to changes in the biosphere, and, "by destroying genetic reserves, the ability for life as a whole to adapt and evolve is limited."[26]

However, there are also intrinsic reasons to preserve biodiversity that are personal (humans like being part of a biotic web), spiritual (humans connect to the divine through nature) and other reasons (e.g. using nature as a gym, other species have an inherent right to exist) to protect biodiversity and limit its destruction.[27]

Biodiversity loss is a global issue, and extends beyond the scope/reach of a single nation and requires a global contribution.[28] Some species travel across national boundaries during migration, such as birds and polar bears, and some species live in the areas of the global commons, such as fish. Since it is not the responsibility of one single country to protect these species, international management of the issue is required.[29]

This chapter scrutinises the concept of property rights in genetic resources and the impact such an idea has had. It critically examines the ongoing biopiracy versus bioprospecting debate about access to genetic resources. It follows the drafting of the CBD and its protocols and examines the impact of the various stakeholders on the finished texts. It further outlines the key provisions and analyses the strengths and weaknesses of the agreements. It explores the CBD Conferences of the parties (COPs) and the attempts to put in place biodiversity targets and scrutinises the reasons why the targets failed to be met. Lastly, it asks why, despite a number of key agreements drafted, global biodiversity loss appears to be worsening and outlines some suggestions for improving the regime's performance.

PROPERTY RIGHTS TO GENETIC RESOURCES

At the same time as biodiversity loss was moving from a national to a global issue, the concept of property rights to genetic resources were becoming increasingly debated in the global arena.[30] The term "genetic resources" refers to the hereditary material, or genes, of all animals, plants and microorganisms that have actual or potential value for humanity.[31] Technological advancements had led to developments in biotechnologies that were able to extract genetic resources and utilise them for commercial interests. With the rise of genetic engineering, recognition was given to the potential value of genes.[32] As a result, the 1990s saw an increased interest in property rights and access to genetic resources.[33] With these advancements, innovations in agrochemical, pharmaceutical and seed industries meant that companies were starting to think about claiming ownership to these technologies and considering patents or life forms.[34]

In the past, genetic material had not been subject to property rights, and they were available to be accessed by anyone freely,[35] and were considered as part of the "common heritage of humanity."[36] In this sense, genetic material and knowledge about manipulating flora and fauna properties for use were considered free goods. As a result, international transactions regarding plant genetic resources were generally informal and information was commonly exchanged, for example information relating to the main food crops throughout the world.[37] The collection of seeds in international gene banks was also initially a non-controversial issue. These banks stored seeds mostly derived from Lesser Developed Countries (LDCs) and which were used for the most popular food plants. The banks were based on the principle of open access and were considered to be non-rival and non-exclusive.[38]

In the 1980s, however, the situation changed and developing countries began raising questions about plant genetic resources in the UN Food and Agricultural Organisation (FAO).[39] The question of the control and access to genetic resources

was first put on the FAO agenda in 1981 by LDCs.[40] Specifically, the questions raised were about access to and control over plant genetic resources and who should benefit.[41]

The result was a non-binding FAO International Undertaking (IU) and a Fund for Plant Genetic Resources in 1983.[42] This was the first international instrument that dealt with the sustainable management of genetic material at the global scale.[43] The Undertaking continued to rely on the common heritage principle and noted that, "all categories of plant genetic resources should be subject to free exchange for exploration, preservation, evaluation, plant breeding and scientific research."[44]

In 1983, Article 1 of the International Undertaking summarised the current position as, "plant genetic resources are the heritage of mankind and consequently should be available without restriction."[45] The FAO Undertaking supported the agenda of developing countries which noted that all categories of plant genetic material were the common heritage of mankind and therefore were labelled as within the public domain, and fell outside the scope of patents.[46]

In 1989, an Agreed Interpretation was agreed upon which noted that genetic material will be made available "on mutually agreed terms."[47] Essentially the "resolution asserted that all plant germplasm was the common heritage of mankind."[48] The FAO Fund also introduced the idea of "farmers rights," and works to compensate farmers for their contributions to the conservation and development of plant genetic materials. This was meant to work similarly to "plant breeders' rights," and enforces the idea that if breeders profit from their efforts then so too should farmers.[49]

However, the principle of common heritage of humanity that had underpinned the exchange of information regarding genetic material was gradually eroded as patents were reinterpreted to cover biological material.[50] Furthermore, while the incorporation of rights on the FAO agenda was beneficial, there was little to no practical effect in the decade that followed. This can be primarily attributed to difficulties in implementing this policy as well as a lack of funding to achieve its goals.[51] Furthermore, the IU is classified as a soft law international agreement and was not implemented into customary law in the treatment of the resources as global commons.[52]

BIOPROSPECTING V BIOPIRACY

Most of the world's biodiversity is contained in the tropics of the developing countries. In this sense, developing countries are the "collective repository" and hold four-fifths of the globe's biodiversity.[53] In fact, over 50 per cent of the world's biodiversity exists within the rainforests, most of which is insects and small plants.[54] While developed countries are not as species rich, they hold the existing technological capacity to extract genetic resources for commercial use.[55] As a result, companies in the pharmaceutical and agricultural industries would extract genetic raw material from the LDCs and use it for their own purposes, making such corporations extremely wealthy. This created a power imbalance between

developing countries that are species rich but poor in technology, forcing them to rely on developed states to exploit their resources, and industrialised countries which have the technological capacity but are poor in genetic resources.[56]

This practice became known as "bioprospecting" or "gene hunting."[57] "Bioprospecting" is the term given to the exploration and collection of genetic material for commercial purposes and is often utilised by pharmaceutical and agricultural industries. The term has also been used to capture the various methods used by corporations from industrialised countries to take advantage and claim ownership of genetic organisms and traditional knowledge of the developing countries. However, the use of the term is controversial and some LDCs and experts prefer to use "illegal access" or "illegal use," or "biopiracy" to describe these activities.[58]

These activities have led to many important medical discoveries, for instance the treatment for childhood leukaemia and Hodgkin's disease through rosy periwinkle. However, it is ultimately authorised and uncompensated exploitation of the resources and knowledge of genetic material. Such resources and knowledge are incredibly valuable in the international market, particularly in the agricultural and pharmaceutical industries.[59]

Developing countries began questioning the globe's property stance on plant genetic resources, expressing concern over developed countries' unlimited access to such resources. They noted there was a pattern of gene-poor industrialised countries collecting genetic material from species-rich developing countries, patenting the products, and then selling the products back to country where the genes had been collected.[60] LDCs and ENGOs raised concerns about this one-way, free flow of genetic material from the developing nations to the industrialised countries.[61] They noted that large-scale commercial enterprises were using technology to claim ownership of genetic material, while paying little or nothing for their access to and the use of the valuable genetic resource in the international market.

As a result, developing countries argued that, "the principle of common heritage should be replaced by the principle of national sovereignty over genetic resources."[62] They considered genetic resources' status as a common heritage of humanity to be "an insidious form of colonialism led by the northern agrochemicals and pharmaceuticals industries."[63] They reacted strongly to industrialised countries stealing their natural resources. For instances, the Brazilian government brought proceedings against an ENGO for illegally stealing knowledge from its indigenous peoples.[64]

The alarming rates of species extinction, coupled with the expected new market opportunities and profits derived from genetic resources and the outrage from LDCs for a legal instrument that would better protect their interests, created a need for a more robust global policy framework.[65] The issues that needed to be addressed by any instrument included species extinction rates; access and benefit sharing of genetic resources; and the allocation of responsibility that would address the power imbalance between developed and developing countries. This created the backdrop for the development of the *Convention on Biological Diversity.*

However, such an international treaty needed to go further and also cover the protection of local species of plants and animals, even though countries have national sovereignty over their own natural resources. Even the protection of local species has an international dimension. The threats to species are international in character, for instance international poaching, just as the benefits of conservation are global and will benefit all nations of the world.[66]

There were already are a number of international treaties focused on conservation. In fact, wildlife protection is one of the "oldest subjects of international environmental law." The very first global convention on conservation was the 1971 *Ramsar Convention* on the protection of wetlands of international significance.[67] Creating an international framework for global biodiversity conservation required collaboration among sovereign nations – and specifically, it requires that states recognise their limited right over their own natural resources – an approach that encompasses political, social and economic interests. One problem is that, "The protection of biological resources imposes costs on member states for advantages that give no payback for the investing states within the normal political event horizon."[68]

DRAFTING THE CONVENTION

In 1983, the United Nations General Assembly established a special independent commission on environment and development in order to conduct a global enquiry and suggest practical recommendations for biodiversity conservation.[69] The commission, later renamed the World Commission on Environment and Development, recommended that nations, "investigate the prospect of agreeing to a "Species Convention," similar in spirit and scope to the Law of the Sea Treaty and other international conventions reflecting principles of "universal resources."[70]

In the following years, the United States recommended that national governments pursue such an international agreement.[71] As a result, the International Union for the Conservation of Nature and Natural Resources (IUCN) prepared a draft version of the Convention – "Conservation of Biological Diversity" – in 1988.[72]

The Draft incorporated several of the US's suggestions but went beyond the initial concept.[73] The IUCN collaborated with the World Resources Institute, United Nations Environment Programme (UNEP), World Bank, World Wildlife Fund and other ENGOs in preparing the draft.[74] The IUCN mainly acted as an observer that was concerned with the biological protection and conservation.[75] The IUCN and these groups continued to develop successive drafts throughout the 1980s. Together, they "developed an extensive proposal that offered policy prescriptions oriented around a legally binding treaty."[76]

The Convention was originally intended to be an "umbrella convention" – one that consolidated all the existing international and regional conventions and treaties that dealt with biological diversity. However, after deciding such a convention was too difficult to establish, the *Convention on Biological Diversity* became a "framework convention" that set out an overarching commitment to

the preservation of biological organisms and was "intentionally loose and flexible" to allow for development of protocols over time that would enhance the instrument's goals.[77]

Up until the 1980s, the majority of national and international conservation efforts focused on wild species of plants and animals.[78] The Draft Convention is all-encompassing and considers preserving the biological diversity of all aspects of species and ecosystem preservations. The Draft Articles take a global approach in addressing biodiversity and included both developed and developing countries, noting the majority of the Earth's biological diversity belonged to LDCs.[79] They included measures for *in situ* and *ex situ* conservation,[80] as well as controlling exploitation, the spread of pollutants that had adverse effects on biological diversity, and the spread of exotic or man-made organisms.[81] Further, the draft convention also guaranteed access to genetic resource for only research and conservation purposes, but did not guarantee access for commercial purposes.[82]

The Draft Convention is based on two key underlying ideas. The first is that states hold responsibility to protect biological diversity, and secondly, the responsibility is one shared amongst states. In this sense, national sovereignty does not prevent states from being held accountable as there is a collective responsibility to protect the Earth's biological diversity. Furthermore, states do not need to solely rely on their own independent efforts. The proposed Convention aims to set out a framework helping states to meet their global collective obligation. As a result, the Articles do not set out mandatory rules of behaviour. The Convention is therefore meant to supplement, rather than replace or act as a substitute for existing conventions.[83]

Intriguingly and importantly, the draft proposal is one of the first examples of international law that were based on principles of conservation biology. This was a new development that involved basing drafts on scientific knowledge prior to the involvement of lawyers.[84] The proposed Draft Convention set out a "World List of Areas of Outstanding Importance for the Conservation of Biological Diversity," where the Conference of the Parties could add or remove areas based on recommendations of an Advisory Committee. The Conference also had the power to recommend measures to develop or support economic activities that were consistent with maintaining biological diversity.[85]

Furthermore, the proposed draft convention suggested an International Fund for the Conservation on Biological Diversity (ICF) be established, which would be funded by a tax imposed on private sector users of biomaterial. Later on, the WWF suggested alternative sources of funding for the ICF, including the creation of a company (LIFETECH) to protect and utilise products and intellectual property derived from biological diversity. Disappointingly, the ICF proposal was not accepted by LDC during the Biodiversity Convention negotiations because of its focus on conservation instead of development.[86]

In 1987, the UNEP created a first draft of the Treaty, relying on the IUCN's proposals.[87] The UNEP then established the Intergovernmental Negotiating Committee (INC), formerly known as the Ad Hoc Working Group of Legal and Technical Experts, in order to commence negotiation of the Biodiversity

Convention. The first meeting took place in November 1990, and continued for 18 months.[88] Throughout the negotiations, the scope of the Convention was expanded and issues such as genetic resources, technology transfer, intellectual property rights (IPR), living modified organisms (LMO), biosafety and finances were included in negotiations.[89]

The UNEP Ad Hoc Working Group of Legal and Technical Experts (later known as the Intergovernmental Negotiating Committee (INC)) negotiated the CBD.[90] The CBD is known for having a speedy negotiation timeframe, which is said to be a result of a sense of urgency to produce a final version ready for signing at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil.[91] Twenty-five countries participated in the first negotiation meeting in 1989, alongside several ENGOs (IUCN and the WWF), as well as IOs such as the FAO. Overall the agenda during negotiations was flexible, and many topics were added and discussed among participants.[92]

While the initial key issue of the CBD was environmental protection, the negotiations quickly became saturated with other stakeholder issues beginning to dominate proceedings.[93] With the benefit of hindsight, it is clear that national self-interest gained increasing influence over ethical concerns in the negotiations.[94] These interests were represented by two groups – the first being corporations and research institutes of agriculture and pharmaceutical sectors, and the second indigenous and local communities, often represented by ENGOs.[95]

There was controversy surrounding the main purpose of the Convention, namely whether it would focus on conservation or whether it would also set out obligations for the sustainable use of biological resources. Commentators have noted that the US and IUCN suggestion to bring the issue of biodiversity within the ambit of the UNEP was a tactical move to separate the political genetic resources debate in the FAO from the "more traditional values of wildlife conservation in protected areas." Kristen Rosendal argues it was an attempt to keep the focus of the treaty on *in situ* conservation, rather than address both conservation alongside sustainable use of biological materials.[96]

What is clear was that the US was exasperated by the FAO "gene wars" and wanted to negotiate biodiversity conservation separately, under the UNEP.[97] The issue was controversial because of the effect it would have on financing as well as wider impacts on agricultural and forestry practices around the world. The developed states were concerned that discussions of sustainable development would shed light on how developed countries profit off the genetic resources in the South through agricultural and pharmaceutical products, and that it may lead to stricter regulations on agricultural and forestry practices around the globe.[98] However, the LDCs successfully pushed their agenda to incorporate sustainable use and equitable sharing to the CBD agenda. In this sense, the LDCs were able to affirm their sovereign state rights over genetic material in the CBD.[99]

ENGOs had been concerned that a conservation agreement would not be reached if stricter regulations were incorporated and, as a result, the initial IUCN draft CBD reflected "Western traditions of nature conservation in full." A further issue of concern was biological "hot-spots," and many participants argued

that the treaty should mainly target these zones, such as tropical rainforests. This argument was based on the fact that these areas contained a very high concentration of species. However, others argued, mainly the Nordic countries, that conservation efforts were required by all countries regardless of the number of species present. Industrialised countries eventually conceded, noting that LDCs that contained most of the world's biodiversity would not join the Convention otherwise.[100]

One clear difference in attitudes between the developed and developing countries was regarding the issue of intellectual property. While most developed states believed that the protection of intellectual property was a fundamental right, one comparable to the rights of physical property, most LDCs regarded it as an economic policy question.[101]

At the final negotiation session, there was controversy about how to resolve these issues, given the clear "North-South divide."[102] The developed states emphasised the need to conserve biological diversity (even though this was not defined in the CBD), while developing countries argued that the goal was, "the sustainable use of biological resources coupled with mechanisms to secure equitable financial and technological transfers."[103] There was a divide between North and South about the structure of the financial mechanisms. Industrialised countries wanted the funds to be integrated into the already operating Global Environmental Facility (GEF), an institution that also implemented other projects that contribute to the enhancement of global environmental quality while LDCs were wary of giving that role to that organisation.[104] While the issue was not resolved at the time, eventually in 1996 the GEF was accepted by the CBD member states as the financial entity that operates the financial mechanisms of the Convention.[105]

While ENGOs played a role in the earlier negotiations, they were excluded from later discussions which were centred on medium-term work programmes and finances and played no part in influencing those discussions.[106] However, overall, ENGOs, along with other global civil society members including IOs, indigenous communities, women, local communities, and groups of scientific, technical or legal experts, are noted for their contribution to the Convention through the negotiation and implementation of goals. The Convention contains mechanisms for procedural rights, illustrating the expected ongoing involvement of these stakeholders through environmental impact assessments, monitoring and research.[107]

The participating states, however, were not able to reach a consensus on the issue of biotechnology. While some countries wanted international regulation on living modified organisms resulting from biotechnology, others including the US strongly opposed such restrictions which presaged the battles of the issue to come. The CBD was signed by 153 countries in Rio de Janeiro at the Earth Summit on 5 June 1992.[108] The Convention was ratified on 30 September 1992, when it achieved 30 signatories, and came into effect on 29 December 1993.[109] Currently, the Convention has achieved nearly universal membership[110] – 196 parties and 168 signatories.[111] However, the United States has still not ratified the Treaty.[112]

THE *CONVENTION ON BIOLOGICAL DIVERSITY*

The CBD provided an international framework within which biodiversity depletion that causes harm to ecosystems essential for the survival of human societies in all countries can be addressed. The Convention called for commitments from nations to conserve biological diversity and commit themselves to the sustainable use of biodiversity, as well as fair and equitable sharing of the benefits arising out of the utilisation of the genetic resources.[113]

While there had been other international treaties to address species or habitat conservation, the CBD is the first to address conservation at a global level. In the 1990s, there were several international conventions that symbolised international cooperation to protect and conserve different animals, habitats and ecosystems.[114]

The Biodiversity Convention was unique in that it was the first international treaty to address the conservation of *all* biological diversity[115] and thus has adopted a broad ecosystem approach to the issue[116] whereby effective action needs to view biodiversity as a whole, which includes essential processes, functions, and interactions among organisms and the environment (including humans). Instead of viewing species in isolation, a holistic assessment is the best way to approach conservation, sustainable development, and the equitable sharing of biodiversity resources.[117]

The Convention is different from the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES), the World Heritage Convention, and the *Convention on Wetlands of International Importance* (the Ramsar Convention) as it does not specify a list of species or habitats to be protected.[118] It has been identified by the UN General Assembly as the "key international instrument on biodiversity."[119]

The Convention is also all-encompassing in that it is a framework that sets out objectives for not only sovereign nations, but also non-party governments, IOs, private sector companies, and indigenous and local communities.[120] The CBD addresses many issues: control and ownership of biological resources, balance between conservation and sustainable development, and the fair and equitable sharing of genetic material between the developed and developing world. In doing so, the CBD required sovereign states to cooperate to protect biodiversity, to implement the convention into national legislation, and to monitor, protect, establish, restore and maintain biodiversity in their countries. Further, the Convention requires nations to control access to genetic resources.[121]

The Treaty was also the first Convention to incorporate the concept of "sustainable development" into its objectives.[122] This was a result of the Convention seeking to balance the priorities of developing and industrialised countries to create a framework that will protect the needs and issues of developing countries, while allowing developed countries to reach their goals.[123] While the Convention initially was thought to be a conservation treaty, developing countries were not willing to consider biological diversity on its own and instead voiced their concerns for economic equity and global partnerships.[124]

As a result, the Convention is much more than a nature protection agreement. It incorporates ecological, social and economic interests to set out a framework

for conservation strategies, and thus is known for "creating one of the most comprehensive environmental agreements of the past century."[125] Essentially the CBD is a commitment from states to use their efforts to conserve the Earth's biological resources, and to use such resources sustainably and to the maximum possible benefit of people.

The key provisions of the Convention

The *Convention on Biological Diversity* (CBD) is based on three key concepts, which have been adopted by subsequent programmes and guide global action.[126] These three equally important goals are that the international community, sovereign states and local communities must cooperate in order, as per Article 1, to: "ensure conservation of biological diversity, and sustainable use of its components; and to promote a fair and equitable sharing of the benefits arising out of utilisation of genetic resources."[127] By ratifying the Convention, states are agreeing with the overarching obligation, and agree to implement national biodiversity strategies and legislation.[128]

The CBD contains a Preamble, 42 Articles and two Annexes.[129] The CBD's goals are based on sustainable development: biodiversity conservation, utilising resources in a sustainable way, and sharing benefits of genetic resources equitably.[130]

The *Convention on Biological Diversity* defines "biodiversity" as:

> The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.[131]

The Convention does not define sustainable development, but the key components are easily made out. It is development that is environmentally sensitive and works towards meeting the goals of the present generation (especially that of the less developed countries), while not limiting opportunities for future generations to meet their own needs.[132] The term "conservation" is also not defined in the CBD, but it is distinguished from "sustainable use" in the objectives.[133] One of the objectives of the CBD, is "fair and equitable benefit sharing." However, the CBD again does not define benefit sharing and does not provide guidance on fairness and equity standards.[134] The *Nagoya Protocol on Access and Benefit Sharing* was created in 2010 and works towards the achievement of this third goal.[135]

The CBD enforces a "mainstreaming" approach where biological diversity is incorporated into other policies and sectors.[136] In order to help developing countries implement the CBD, industrialised countries agreed to pay the "full incremental costs" of implementation (Article 20(2) CBD). Furthermore, industrialised countries agree to transfer technology to developing nations (Article 16 CBD 1992). These provisions aim to account for the imbalance between developed and developing nations. While developed countries transfer resources,

developing countries are to prioritise addressing poverty through economic and social development (Article 20(4) CBD 1992).

Articles 6 and 8 have been identified as being key for the successful implementation of the Convention. Article 6 of the CBD requires Parties to create national strategies, plans or programmes aimed at the conservation and sustainable use of biodiversity diversity and for these to be implemented.[137] Article 8 requires member states to practice in-situ conservation, restore degraded ecosystems, and promote recovery of threatened species. However, in operation with Article 3 this is limited, and states have the right to utilise their own genetic resources accordingly with their environmental policies as long as they are not inflicting harm on the environment of other states.[138]

Importantly, Article 8 also provides for conservation for indigenous and local communities" knowledge and practices.[139] An additional demand from indigenous peoples was taken on board with Article 8 (j) of the CBD. Supplementing the three objectives, this article called for the recognition of traditional knowledge, respect for its holders and appropriate actions by the Parties to deal with such knowledge.[140] When implementing Article 8(j), other international documents need to be taken into consideration, such as Agenda 21; the ILO Convention No. 169; the Declaration on the Rights of Indigenous People; and the UN Convention on Civic and Political Rights, art. 27.[141]

The Convention promotes in-situ conservation by stating that the "fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings."[142] The CBD defines in-situ conservation as "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings."[143]

Article 11 notes that each Party should adopt incentive measures for the conservation and sustainable use of biological diversity. Commentators note that both the COP and the scientific body attached to the regime, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), made efforts to link incentives to the international trade agenda. In 2006, it was noted that the Parties reached a dead end and were not able to agree on this issue. While the COP and SBSTTA have not agreed on a mechanism, other incentive measures can be implemented by states in order to put Article 11 into operation.[144]

Article 15 governs access to genetic resources, noting that each Party has sovereignty over their resources and therefore has the authority to determine access to genetic resources through national legislation. Usually the country with the genetic material seeking to be sourced is the government (occasionally it is a private enterprise in LDCs). Article 16 governs the access to and transfer of technology derived from the research and development of naturally occurring genetic material. It also speaks to international intellectual property rights in biotechnology products.[145]

As per Article 19, countries must enact legislation that ensures biotechnology companies will share results and allocate benefits of their research and development with the genetic material provider countries. Problematically, the Convention

does not have any enforcement mechanism and nations must voluntarily sign up. The Convention also relies on members to implement the Convention through their own strategies, policies and legislation.[146]

As Morgera and Tsioumani have observed, "Over time, the convention has developed a complex system of processes and instruments for its implementation at the international level."[147] The Convention is both a trade agreement and a conservation agreement aiming to protect the environment. It is a trade agreement because it sets out a framework for trade of genetic resources. However, it also establishes an overarching obligation for Parties to conserve biological diversity, making sure to utilise resources, including genetic resources, sustainably.[148]

Until the Biodiversity Convention, there was no international law framework that granted a sovereign nation a property right in their biological resources.[149] The CBD defines property rights over biological resources and through its provisions, aimed to properly assign such rights in order to balance environmental protection, economic profits, and the trade war between LDCs and DCs over genetic resources for research and the development of new innovative products.[150] Under the Convention, Parties affirm that they have such a sovereign right over their biological resources, which includes unmodified genetic material. However, under the Convention, Parties also accept responsibility to conserve their biological diversity and use their resources sustainably, so as to not affect the biodiversity of other sovereign nations.[151] From this perspective, the Treaty recognises that biodiversity is merely a "common concern of mankind," not a "common heritage of humankind," and sets out a global obligation for nations to conserve biological diversity.[152]

Previously, biological organisms were viewed as a common heritage and were available to all nations, without any restrictions. This notion was popular during the 1970s and 80s, and was even incorporated in the first draft convention proposed by the IUCN in 1984. However, the Treaty rejected this idea as well as the notion of free access to biological diversity.[153] As a result, the Convention significantly alters the legal status of ownership of biological resources.[154] Instead, biological resources are "sovereign possessions" of their country and, according to the Convention, any benefits derived from such resources need to be shared in an equitable manner with the sovereign nation the resources are derived from.[155]

Under the CBD, each country has the right to control access to its genetic material. Countries are also to provide access to their genetic resources through informed prior consent, which must be done on mutually agreed terms, and has a right to obtain benefits that stem from the commercial use of the resources.[156] The CBD signifies the first time in international law that "national sovereignty" is placed above natural and genetic resources (Article 15.1 of the CBD), which displaced the concept of a "common heritage of humanity" meaning that local populations no longer automatically had rights to biological diversity.[157]

As mentioned earlier, the Convention changes the legal status of ownership of biological organisms. At the time the Convention was ratified and entered into force, many companies were selling products derived from natural sources, especially companies in the pharmaceutical and agricultural industries. Many of the

companies had derived these sources from LDCs that contain the Earth's richest biodiversity. Therefore, it was expected that a significant amount of royalty payments would be made out to these species-rich developing countries. However, because of several obstacles this never eventuated.[158]

There were issues defining certain terms such as equity, fair-market value of access to biodiversity and the "full range of benefits."[159] Importantly, the full range benefits of products were later determined to be financial dividends of only new products that entered the market after the Convention.[160] This meant that genetic material already collected and stored in "seed banks" and "gene banks" was exempt from the CBD and industrialised nations which had obtained the material could continue to sell the flow-on products without consent of the country where those genetic material originated.[161] Following the Convention, very few new products derived from genetic resources were discovered, meaning that there have to date been no major royalty payments to biodiversity-rich countries.[162]

States under the CBD that provide access to their genetic resources for trade must take measures to "minimise the harm to biodiversity, as with any other use of biological resources." However, this is limited by "as far as possible and as appropriate."[163] There are three types of rights recognised in the CBD. They are as follows:

(1) State sovereignty over biological resources;
(2) Intellectual property rights to the innovations deriving from genetic resources, held by private companies or public research institutions; and
(3) The rights of local and indigenous communities to their knowledge associated with biodiversity and conservation. This third right recognises that companies and industries may capitalise on indigenous knowledge, and provides a framework for allowing their rights and knowledge to be recognised.[164]

By ratifying the Convention, Parties accepted these obligations at international law, and committed to implementing national legislation.[165] More specifically, Parties accepted establishing conservation programmes, strategies or plans; to take active steps to protect biodiversity and ensure sustainable use of resources through protected areas or regulation; to monitor activities that harm biodiversity; and to go further and integrate biodiversity into different policies.[166] However, it has been noted that the Treaty does not shed light on how states are held accountable for their national policies and legislation. Specifically, the Convention does not contain a mechanism to allow ENGOs or individual citizens to directly challenge activity, be it a plan, development or strategy, of another sovereign nation, unless such activity is a clear breach of an international legal duty or is a complete violation of the Treaty itself.[167]

Countries are also to access another nation's genetic organisms provided that they will be used for environmental purposes.[168] The Convention is also broad and covers the use of nonliving natural resources that may affect biodiversity conservation and sustainable development – notably including climate change

mitigation and adaptation strategies.[169] The Convention also allowed for the creation of subsequent protocols.[170] These subsidiary hard law instruments are the Nagoya Protocol and the Cartagena Protocol and the development of these protocols will be the focus of the rest of the chapter.

HOW SUCCESSFUL WAS THE CBD INITIALLY?

Stemming from the CBD, 100 countries have created national biodiversity strategies and action plan initiatives which focused on natural resources management. The initiatives aim to use collaboration to improve sharing of information, identifying priorities and setting policy.

In efforts to move from policy setting to action, the Convention has implemented work programmes that focus on biodiversity of certain ecosystems sectors such as forests, inland waters and invasive alien species.[171] In the first five years after the implementation of the CBD, the following bodies were set up: Clearing House Mechanism (CHM); Subsidiary Body on Scientific Technical and Technological Advice (SBSTTA); Ad Hoc Working Group on Biosafety (BSWG) and work began with the GEF, the designated interim institutional structure for financial mechanisms (before becoming permanent in 1996).[172]

The CBD also recognised the role played by women in preventing biodiversity loss. It is the only international multilateral treaty that recognised the fundamental link between women's participation and the rate of implementation of the treaty. In this sense it "recognises the vital role that women play in conservation and sustainable use of biological diversity and affirms the need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation."[173]

The CBD was seen as a victory for developing countries who had high expectations of its ability to protect biodiversity. A central G77 spokesman famously stated after the UNCED Rio Conference in 1992 that "climate change was theirs (the developed countries) – biodiversity was ours!" However, the CBD has largely been ineffective. In 2004, a collection of 12 countries known as the Group of Allied Mega-Biodiverse Nations came together to raise awareness and seek stronger protection for their rights to genetic material sourced in their sovereign nations.[174]

Commentators note that the CBD rejected sustainable development by prioritising economic growth over environmental protection. Further, tropical forests are rich in biodiversity. While tropical forests were discussed in the negotiations and drafts of the CBD, there are no references to tropical forests in the 1992 Convention since LDCs with large holdings of tropical forests resisted any oversight over their activities. The issue was discussed in the four subsequent COPs, however, no official mandate has been reached as a result.[175] Therefore, to date, the CBD has no framework or policy to protect tropical forests despite the well documented issues at the International Tropical Timber Council.

The Convention was originally intended to operate as a hard instrument of international law and to set out subsidiary hard law protocols. However, up to

now the Convention has merely served as a policy and in this sense, has taken on a "soft" approach to its subject.[176] The Convention does not use language that is legally enforceable and contains clear environmental obligations. Instead, the CBD contains merely "non-legal exhortations" and weak commitments.[177] The resulting text has been described as vague, inconsistent and "muddled," even by the "relaxed standards of international agreements."[178] In fact, it often describes policy deadlocks that remain unresolved rather than sets out the action or confirmed policy.[179] The lack of actual mandates have led many to categorise the Convention as simply an enabling document that symbolises global support and commitment to national action to conserve biodiversity.[180]

Furthermore, the Articles that contain clear obligations, are limited by the phrase, "as far as possible and as appropriate." In this sense it has been identified that the CBD "authorises much but mandates little."[181] The obligations are described in imprecise language or further qualifying terms that essentially grant parties a large degree of flexibility when implementing obligations. For example, the use of the word "respect" in Article 8(j) does not translate into any legal obligation. The only unqualified obligation on the Parties is that they must submit national reports.[182]

When analysing the CBD regime, one needs to be aware that negotiations run their own processes, usually at their own schedule. The remainder of the chapter will focus on the key COP meetings with an emphasis on the key stakeholder interactions and outcomes. It will also critically examine the development of the three protocols to the CBD: the *Cartagena Protocol on Biosafety*; the *Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety*; and the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*.

THE FIRST COP MEETING

The Conference of the Party meetings are held once every two years and act as an arena for various actors with diverging views to come together to discuss and negotiate. It provides an opportunity for stakeholders who might otherwise not interact with each other to come together to discuss common issues and to effect policy decisions. The COPs include the formal plenary, two main working groups, smaller contact groups, side events, press briefings, and high-level, closed door meetings. Attendees include the official Parties, ILCs (indigenous and local communities), investors, celebrities, representatives of states, private companies and ENGOs.[183]

The CBD policy outcomes take shape over the course of negotiations of official decisions. They are also influenced by informal discussions between actors throughout the meeting, including discussions at cocktail parties, hallway corridors, and press conferences.[184] As a result, it is important to take all aspects, formal and informal, of the COP into consideration when considering the COP outcomes.

The first meeting of the Conference of the Parties was held two years after ratification of the convention in 1994, in order to start operations of the Convention.[185] Demonstrating the global interest in the issue, the meeting included 700 participants from 133 states,[186] 13 UN organisations, 24 intergovernmental organisations and 109 ENGOs.[187] Some of the NGOs included: Amazonian Parliament, Bioresources International Inc., Biotechnology Industry Organisation (BIO), Environmental Defence Fund (EDF), Friends of the Earth International, Greenpeace International, Indigenous People's Biodiversity Network (IPBN), World Resources Institute (WBR), and the WWF.[188]

The first COP has been viewed as a successful and productive session. One of the items on the Agenda was selecting a Permanent Secretariat of the Convention (SCBD). Several competent international organisations were selected to perform the functions of the Secretariat of the Convention.[189] The nominations, proposed by the Intergovernmental Committee, included the UNEP, IUCN, UNDP, IOC, UNESCO and the FAO.[190] The UNEP was chosen for the role of SCBD, and would maintain autonomy to carry out the functions in Article 24.[191] The SCBD was allocated a staff of 22 with a yearly budget of $4.7 million in 1995 and $5.4 million for 1996.[192]

Importantly, the COP1 also established the SBSTTA to provide itself with the appropriate scientific and technical advice, appointed its chairs for 1995 and 1996, and set up its first meeting (UNESCO headquarters in Paris on 4–9 September 1995). The COP1 also establish an *ad hoc* group of government-appointed experts to discuss options for a biosafety protocol, which was later adopted in COP10.[193]

Critic's, particularly ENGOs, noted that while the issue of conservation and sustainable use of forests was discussed during the COP1, the medium work programme for 1995–1997 adopted by the members contained no specific actionable items relating to forests. This was considered a surprise given the COP1 statement to the Commission on Sustainable Development (CSD) that recognised the importance of forests, commenting on their global value, and as a consequence emphasising the importance of sustainable forest management.

At the second COP Meeting in Jakarta, the Parties requested the Executive Secretary to elaborate on survey measures proposed for governments to implement Article 15 of the Convention in time for the COP3. Furthermore, they requested that the Executive Secretary also create a list of studies and relevant information on the social and economic value of genetic resources.[194] It was estimated that an additional $700 million of funding was available for biological protection, in addition to funding through the GEF over the next three years.[195] Montreal was selected as the location of the Secretariat (referred to in Article 24 of the CBD).[196]

By the time of the third meeting in Buenos Aires, the Convention had more than 160 Parties, and was becoming known for having universal participation.[197] The goal of the COP3 was to address and set goals for the second and third objectives of the CBD, the sustainable use of the components of biological diversity and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.[198]

LDCs however, raised concerns about implementation in developing countries, citing financial resources as the main obstacle. They called for financial resources to be allocated to developing countries in a more consistent manner, claiming that developed countries not complying with the procedures in Article 20 was the main reason for a lack of implementation.[199]

In terms of financing, it was agreed that an additional 15 per cent of the project budget would be released immediately upon approval in order to administer preparations for projects in the recipient country.[200] This measure was effective, and after 6 months of the approvals of expedited procedures, 31 proposals were approved.[201] It was also decided that negotiations to replenish the GEF Trust Fund would commence in 1997.[202] The G-77 and China as well as South Africa called for an inventory of transferable technology, while the EU called for the creation of an international framework to facilitate cooperation in technology transfer.[203]

The fourth meeting was held in Bratislava on 4–15 May 1998. At this point the CBD had achieved near-universal membership with 170 Parties. The implementation of the CBD was perceived by the delegates as a global success and commentators noted that the Convention had transformed the international community's approach to biodiversity. This purported success was attributed to the Convention's incorporation of science and ecological measures, international financial support, and the political involvement of government ministers.[204]

At the meeting, national reports that covered progress on the implementation of the CBD were discussed. The reports showed that the CBD was influencing social, economic and political actions at the national level, and that Parties and Governments were incorporating the objectives into their policies.[205] By helping fund the production of national reports in over 90 countries, the GEF had played an important role in supporting the implementation of the CBD.[206]

The fifth meeting of the Conference of the Parties was held in May 2000 in Nairobi. As was reported, the Convention had moved beyond the "innocence of youth" as the delegates' positions on issues such as forests, agriculture and biosafety were explicated and known quantities. To some extent this had "muted the volatility of North-South divides," although the negotiating positions were entrenched. Issues such as ABS and dealing with alien species were coming to the fore.[207]

The time between COP4 and COP5 was productive, and it was noted that several significant meetings had made progress in implementing the CBD, moving towards agreements on key concepts of the CBD and setting directions for the future.[208] This included the adoption of the Cartagena Protocol on Biosafety, as well as meetings on indigenous knowledge in Seville, Spain, and the Global Biodiversity Forum in Nairobi.[209]

Importantly, at the fifth meeting of the Conference of the Parties, the delegates decided to prepare and develop a Strategic Plan, containing a series of goals for the period of 2002–2010, and hoped to adopt a Strategic Plan at the sixth meeting.[210] The goals related to the thematic programmes, cross-cutting issues and initiatives, and the implementation of the provisions of the CBD.[211]

The sixth meeting of the Conference of the Parties in The Hague emphasised a need to move from policy development to action, and from conservation to sustainable use.[212] The Parties again emphasised the need to take action, as well as a greater transfer of financial resources and technologies to developing countries.[213] While the successes of the CBD were acknowledged, emphasis was now to be given to a lack of progress in slowing the depletion of global biodiversity.[214] However, the tensions between preserving national sovereignty and developing global priorities to reduce global biodiversity loss saw states unable to make much headway beyond recognising the scale of the problem.[215]

The delegates appeared well aware that the obstacles in the way of addressing the loss of biodiversity come from external forces, which they identified as

> inappropriate government policies and incentives relating to trade and agriculture, lack of intersectoral coordination and cooperation; a poorly articulated role for biodiversity in defining national and international development and in poverty alleviation; piecemeal and fragmented decision-making; and failure of national governments to coordinate their positions at the national and international levels.[216]

The obstacles to the implementation of the Convention can be sorted into three main headings.[217] The first related to socioeconomic and environmental pressures such as poverty, population pressures, climate change and natural disasters. The second referred to a lack of technology, resources, and information such as lack of public education, adequate scientific research capacities, technologies to transfer information, and finances. Lastly, there are a number of political obstacles that have prevented successful implementation, namely limited public and stakeholder participation, and a lack of political will to support the Convention.

Representatives of the NGO Caucus were concerned about the continuing loss of forest biodiversity and noted that the Convention was not working fast enough to address the rate of biodiversity loss. They suggested that the Conference express the importance of biodiversity at the World Summit on Sustainable Development.[218] They also supported the incorporation of a Strategic Plan, noting that it would provide good guidance for more effective implementation of the CBD.[219]

The delegates adopted a Global Strategy for Plant Conservation, along with global targets for 2010.[220] The targets were meant to be a flexible framework that would guide national governments to adopt their own priorities, initiatives, plans and regional targets, such as national biodiversity action plans.[221] Disappointingly, the overarching CBD did not contain any targets or timeframes, but in 2002 at the COP6, the Convention declared a target to achieve a "significant reduction of the current rate of biodiversity loss at the global, regional and national level" by 2010.[222] The delegates set a goal of achieving 10 per cent of Earth's ecological regions in protected status, or "effectively conserved" by 2010.[223]

To achieve that goal the parties adopted a Strategic Plan, which aimed to "halt the loss of biodiversity so as to secure the continuity of its beneficial uses through

the conservation and sustainable use of its components and the fair and equitable sharing of benefits arising from the use of genetic resources."[224] The Plan acknowledged that the rate of biodiversity loss was still increasing at an unprecedented rate, becoming one of the greatest challenges of the modern era.[225]

By the seventh Conference of the Parties in 2004 in Kuala Lumpur the Conference acknowledged the successes of the Convention in influencing how conservation and sustainable use of biological diversity is shaped, and how it is at the heart of development issues.[226] Again the issue was raised by LDCs about the need for more financial resources for developing countries and a framework for technology transfer.[227] Speaking on behalf of the G-77 and China, a representative of Qatar called for effective implementation of the CBD, noting that this could only be achieved with collaboration between stakeholders at all levels across developed and developing countries.[228] However, because of the fact that LDCs had limited capabilities, developed countries needed to play a bigger role to support LDCs' achieving their aims.

At the eighth meeting, in Curitiba, Brazil it was becoming apparent that much progress remained to be made in order to reach the 2010 targets.[229] States were urged to take immediate and concentrated action but seemed unable to focus on what that should be.[230] To the disappointment of the ENGOs and some states, the focus of the meeting was procedural rather than substantive.[231] Ominously, the fourth edition of the UNEP Global Environmental Outlook was published in 2007 and provided evidence that the 2010 targets would not be met.[232]

To this end, the COP9 noted that the world had reached a "critical point" in dealing with global biodiversity loss.[233] The Parties maintained that the ecosystem approach was a useful way of incorporating social, economic, cultural and environmental values into the CBD, however this needed to be translated into further applications. Evidence in the global assessments showed that the ecosystem approach was not being systematically applied to address biodiversity loss, even though there were successful stores of some implementation.[234] The members called on Parties to further promote the ecosystem approach across all levels.[235]

At the tenth meeting in 2010 in Nagoya, Japan the COP formally acknowledged that the 2010 biodiversity targets had not been reached and that biodiversity loss was still occurring.[236] The third edition of the Global Biodiversity Outlook (GBO) found that the rate of biodiversity loss was 1,000 times greater than the historical rate of extinction.[237] It also noted that sufficient action had not been taken to address the underlying causes of biodiversity, mainly because sufficient action had not been taken to implement the Convention into national policies and strategies.[238]

The report identified limited financial resources and technical capabilities as the main reasons why the 2010 target was not achieved in many countries, particularly developing countries, and countries with economies in transition. It also predicted that the rate of extinction and loss of natural habitats would continue to be high in the future, and that some ecosystem services important to human well-being would decline.[239]

The Minister of the Environment of Japan and President Mr. Ryu Matsumoto noted that the world was near a "tipping point." The third edition of the GBO emphasised that action needed to be taken at multiple levels in order to address biodiversity loss. Particularly, action needed to be taken to address the key underlying causes of biodiversity loss, to recognise the benefits of biodiversity and how those benefits translate within economies, and how they will be considered in policy processes. The report also stressed that urgent action needed to be taken to address the five pressures that drive biodiversity – "habitat change, overexploitation, pollution, invasive alien species, and climate change" – in order to ensure that the natural environment is not pushed beyond the tipping point.[240]

The Executive Director of the UNEP, Mr Steiner addressed the lack of action taken by Parties to halt biodiversity loss. In particular, he attributed inaction to three things: Parties not understanding the consequences of their actions, a lack of other options, or feeling powerless to address the issue.[241]

Most of COP10's focus was on the provision of the new Aichi Biodiversity Targets. These 2020 Targets were set to shape conservation efforts for the following decade and would take effect through National Biodiversity Strategies and Action Plans, which would be implemented by governments and ENGOs, local communities and indigenous groups.[242] One of the main outcomes of the COP-10 was the new strategic plan, titled "Living in Harmony with Nature." This plan set out a framework that co-ordinates all of the activities of the CBD and set out strategic goals, targets and visions for the 2010–2020 period. The vision of the strategic plan stated that "biodiversity will be valued, conserved, restored, and wisely used, maintaining ecosystem services, sustaining a healthy planet, and delivering benefits essential for all people."[243]

The Plan was designed to provide an overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system and other stakeholders. Delegates agreed to embed the strategic goals into national strategies and action plans within two years. COP10 set out a number of targets to reduce biodiversity loss by 2020. A sub-target of this was to effectively conserve, "at least 10% of the world's ecological regions."[244]

Some of the key Aichi targets included by 2020 at the latest: people are aware of the valued of biodiversity; such values have been integrated into national and local development and poverty reduction strategies and planning, accounting and reporting processes; incentives harmful to biodiversity are eliminated or minimised; the loss of natural habitats is at least halved and where feasible reduced to zero; at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas are conserved through effective management; and, "the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained."[245]

Commentators have focused on the wording of the 2010 Biodiversity Targets which aimed for a reduction in the current rate of biodiversity loss by 2020, indicating that biodiversity loss will continue till at least then.[246] The targets themselves have been described as "soft law" and "vague," "nonbinding" and "designed for maximum flexibility."[247] However, some have noted

that the objective of the strategy was solely to act as a strategic plan. Therefore, they argue that these criticisms are incorrectly placed, as the strategic plan should be seen as inspirational.[248] This point does not mitigate the fact that the monitoring and enforcement of any progress achieved against the goals is merely voluntary.[249]

THE CARTAGENA PROTOCOL ON BIOSAFETY

As the use of genetic resources became increasingly common, there was an increased number of concerns about the impact of such resources on food safety, and also the environment. Since the first trials of genetically modified plants in the mid-80s, there have been attempts to create an international framework for safety obligations to regulate the use of biotechnologies. As these products started to become available to consumers, there was ongoing debate about whether their benefit outweighed their risks. In 1986, the Organisation for Economic Cooperation and Development (OECD) published *Recombinant DNA Safety Considerations*, which became the first document on biosafety from an intergovernmental body. While the publication did not set out standards, the guidelines set out principles that should guide the assessment and management of risks associated with the development and adoption of Genetically Modified Organisms (GMOs).[250]

The first commercialised transgenic crops were planted in the United States in 1995, and by 1999 seventy million acres of transgenic crops were grown each year. The commercial planting of transgenic crops was occurring internationally, and from 1995 to 1999, the global area of GMO crop plantings increased by 44 per cent. While the US contributed 72 per cent of these crops, other key players include Argentina, Australia, Canada, China and South Africa. The most popular transgenic crops in 1999 were soybean, corn/maize, cotton and canola/rapeseed.[251]

Then in 1991, the UN Industrial Development Organisation (UNIDO) published *Voluntary Code of Conduct for the Release of Organisms into the Environment.* This was the first time the UN adopted a position on the biosafety debate.[252] The Cartagena Protocol was established against a background of increasing development of genetic resources and growing concerns of their impact on the environment and food safety. LDCs were concerned about their lack of power against large biotechnology companies and that they would be unable to restrict imports of GMOs into their borders.[253] The protocol represented the first global society attempt to agree upon a legally binding global framework that addressed biotechnology use, development and safety.[254]

During the CBD's negotiations, Parties could not agree on the role and provisions of a biosafety framework, but adopted Agenda 21's *Earth's Action Plan*. Furthermore, Chapter 16 established the role of biotechnology in agriculture, health care and the environment and required Parties to make a commitment to develop such biotechnology safely and in an ecologically sound way.[255]

Key stakeholders in the negotiations

Even though the United States was not a Party to the CBD, the US actively participated in the development and negotiations of the Cartagena Protocol.[256] Being an exporter of LMOs, the US was vocal about their opposition towards a protocol on biosafety in the early 1990s. They believed that there was no scientific evidence of risks to the environment that required such a protocol. Once it became clear that a biosafety protocol was inevitable, the US participated in negotiations advocating for a minimally restrictive protocol.[257] They argued that any Advance Inform Agreement (AIA) should be limited and should only apply to a "positive list" of LMOs that were known to present environmental risks.[258]

The "Like Minded" states (G77, a grouping of up to134 LDCs) and China rarely negotiated together in these negotiations. The Africa Group wanted the precautionary approach embedded in the Protocol. The EU was divided during the Cartagena negotiation talks. Countries including Germany, Britain and France supported the position of the Miami Group (comprised of the US, Canada, Australia, Argentina, Chile and Uruguay) which were the main producers and traders of agricultural products and LMOs, while other countries such as Denmark and Austria were more closely aligned with the African Group.[259]

ENGOs participated throughout the negotiations and also supported the incorporation of the precautionary principle, socioeconomic considerations, strong documentation requirements and liability for damage caused by LMOs in the agreement.[260] Certain EU member states, developing countries, and major ENGOs, such as Greenpeace, conducted major anti-GMO campaigns in the lead-up to and during the negotiations to try to influence proceedings.[261] Corporations were not initially involved but became more active later on in negotiations when it became clear that the Protocol would have consequences for trade in GMOs.[262]

THE NEGOTIATIONS

Parties negotiating the Protocol faced complex and broad issues covering environmental conservation, trade, scientific progress, and the autonomy of development.[263] The negotiations took place over five intense years.[264] At COP2, the CBD Parties started the process of enacting a protocol to act as a supplement to the CBD and regulate the safe use of biotechnology.[265] Pursuant to Article 19(3) of the CBD, a working group was established, the Open-ended Ad Hoc Working Group on Biosafety (BSWG), that consisted of representatives from over 90 countries, ENGOs and private parties in order to consider the need for a biosafety protocol.[266]

Discussions relating to a biosafety protocol in the CBD were controversial. There were differences about whether a Protocol was even needed, let alone the scope and nature of provisions.[267] During the CBD COP2 in Jakarta 1995, the Parties decided[268] there was a need for a protocol to speak to the handling, transfer and use of GMOs across the world that may adversely affect the conservation and sustainable use of biological diversity.[269] During this meeting, the Parties

decided that the BSWG should take charge of the negotiations and complete a draft of the Protocol by 1998. Specifically, the COP wanted the protocol to "fall within the scope of the Convention; take into account the precautionary principle in addressing the risks of GMOs; and to seek to minimise unnecessary negative impacts on biotechnology."[270]

The group met six times between 1996 and 1999.[271] Over 100 governments came together to hammer out the provisions of the Protocol.[272] While the first meetings went unnoticed, the Cartagena Protocol discussions were soon at the centre of the world trade-environment discussion, as the globe became increasingly concerned about agricultural biotechnology in the late 90s.[273] The Draft Protocol was presented in Cartagena in February 1992 for possible adoption, however the Parties could not reach a consensus on issues relating to the impact on GMO trade.[274]

Negotiations were at a deadlock on importation issues and the 134 attending Parties were divided into three main camps: the EU, the "Like-Minded Group" and the "Miami Group."[275] The COP decided to suspend the extraordinary meeting until May of 2000. During further discussions, a new group called the "Compromise Group" was formed, consisting of the Central and Eastern European countries and several additional countries outside of the EU that did not want to join the Miami Group (e.g. Switzerland).[276]

The Miami Group wanted a Protocol that played a limited role and was based on scientific procedures for risk assessment and management, rather than based on the precautionary principle. The Like-Minded Group fought for a broad scope that addressed LMO-FFPs, transit, contained use and pharmaceuticals. This Group was a key player and contained almost all of the developing countries not included in the Miami Group.[277] While the GMO exporters opposed the PP (Precautionary Principle) and strict rules on import of LMOs, the increased awareness of biotechnology and associated fears coupled with the EU's strong stance on the PP meant that the exporters eventually compromised in 2000.[278]

It was the nature of disagreement between the Parties, rather than the number of disagreements that resulted in no resolution at Cartagena. Some progress was made during the Cartagena negotiations, for instance, the rules for transboundary LMO movement were agreed upon.[279] The final stages of negotiation were strained with divisive heated debates between nations over several controversial provisions that would significantly affect trade.[280] Mainly, the Parties disagreed on "scope (e.g. whether the AIA procedure should be extended to pharmaceuticals); regulation of contained uses of GMOs; application of the AIA procedures; and trade with non-parties."[281]

The key issues for discussion were the treatment of agricultural commodities, the relationship with the WTO and the precautionary principle.[282]

The disagreement related to four broad issues: scope of the Protocol (what categories of LMOs should be within the AIA procedure);[283] trade issues – should the protocol defer to the WTO or should biosafety concerns take precedence?; decision-making criteria – how to make decisions regarding LMO imports using the Protocol's risk assessment, management and decision-making mechanisms;

and exporter responsibilities regarding how strict regulatory obligations should be in order to protect the environment and public health, e.g. labelling.[284] Questions that were posed included: "What reasons does a Party have to refuse imports of GMOs? Should scientific evidence of danger be required, or should targeted importers be allowed to invoke the precautionary principle, that is, restricting imports in the absence of scientific certainty over their impact?"[285]

The Miami Group fought against provisions that permitted governments to subject commodities to advanced informed agreement procedures or documentation requirements, because this would require LMOs to be segregated from other non-LMO agricultural products. The Like-Minded Group argued that the AIA procedure should have a broad scope and should capture even products that are derived from LMOs. This would have a significant impact and would bring products such as cereals and beverages made from Genetically Modified (GM) corn, or blue jeans produced from GM cotton within the scope. However, this was ultimately not implemented as it was acknowledged that such products present no risks to biodiversity, and governments are limited in their ability to regulate the import/export of such products.[286]

One of the provisions that was a source of debate and conflict related to the disclosure of GMOs traded for agricultural commodities (food, feed or processing). Several countries, US, Canada, Australia, Argentina, Chile and Uruguay fought for a simple disclosure procedure and opposed demands for a specific disclosure. Their reasons for opposing specific disclosure are self-serving as specific disclosures would require separating GM from non-GM varieties in the agricultural commodity chain, a task that is expensive and trade disruptive. After much debate, these countries remained set on their view and the only compromise they promised was to revisit this issue two years after entry into force of the Protocol.[287]

US and Canada were further opposed to the inclusion in the Protocol of references to their genetically modified staple export crops.[288]

Diverging views within the EU meant that they occasionally changed their negotiating position. For instance, the EU initially supported the precautionary principles, however, they removed all references to the principle in 1999 in an attempt to reach an agreement with the Miami Group. Just one year later, the EU strongly advocated for the precautionary principle in the final round of negotiations.[289] Commentators note that this sudden shift in the final round of negotiations was shaped by (1) the 1998 resolution of a WTO dispute between the EU, the US and Canada on hormone-injected beef, and (2) the EU moratorium on the import of new GMO crops and foods.[290]

Consensus not achieved

The last meeting in Cartagena in February 1999 had to be extended because Parties could not reach a consensus.[291] The main reason a protocol was not reached during Cartagena negotiations was because the Miami Group refused the last-minute compromise by the EU.[292] The Miami Group refused to accept

the full AIA procedure, noting that it would serve as a major restriction on trade and the parties were at odds on the relationship between the Cartagena Protocol and the WTO.[293]

As no agreement was reached, three additional informal meetings were established. The meetings were informal and were not bound by the CBD's rules and procedures.[294] The first of the three meetings was held in Montreal in July 1999, where the Parties affirmed their political commitment to the Protocol and agreed to meet again. They met again in September 1999 in Vienna for discussion, but no consensus was reached. The groups agreed to meet again in January 2000 in Montreal where informal discussions took place over four days followed by a more formal five days of negotiations.[295]

To seek to bridge the seemingly intractable negotiating positions, the chair of negotiations, Columbia's Environment Minister Juan Mayr Maldonado created a unique negotiating procedure (the Vienna setting). Mayr altered the discussion groups so that each of the five coalitions was represented by one chief and one alternate spokesperson (two for the Like-Minded Group). The delegate seating was organised according to coalition instead of alphabetical order which contributed to frank and transparent discussions. Furthermore, Mayr helped defuse the tension using humour through props, and he took on an active role by asking clarifying questions which led to fewer vague statements. Furthermore, all meetings were open to all delegates – which included ENGO representatives.[296]

During the final two days, Mayr set up round tables with spokespersons for each group addressing the four key issues in terms of concepts rather than drafting the language of the provisions. Chairman Mayr used these informal "Vienna settings" for the third and final informal discussions in Montreal. While significant progress had been made using these informal techniques, the fate of the Protocol was still uncertain on the eve of the Extraordinary Meeting. The two key issues that were still unresolved were still the relationship between the WTO and the biosafety protocol, and the use of the precautionary principle. There was added pressure to reach a consensus with the presence of 30 ministers responsible for the Protocol.[297]

One contributing factor to the eventual agreement of the Protocol during these informal negotiations was the growing global public concern over GMOs. In the eleven months that separated the Cartagena negotiations from the Montreal negotiations, public concerns over GMOs predominated in Europe, North America, and some LDCs.[298] This added pressure on the Parties to reach an agreement. Furthermore, at the WTO summit in Seattle in Nov/Dec 1999 negotiations were stalled, indicating that several Parties (particularly industrialised countries) wanted GMOs to be addressed within the WTO where there would be less emphasis on environmental protection. Because of this, commentators noted that Parties may have been reluctant to reach an agreement in Cartagena.[299] The increasing public concern about LMOs in Europe, Japan, Canada and the US added pressure on delegates to reach an agreement for a biosafety protocol[300] which finally opened for signature on 15 May 2000 and entered into force after ratification by 50 Parties from the CBD.[301]

KEY PROVISIONS OF THE PROTOCOL

Margot Wallstorm, European Commissioner for Environment, described the Cartagena Protocol as "a historical moment and a breakthrough for international agreements on trade and the environment . . . reflect[ing] the common will to protect the world's environment."[302] In this sense, the Protocol "represents the first attempt by the international community to establish a binding global environmental, health and safety regime to regulate a core component of international trade."[303]

The Cartagena Protocol contains a framework in order to promote safety in relation to biotechnology. It establishes rules for trade of living genetically modified organisms (LMOS).[304] Firstly the Protocol contains a general obligation on Parties to ensure that "the development, handling, transport, use, transfer and release" of GMOs is done in a way to prevent or reduce the risks to biological diversity and human health.[305] The general obligation is supplemented through risk assessment, risk management, transparency and import measures.

More specifically, LMO exporting countries must provide information regarding LMOs and be granted approval by importing countries through an AIA. Parties are to conduct risk assessment in deciding whether to accept or reject such imports. Furthermore, the Protocol allows Parties to reject imports when there is a lack of scientific certainty (on precautionary grounds).[306] This puts the burden of proof on the LMO-exporting country in order to prove that the organisms present no harm to the environment.[307] The protocol regulates:

> transboundary movement, transit (movement through countries other than the country of initial export and final import), handling and use of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health.[308]

There are mechanisms in the Cartagena Protocol designed to address the imbalance between developed and developing countries. Developed countries have a general obligation under the Protocol, to cooperate and provide assistance to meet the financial and other special needs of Parties. Furthermore, developed states are required to provide finances to support developing countries in implementing the Protocol.[309]

The Protocol sets up a transparent procedure for state decisions on whether to import GMOs based on their potential environmental and health impacts. The Protocol requires Parties to comply with a two-step disclosure for global GMO trade. The first step is to report a commercial variety of a GMO crop as soon as it receives domestic approval in the country of production. It needs to be reported to an online Biosafety Clearing House (BCH) within 15 days of the granting of the approval. The second step requires exporters to disclose information on GMOs with the agricultural commodity shipments. The information is a declaration that the products "may contain" GMOs, however there is no requirement to specify what GMOs – a standard required by EU and most developing countries.[310]

Article 11 – requires Parties to provide notification of LMO-FFPs through a Biosafety Clearing House.[311] This issue was major point of contention that nearly "derailed the biosafety talks," but reached a "last minute compromise in the final hours of the last negotiation round in January 2000."[312]

The main regulatory mechanisms are the Advance Inform Agreement (AIA), which requires exporters to first provide information on the LMO and seek approval from the importing country before sending the LMOs. The Protocol requires Parties to comply with AIA procedures on international movement of an LMO that will be released into the environment of an importing Party (LMOs intended for direct use as food or feed, or for processing are not captured). Furthermore, the Protocol allows Parties in the future Meeting of the Parties (MOP), to exclude specific LMOs from the AIA procedure if they are "not likely to have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health."[313]

The exporting country of LMOs must provide an advance notice to the Party of import, for the first time. The AIA provisions allow the importing Party to decide whether to accept or refuse the LMO and to take a cautionary approach by refusing the LMO in the cast of insufficient scientific knowledge and information. LMOs that are exported for direct use are subject to a separate regulatory procedure. A Party is required to provide a notice within 15 days of making a decision "regarding domestic use" to a Biosafety Clearing House. Parties also need to provide copies of applicable national laws, regulations and guidelines to the Clearing House. The Protocol allows Parties with "economies in transition" to "subject such LMOs to a review procedure equivalent to the procedures established under the AIA provisions, which are otherwise only applicable for LMOs intended for release into the environment."[314]

As mentioned above, the Protocol reserves the right for Parties to make decisions on the import of LMOs in the absence of adequate scientific knowledge.[315] As per Article 10.6:

> Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of the living modified organism in question . . . in order to avoid or minimise such potential adverse effects.[316]

This, along with its reiteration in Article 11.8 for decision-making in the context of LMO-FFPs, is the first example of the incorporation of the PP into the Protocol.[317] This provision however, has been highly criticised. Commentators firstly note it is ambiguous and hard to follow. In this sense, it is open to interpretation and Parties can interpret it as granting either a narrow or broad discretion when making import decisions. One interpretation that has gained support is that, read in light of the objective of the Protocol, the provision

allows governments to use the precautionary principle and refuse LMO imports when there are contradictory scientific assessments.[318]

The Protocol cannot bind non-parties, but multilateral environmental agreements allow Parties to trade with non-parties in order to encourage non-parties to join or comply with the obligations. The Protocol required that any trade with non-parties follows the objectives and the Protocol and requires Parties to encourage non-parties to comply with the Protocol.[319] The EU wanted additional guidance on Article 24, for instance the meaning of "consistent with the objectives of the Protocol." However, Australia, the USA and Canada opposed this, arguing that there was no need for further intergovernmental clarification on provisions that had been extensively negotiated. They argued this could go towards undermining agreements already in existence.[320] The Protocol also called for individual liability and damages as consequences for the illegal transboundary movement of GMOs. These measures were set to be developed further during the first COP to the Protocol, where Parties were to consider adopting international rules for liability and damages.[321]

One of the negotiated issues was about the relationship of the Cartagena Protocol with the WTO regulations. According to the *Vienna Convention on the Law of Treaties*, the more recent and more specific treaty would prevail over the WTO in the event of conflict.[322] However, in order to compromise between the Parties, the Protocol's Preamble states that it should not be interpreted as changing the rights and obligations of Parties under any other existing international agreements such as the WTO.[323] Even so, it is unclear which treaty would trump in the case of an important restriction. The WTO "has its own jurisdiction and is able to impose fines worth millions of dollars. This makes it structurally much stronger than the Rio documents, which cannot be enforced in court."[324] The result is a somewhat ambiguous compromise.[325]

Lastly, it provides for national legislation to be implemented which would penalise transboundary movement of GMOs in contravention of the Protocol (which is to be implemented in national legislation).[326] Effected Parties to the improper transboundary movement of GMO can request the source country to dispose of GMOs at its own expense by repatriation or destruction.[327]

Criticisms of the Protocol

As a result of finding compromise between the agricultural exporters, the LDCs and the EU, some commentators argue that the Protocol does not do enough to address the risks of GM crop production and transportation, while others argue that in fact it is too strict and is a burden on important agricultural technology. Again the US has not yet ratified the Protocol. The American GM crop industry has mixed opinions, some arguing that membership would allow the US to shape decision-making, while others argue that it would inevitably lead to stricter regulations[328] and that the protocol could limit global trade.[329]

By 4 June 2001, the Protocol had received 103 signatures and entered into force on 11 September 2003, 90 days after the 50th instrument of ratification was lodged.[330]

THE NAGOYA – KUALA LUMPUR SUPPLEMENTARY PROTOCOL ON LIABILITY AND REDRESS

The most straightforward way to address injury caused by activities that can cause transboundary damage would be to prevent states causing such damage in absolute terms. However international law did not require states to prevent significant transboundary damage in absolute terms. Thus, "the injurious consequences are allocated to the state within whose jurisdiction or control an activity is carried on. This state may recover the costs from private actors within its jurisdiction or control that carry on the activity."[331]

During the Cartagena Protocol negotiations, LDCs had insisted on the establishment of a regime that address liability and redress for incidents of damage caused by LMOs subject to transboundary movement.[332] However, the Parties could not reach an agreement and there was a strong North-South divide between the Parties. However, Article 27 of the CPB read as follows:

> The Conference of the Parties serving as the Meeting of the Parties, shall at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of living modified organisms . . . and shall endeavour to complete this process within 4 years."[333]

All parties agreed that there needed to be a mutually acceptable agreement to all states in the event an LMO caused serious injury to the biosphere or humans.[334] LDCs argued an agreement would help avoid criticism on LMO imports, that it would also be viewed as responsible governance and that the provisions would help cope with damage in the case of an incident. This was especially important as LDCs lacked the ability to conduct a proper risk assessment and management. They expressed that such a Supplementary Protocol (SP) was in line with the CBD's objectives to conserve biodiversity and would be a framework to address adverse effects to biodiversity caused by LMOs.[335]

Developed countries (exporting countries), fought against such a regime, noting that it would encourage public opinion that this technology had the potential to be dangerous. They pointed to a lack of scientific evidence to support such incidents and noted that state responsibility was an adequate remedy if such a situation did eventuate. LDCs publicly claimed they could not understand why developed states refused to consider such an instrument if LMOs were safe.[336]

Contentious issues included whether such liability and redress would be internationalised and whether the SP would cover not just LMOs, but also "products thereof," e.g. tofu from transgenic soybeans). That idea was ultimately deleted from the text but the delegates agreed that affected states could apply the SP to damage caused by these processed materials if a causal link was shown.[337]

Three proposals were put forward at the negotiations: "first, the inclusion of substantive provisions; second, the inclusion of an enabling clause that would

require a civil liability regime to be negotiated later; finally, no provision on civil liability. This was the genesis of Article 27 in the Cartagena Protocol on Biosafety (CPB)."[338]

After six years of intense negotiations (not the four originally projected), the SP was adopted on 15 October 2010 with the objective of preventing and remedying damage to biodiversity that was caused by LMOs. The SP used a two-step mechanism to address liability and redress: administrative and civil liability. While there are many provisions that address administrative liability, there is only one provision that addresses civil liability by requiring Parties to apply or adapt their own national civil liability laws to LMO liability and damage.[339]

The Protocol applies to damage that is a result of LMOs, regardless of whether the LMOs were intended for direct use for food, feed or processing, for contaminated use or for international introduction to the environment. This SP takes a different approach from the Cartagena Protocol, on the basis that its objective is to provide a remedy for LMO damage and there is no need to distinguish the purpose of the LMOs.[340] However, the Protocol requires that the LMO must have been subject to transboundary movement in order for the Protocol to apply.[341]

There were five scheduled Working Group (WG) meetings and one Technical Expert Group meeting held before the working group meetings. The Expert Group meeting proved crucial in preparing the groundwork for the WG meetings since it laid out the potential considerations relevant to a comprehensive set of rules and procedures for liability and redress. It listed topics on which more information was needed and identified a list of options and issues for elements of an international regime.[342]

It is important to note that, aside from elements relating to state responsibility and state liability, all the rest of the elements related to a civil liability instrument, making it abundantly patent that this was the nature of the regime in the contemplation of all the parties. The elements included damage (definition, threshold, nature, scope and valuation of), causation, standard of liability, channelling, financial security, settling claims, limitations (as to time and amount) and the standing to bring claims.[343]

From the beginning the negotiations proceeded haltingly: "one step forward and two steps backwards" was the order of the day. LDCs at the third meeting were insisting on a binding agreement. Developed states were split on the issue, with Norway supporting a binding arrangement while Japan, Canada and the US favoured a soft law approach while other states remained silent.[344]

The Co-Chairs' insistence that delegates provide concrete text for the key elements was often thwarted by states demanding "more information" before they would. The Co-Chairs at WG5 prepared a Core Elements Paper that highlighted four issues: the administrative approach, civil liability, supplementary compensation scheme and capacity building. The Chairs outlined the following: a binding administrative approach, a non-binding civil liability approach and a voluntary fund agreed to by industry combined with a collective approach to be funded by the parties and others and administered by the parties. LDCs reacted negatively to the plan but came to understand negotiations might collapse without this document

as a basis for discussion. However, they were adamant any agreement would have to have a binding and comprehensive civil liability scheme. LDCs formed a coalition (the Like-Minded Friends of 83 LDCs) and insisted that a binding provision on civil liability was a threshold commitment, without which they would not participate. In response the Co-Chairs posed two critical questions to the delegates: First, was there an objection to crafting a legally binding instrument based on an administrative approach? Second, could work toward such an instrument have one clause on civil liability? After extremely tense sessions that threatened to end in failure all sides answered yes to the posed questions.[345]

The issue of civil liability was now "front and centre" at the negotiations. From some developed states like Japan the concern was that their legal system did not allow rules on the liability and redress for LMO-caused damage. Other states (the EU, New Zealand and Australia) wanted to avoid having to comprehensively rewrite their domestic biosafety legislation. Underpinning these objections appears to be apprehension that acceding to such a scheme would demonstrate that LMOs were dangerous, else why would such a scheme be necessary? Finally, however, the weak provisions previously agreed to were adopted by the delegates.[346]

In these meetings biotechnology corporations not only participated but took it upon themselves to try to resolve the impasse.[347] In a breakthrough the biotechnology industry announced that key players in the industry were prepared to accept liability for biodiversity damage caused by LMOs. The six major companies signed a private contract (others were free to join if they met the conditions of membership), "the Compact" for a response in the event of damaged perpetrated by an LMO. They were willing to pay damages if such a scenario occurred and acceded to binding arbitration under the auspices of the Permanent Court of Arbitration. Third-party states were also able to bring actions under a claims process under the purview of the Court. The Compact went further than the SP in providing clear legal standards to be applied (Article 3.5).[348]

However, the Compact is not meant to be an alternative to domestic options. The Compact precludes the multiple recovery of damages via simultaneous claims, providing states with a complementary option to the SP. In some respects, it is more restrictive than the SP in that it does not address threats of damage, and in others is more limited than domestic law, in that it sets exemptions and limits on amounts paid. However, in other ways it was more progressive than the SP as it provided for monetary compensation.[349] This agreement by the corporations went a long way to soothing concerns and paved the way for the eventual ratification of the SP.

KEY PROVISIONS OF THE SUPPLEMENTARY PROTOCOL

The SP was the first global, comprehensive instrument that provided for regulatory liability and provided a definition of damage.[350] Article 2 sets out damage as "an adverse effect on the conservation and sustainable use of biological diversity, taking also into account risks to human health."[351] The damage caused to

biodiversity needs to be measurable and must be significant. This is determined using scientifically established baselines by authorities.[352] Article 3 sets out the definition for significant damage, setting out indicators to take into account.[353] It also takes into account damage caused to human health.[354]

The Protocol requires action to be taken in two situations: (1) where there is a "sufficient likelihood of damage," and (2) where damage occurs. The Parties must trigger action with the appropriate operator who will bring a three-step action list: (a) inform the authority, (b) evaluate damage, and (c) take appropriate response measures.[355] In situations where damage has not occurred, but there is a sufficient likelihood of it occurring, the operator must take action to avoid damage.[356]

The Civil liability regime (Article 12) involves the attaching of responsibility for any damage through a Party's own national civil process. The Article sets out three options to implement the obligation: (a) through existing general domestic civil law; (b) through specific civil rules and procedures that deal with damage; or (c) a combination of the above.[357] Thus, the SP does not provide for harmonisation of the law, but rather leaves the matter up to the discretion of the parties as to how to address them domestically. Such issues include: identifying the operator (Article 2(c); the right of an operator to invoke an exemption (Article 6); time limit of liability (Article 7); and the financial limitation of liability (Article 8).[358]

After eight years the SP entered into force on 5 March 2018 and currently has 42 parties.[359] To date, the SP has not been invoked. Some delegates saw the creation of the SP as a catalyst for action, not only as regards biodiversity, but potentially as a model for other areas of liability and redress as it pertains to different areas of the global environment. However, others noted that the original substance had been lost in the fractious, lengthy negotiations and questioned its legal efficacy.[360] The SP has also been criticised by some commentators and ENGOs arguing that once the stage of liability and redress has been reached the damage to the biosphere and/or people has already occurred. Surely opponents of this approach allege, it would be better to focus on measures to prevent LMO damage from occurring *ab initio*?[361]

THE NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING

Many biodiversity-rich countries in the South had implemented various access and benefit sharing (ABS) legislative schemes and regulations.[362] Throughout the 1990s, the Parties to the CBD, particularly LDCs, discussed the shortcomings of ABS regimes both at the COPs and without.[363] There were very few successful ABS cases, supporting the argument for an international regime.[364] The actions were unsuccessful in that provider countries could not bring an action against users who illegally accessed and removed genetic resources from their territories.[365] Therefore, LDCs and ENGOs advocated for an international binding protocol. The World Summit on Sustainable Development in

Johannesburg in 2002 took on the task of creating an international regime that would ensure the fair and equitable sharing of the benefits arising from the use of genetic resources.[366]

COP8 decided to continue negotiations of the international framework for ABS, and an ABS Working Group was created to complete a draft before COP10 in 2010. The final negotiations took place in Nagoya and the Protocol is embedded within the CBD. The Secretariat is responsible for the administration of the Nagoya Protocol and the Meeting of the Parties (MOP) will take place alongside the COP.[367]

In many ways the Nagoya Protocol "is the result of an ongoing struggle to assert the rights of indigenous peoples and local communities to their natural resources, as well as to how to secure those rights in the light of competing views on nature and property."[368] The Protocol commits at an international level but in a relatively abstract way, to protect the resources and knowledge of indigenous peoples.[369]

The negotiations lasted for six years and were adopted by 193 CBD Parties during the COP10 of the CBD.[370] The problem was that any decision needed to be arrived at by consensus, effectively giving veto power to any state (or coalition of states) that were determined to achieve their goals.[371]

The Africa Group wanted genetic resources from the high seas and Antarctica to be part of any agreement. A broad group comprising The Africa Group, LMMDCs (including China, Brazil, Indonesia, South Africa, and others), the Group of Latin American and Caribbean states and the Group of Like-Minded Asia Pacific Countries were adamant they wanted a mandatory requirement that disclosed the origin of any genetic resources in a patent application. LDCs also were strident in wanting a more equitable sharing scheme regarding human pathogens.[372]

Developed states (Australia, Canada, EU, New Zealand and Japan) were stridently opposed to such demands, articulating that regulating areas beyond state jurisdiction would put it at violation with CBD itself. Regarding the patent issue, most developed states were not willing to entertain the idea (EU, Norway and Switzerland were willing to entertain a soft variation) arguing the WTO and World Intellectual Property Organisation were the more appropriate forum for such matters.[373]

Switzerland played a key role in the negotiations by formulating the Draft Guidelines which were submitted to the second Panel of Experts in March 2001 and then at the first meeting of the ABS Working Group in October of that year. These guidelines were a key contribution to the Final Guidelines adopted at COP6 in 2002. The paper helped clarify a number of misunderstandings that had cropped up and engendered confidence amongst the stakeholders that a deal was possible. Switzerland was also a key advocate for the idea of a "disclosure of source" to aid in compliance and presented a number of working papers on the issue highlighting the need to integrate a disclosure of source provision (wanted by LDCs) into domestic patent laws. The Swiss were also involved on the matter of pathogens. The EU and corporations were against denying access to genetic

materials needed for public health and food safety. The Swiss called for a "special consideration" in cases of a public health emergency and this exception, being acceptable to all sides, was included in the final text.[374]

In 15 months from July 2009 to Nagoya in 2010 there were a number of meetings including the Working Group on ABS but also Friends of the Co-Chairs meetings which were fiercely lobbied by indigenous groups and ENGOs. At the Ninth Meeting of the Working Group the Co-Chairs presented a draft text they called a "package text" that "balanced" the concerns of all parties and was designed to break the negotiating deadlock occurring. It was a minimalist document that ensured "prior informed consent" and benefit sharing provisions were in accordance with a community's customary laws and protocols. However, it was silent on the question of compliance to prevent the misappropriation of traditional knowledge.[375]

The text was fiercely contested and by the second resumed session at the Interregional Negotiating Group which met on 13 October 2010 the document was full of undecided square brackets clauses. India and China reintroduced the concept of "subject to national law" regarding prior informed consent. Indigenous groups also introduced a clause on the rights of communities over their genetic resources, which developed states opposed. Latin American states suggested the idea be dropped all together, leading to a walk-out by indigenous stakeholders. The African Group suggested replacing the contentious term "subject to national law" with the less objectionable "in accordance with national law," after New Zealand and Canada expressed concerns about the term. An agreement was also struck between indigenous groups, France and the Africa Group to remove the concept of "indigenous and local community laws" and replace it with "customary laws and community protocols." France had also insisted on the wording "in accordance with domestic law" to replace "subject to national law" which was duly accepted by the Parties.[376]

After these and other issues were dealt with the parties adopted a compromise text.[377] This was drafted by Japan, the EU and Brazil (representing the Like-minded Megadiverse Countries (LMMC)) and contained new provisions that had not been negotiated or discussed, namely an article on a multilateral benefit-sharing mechanism. This strategic move led to many Parties agreeing to these new provisions under the pressure of reaching an agreement.[378] According to observers at the negotiations, whether the final adoption of the protocol would occur was unsure until virtually the last minute but eventually agreement was reached.[379]

THE NAGOYA PROTOCOL: KEY PROVISIONS

The Protocol operates based on a combination of international and domestic mechanisms. These include requirements to adhere with national laws on access; obligations to designate checkpoints for monitoring; internationally recognised certificate of compliance for proof of legal acquisition in provider countries; and the creation of an Access and Benefit-sharing Clearing House

for sharing information related to access and benefit sharing.[380] The objective of the Protocol was:

> the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components.[381]

The Protocol applies to genetic resources under Article 15 of the CBD, as well as to benefits arising from the utilisation of the resources.[382] Furthermore, the Protocol applies to traditional knowledge associated with any genetic resources captured by the Convention.[383] The Protocol is based on the idea that the genetic resources of organisms can be used and developed for pharmaceuticals, cosmetics and agricultural products. Therefore, the developers of the products should share the profits they make with the providers of the genetic resources. The Protocol covers commercial benefits derived from both genetic resources as well as traditional knowledge on using genetic resources.[384]

By agreeing to the Protocol, Parties adopted access rules with prior informed consent, which govern that genetic resources can only be accessed after receiving consent from the provider.[385] For the first time regarding genetic resources, prior informed consent was needed by a sub-population as per Article 6(2) which stated:

> In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that the prior informed consent or approval or involvement of indigenous and local communities is obtained for access to genetic resources where they have the established right to grant access to such resources.[386]

The Protocol also has a regime for benefit-sharing where the provider and user agree on conditions. Currently, the Nagoya Protocol has 116 Parties and 117 ratifications.[387] There are few countries with ABS agreements. From 1996 to 2015, just over 200 ABS agreements were created for commercial research and 250 for non-commercial research.[388]

However, many provisions are controversial, for instance the scope of the Protocol, fair and equitable benefit sharing, access to genetic resources, and compliance.[389] The controversial issues relating to the scope of the Protocol include whether the Protocol should apply to genetic resources accessed before the CBD, genetic resources access before the Protocol if no benefit-sharing agreement exists according to the requirements of the CBD, continuing and new uses of genetic resources and traditional knowledge assessed before the CBD, traditional knowledge assessed before the Protocol, all biological resources, and biochemical. In relation to fair and equitable benefit sharing, it was debated whether "benefits

from traditional knowledge associated with ex situ genetic resources should be subjected to Article 8(j) of the CBD."[390]

The Nagoya Protocol recognised community protocols, which helped to uphold indigenous people's and local communities' rights. They allowed communities to codify existing practices underlining their rights, and to set out their future vision. Community Protocols are a way of recording information, knowledge, customs, rights and visions for future development.[391]

The Protocol makes a distinction between non-commercial and commercial research, in order to encourage research that contributes to the conservation and sustainable use of biodiversity. However, the distinction is only made in Article 8(a) and critics note that the list of non-monetary benefits illustrates that the Protocol captures non-commercial research just as much as it is aimed at commercial use.[392] However, the Protocol remains unclear on several issues, namely, whether it is retroactive, whether it deals with biological material, and whether different rules apply depending on the sector of activity.[393]

The GEF set up the Nagoya Protocol Implementation Fund in order to finance the Protocol. The fund is run by the Secretariat and is the designated institution operating the finances of the CBD. Japan provided funding of US$12 million, along with France, Norway and Switzerland.[394] In many ways the Protocol is not controversial because it reiterated what had already been agreed upon in the CBD, or set out obligations that do not allocate risk and responsibility to anyone.[395]

Critiques of the Protocol

The Nagoya Protocol has been condemned for its use of unclear and vague provisions, even described as a "masterpiece in creative ambiguity."[396] The way the Protocol was adopted after a deadlock meant that there was no legal consistency check at the end of the treaty negotiation.[397] As a result, there are several provisions open to interpretation.

One key problem with the Nagoya Protocol is a lack of indigenous involvement and participation. It has been noted that there is a lack of indigenous and local community involvement in the ABS processes at the national and international scale. One source of the problem is found in references to "domestic laws" and "state sovereignty" within the Protocol, as these exclude indigenous peoples. The use of genetic resources is regulated under the principle of state sovereignty and national legislation. In this sense, the Nagoya Protocol failed to "give space, recognition and legitimacy to indigenous peoples and their TK [traditional knowledge]."[398]

Critics have gone further to say that its conflicting interpretations mean that it is unclear what has been agreed upon for many of the key issues. The Protocol also lacks an effective enforcement regime that will aid in implementation of the agreement. Commentators have argued that voluntary benefit sharing is a fantasy and such a regime will directly translate to low regime effectiveness.[399] Critics note that thus far, these provisions have not been used in one successful example, and they remain a "pipe dream."[400]

CBD MEETINGS AFTER THE PROTOCOLS

The COP11in Hyderabad in 2012 introduced the indicator framework, which would act as a starting point for assessing progress towards the 2010–2020 Goals.[401] The indicator framework consists of five Strategic Goals and twenty Aichi Biodiversity Targets and the indicators are flexible so that the Parties can tailor it to their own national circumstances and capabilities.[402] The IUCN supported the Strategic Plan for Biodiversity 2011–2020, noting that it was an "unparalleled opportunity to bring together all stakeholders to tackle the urgent crisis of biodiversity loss though expeditious implementation of the Aichi Biodiversity Targets."[403]

The Fourth Edition of the Global Biodiversity Outlook was officially launched at COP12. It recognised that progress towards the Aichi Biodiversity Targets had been made, but that, at this stage, it would not be enough to reach the proposed targets unless the Parties took urgent action to introduce effective measures to reduce biodiversity loss.[404] The COP12 emphasised that the Parties needed to implement their own version of the Aichi Biodiversity Targets.[405] The Parties also decided to continue to review progress towards the Strategic Plan and implementation at each meeting until 2020.[406] There was progress, in that delegates decided to double the total biodiversity-related international financial resources to LDCs to help them by 2015.[407]

The ENGOs were also supportive of the goals and committed to helping states achieve their objectives. The WWF fully supported the Strategic Plan, noting it was an "ambitious, effective road map for halting loss of biodiversity," and that it would contribute to poverty eradication and sustainable development. They called for Parties to take urgent action to implement the Strategic Plan and revise national biodiversity strategies to align them with the Targets.[408]

At the 2016 COP13, the Parties reviewed progress in the Strategic Plan for Biodiversity 2011–2020 and towards the achievement of the Aichi Biodiversity Targets. The results showed that the Aichi Biodiversity Targets 10 (coral reefs and other vulnerable ecosystems affected by climate change or ocean acidification) and 17 (adopted and started implementing state biodiversity strategy and action plans) were not met in 2015, and a call was made on Parties to increase efforts to achieve this target as soon as possible.[409] Furthermore, limited progress was made towards reaching Targets 14 (ecosystems improved), 18 (the participation of indigenous peoples and local communities into the work of the Convention).[410] Target 15 of the Aichi Biodiversity Targets on the contribution of biodiversity to carbon stocks was also not achieved by its deadline, and the EU called for a more accelerated implementation to achieve the rest of the Aichi Targets.[411]

Even though the targets had not been met, and little progress has been made, the Convention took a soft approach and continued to merely "encourage Parties" to achieve these targets, while also encouraging Parties to review their national biodiversity strategies and increase their targets to make a greater contribution.[412]

The biggest challenge in halting biodiversity loss was increasing public awareness of the issue and the consequences of biodiversity loss. Over 93 per cent of Parties had submitted their fifth national reports, but because they were submitted after the deadline, they were not reflected in the fourth edition of the Global Biodiversity Outlook.[413]

Shockingly, only 69 per cent of Parties had incorporated the Strategic Plan for Biodiversity 2011–2020 into their national biodiversity strategies at this point, and only 25 per cent of those that had were "whole-of-government policy instruments." Furthermore, there were very few national strategies that called for increasing public awareness, poverty eradication strategies, sustainable development plans, or incorporated biodiversity into cross-sectoral plans and policies.[414]

The Fourteenth Meeting of the COP took place in Sharm El-Sheikh, Egypt, from 17–29 November 2018. It was revealed that with two years left to go, most of the Aichi Biodiversity Targets were not on track to be met by 2020, which "will jeopardize the achievement of the mission and vision of the Strategic Plan for Biodiversity 2011–2020, and the Sustainable Development Goals, and ultimately the planet's life support systems."[415]

Despite a warning two years ago at the previous COP, only a small number of Parties have adopted National Biodiversity Strategies and Action Plans as whole-of-government policy instruments. Again, Parties were urged to significantly accelerate their efforts to implement the Strategic Plan and address gaps between the Targets and their own national policies.[416] However, the focus of a large part of the conference was on emerging technologies such as synthetic biology and digital sequencing information. Calls for a moratorium on these new technologies were rejected and the decision arrived at merely asked states to apply the precautionary principle and scientifically sound case by case risk assessment and management when introducing such organisms into the environment.[417]

Rather than deal with the consequences of not meeting the 2020 targets the delegates adopted scenarios for the "2050 Vision for Biodiversity." Such a vision would be accompanied by an inspirational and motivating 2030 mission as a stepping stone towards achieving the 2050 Vision of "Living in harmony with nature."[418] The idea was to try to create a communications strategy to "change the narrative" around the issue of biodiversity loss and develop a powerful message that can progress the Convention's objectives. Such an approach would consist initially of community outreach and high-level political engagement.[419]

CONCLUSION

Despite the development of the *Convention on Biological Diversity* and several protocols over almost 30 years, global species extinction continues rapidly and ecosystem degradation has worsened in the lifetime of the regime.[420] The question then needs to be asked, why is this so? While advocates can point to some significant progress in terms of issues like indigenous access and dealing with LMOs, the Convention has also been justly criticised for slow progress.

One problem is that while the CBD contains general commitments, there is a lack of substantial action that has been taken by its member states.[421] Guruswamy notes the lack of progress in embedding sustainable development (resulting from focusing on 'sustainable use' and compromising conservation) domestically has stymied needed reforms. He further argues there are too many obligations on Parties resulting in a lack of progress on substantive issues. Further, the home of most global biodiversity – the forests – is not actually part of the regime, a grievous initial choice which is coming back to haunt member states. While that issue is "off the table" it is difficult to see marked improvement in halting biodiversity loss while this is the case.[422]

In light of slow progress and implementation, it has been suggested that the Convention should focus its efforts away from policy setting towards implementation. Others have commented on the flawed role of the CBD Secretariat, noting that the Secretariat has found it difficult to shift from policy towards implementation and there is no evidence that they are willing or have the expertise to make that change.[423]

The failure of the US to actively engage with the regime has also had a deleterious effect on its function. While the United States played an important role in initiating the Convention, and continued to participate in the CBD process and show support – to some extent – of certain provisions,[424] they have still not ratified the Convention. The US is often a leader in such forums and its absence, as well as its leading role in intellectual property rights, has seen the regime floundering to a certain extent without its presence.[425]

The CBD has struggled over the decades to be successfully implemented into a legally enforceable mechanism at the national level.[426] Problematically, the implementation of agreed-to policies has been left to the parties of the CBD to carry out, but in too many cases they are reluctant to do so.[427] The CBD lacks enforcement mechanisms to compel its decisions and there appears to be no appetite to provide such tools.[428]

Generally, states have also not been willing to provide an honest accounting of the domestic biodiversity loss. Developed states have not been willing to fully fund programmes that would decrease or end biodiversity loss in LDCs. The member states have been left merely proposing targets that have not been fulfilled. Now that the 2020 targets are looking highly unlikely to be met, rather than ask hard questions about implementing practices 'on the ground', the member states are merely proposing 2030 and 2050 goal dates and speaking in terms of a marketing campaign to convince global civil society of the good of biodiversity.

The fair sharing of genetic resources continues to be politically controversial. It is still a North-South conflict which shows no signs of abating. Contentious issues are those such as the agreed definition of 'genetic resources' and the extent to which pathogens should be covered. Increasingly broad patent protections give LDCs few incentives to conserve their domestic biodiversity. The issue is compounded by the fact there is "no technological engine" that could help resolve the issue, as was the case with ozone depletion. Technological solutions to land-change use are harder to imagine.[429]

The influence of non-state actors has also been relatively limited. NGO groups were largely absent from the negotiations of the *Convention on Biological Diversity*. Since then, they have played an important role in the attempted implementation of the Convention in the following years but have not managed to convince states to mend their ways. Several ENGO-based networks were established that aimed to promote the objectives of the Convention and were centred on information-sharing and NGOs have also been active in the promotion of indigenous issues but have had little impact.[430] Similarly, scientists have continued to warn of the dangers and levels of biodiversity loss, but the issue has gone past the 'warning stage' and scientists have been increasingly marginalised. Indigenous groups have had some success with the *Nagoya Protocol on Access and Equitable Sharing* but, as we have seen, there are still a number of outstanding issues that need to be addressed, given the nebulous nature of the Protocol's obligations.

Christopher Stone commented that the CBD from one point of view can be perceived favourably, when it is viewed as a simple, basic framework – setting out the groundwork for something better to come.[431] However, 27 years later, it is debatable whether something better has come along and questions need to be asked about the overall viability of the regime.

NOTES

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Chapter 9

The oceans

INTRODUCTION

The pre-eminent instrument of international oceans government is undoubtedly the *UN Convention on the Law of the Sea* 1982 ('UNCLOS' or 'the Convention').[1] Running to more than 300 Articles, nine Annexes, two Resolutions attached to the final text and two implementation agreements it is an achievement of staggering legal scale and complexity. Shortly after its conclusion it was hailed as a "constitution for the oceans" providing an answer to almost every question.[2] Obviously, such a text does not spring, like Athena, fully formed from a single mind. It was the product of hard-fought negotiations commencing in 1973 and lasting over nine years to replace the earlier but – in international law terms – relatively recent 1958 Geneva Conventions on the law of the sea. Why was such a revolutionary exercise thought necessary?

The history of the modern law of the sea and oceans governance begins, in a way, with curious and relatively small objects: polymetallic or manganese nodules. These nodules, found on the deep seabed usually at depths of 4,000–5,000 metres, are typically 5 to 10 cm in diameter, approximately the size of a potato, and consist of "concentric layers of iron and magnesium hydroxides around a core."[3] They were first discovered in the Kara Sea off Siberia in 1868, and were later found to occur in "most oceans of the world" during the scientific voyages of HMS *Challenger* in 1872–1876.[4] However, interest in the nodules increased significantly in the 1950s. In 1957–1958 nodules containing "commercially valuable minerals, such as nickel, copper and cobalt" were discovered on "the Tuamotu plateau approximately 370 km east of Tahiti at a depth of some 900 meters."[5] Improvements in mining technology began to make such deposits appear potentially commercially exploitable, particularly in the case of nickel, which rose steadily in value from 1960 (US$8,960/tonne) to a peak in 1976 (US$14,200/tonne).[6]

The seriousness with which some commercial actors were pursuing seabed mining as a potentially valuable technology was indicated in 1974 by the letter of Deepsea Ventures Inc (DSV) to US Secretary of State Henry Kissinger.[7] The

DSV mining consortium wished the United States to assert diplomatic protection of its supposed claim to a commercially valuable deposit of polymetallic nodules it had discovered in the Clarion-Clipperton Zone in the eastern Pacific Ocean. It was essentially asking that the US acknowledge and enforce property rights in an area beyond national jurisdiction "acquired" simply by prospecting. The US State Department replied, pithily, that: "The position of the United States government on deep ocean mining pending the outcome of the Law of the Sea conference is that the mining of the seabed beyond the limits of national jurisdiction may proceed as a freedom of the high seas under existing international law."[8] Howard Hughes had also announced in 1972 that he was building a giant experimental deep-sea mining ship, which undertook operations in 1974. Hughes' announcement certainly had an impact on the mining community and its interest in seabed mining, though Hughes' venture was revealed by the New York Times in 1975 to have been the cover story for an extraordinary CIA operation to attempt to recover a sunken Soviet submarine.[9]

Nonetheless, this atmosphere sets the stage for the Third United Nations Conference on the Law of the Sea (UNCLOS III), to which the State Department's reply alluded. UNCLOS III had begun in 1973 after a long gestation. The exploitation of natural resources of the deep seabed beyond national jurisdiction is generally agreed to have been first placed on the United Nations agenda by the speech of Dr Arvid Pardo in 1967 calling for such resources to be managed as the "common heritage of all mankind."[10] Pardo was far from alone in fearing that there could be a scramble for seabed resources, one which conducted under the existing principles of the freedom of the high seas would advantage the most developed states over the least-developed states. (Indeed, the US had passed legislation to support research into seabed mining in 1966.[11]) Such concerns corresponded in part to the process of de-colonisation which saw the membership of the United Nations greatly increase in the 1950s and 1960s, with former colonies becoming newly independent states. They also mirrored the rise of a stream of thought among such newly independent states which would become the New International Economic Order (NIEO).[12]

While the NIEO agenda was not formally consolidated until 1974, there was certainly by the time of Pardo's speech a widespread sense that the existing structures of international law did not favour new less-developed and least-developed states. Indeed, in many quarters of the developing world "[t]he race for resources of the deep seabeds were seen as a maritime repeat of the despicable scramble for Africa and, as such, provocative of contemporary economic and social misgivings."[13] Indeed, such was the widespread dissatisfaction with the way that apparently neutral traditional rules of the law of the sea privileged states with technological capability that in 1971 Senegal attempted to denounce the 1958 Geneva Conventions on the territorial sea and fishing (discussed below) citing a "technological gap between her and the treaty partners."[14]

These then were among the principal pressures requiring that a new regime of oceans governance be concluded. As discussed below, once it was generally agreed necessary to conclude a regime for seabed mining beyond national jurisdiction it

became apparent that numerous other questions of the law of the sea would have to be addressed as well. In simple terms, one cannot address activities beyond national jurisdiction before one is clear where the limits of national jurisdiction are. When Dr Pardo delivered his famous speech in the General Assembly there was not yet even consensus on the width of the territorial sea.[15] Newly independent, decolonised states saw in the negotiation of the Convention the opportunity to effect a more distributively just international order. That is, "newly independent and developing states" wished to have more control over the living and nonliving natural resources adjacent to coasts and in some cases were asserting substantial maritime zones such as the 200 nm "'patrimonial sea' . . . in order to re-appropriate their natural resources."[16] Following the disastrous oil spill from the *Torrey Canyon* in 1967, there was also new concern about the need for a system of treaty law on the protection and preservation of the marine environment.[17]

The rest of this chapter proceeds as follows. First, it is necessary to discuss earlier twentieth-century efforts at codification of the law of the sea. We can then turn to a more detailed discussion of the re-discovery of polymetallic nodules on the deep seabed in the 1950s and 1960s and the formation of the UN Sea Bed Committee. The chapter will then discuss in some detail the course of negotiations at UNCLOS III on key issues, and the impasse in which those negotiations ended. The Convention as initially concluded is then outlined. Their dissatisfaction with the outcome of UNCLOS III led certain highly developed states with the potential capacity to engage in seabed mining to form their own parallel legal structure to govern such mining, generally known as the "reciprocating states regime." The effect of the Convention itself was then modified or given more detail by two subsequent agreements: first, the so-called *Implementation Agreement*[18] which substantially modified the operation of the deep seabed mining regime in order to secure the participation of developed states in the Convention; and second, the *UN Fish Stocks Agreement* which fleshed out in further detail obligations regarding cooperation for the management of highly migratory fish stocks and fish stocks which straddle a national boundary.[19]

TWENTIETH-CENTURY CODIFICATION EFFORTS

Prior to UNCLOS, substantial efforts had already been made towards codifying the law of the sea. While some relevant work had been done through a League of Nations Expert Committee which reported in 1930, more influential was the work of the UN International Law Commission in the 1950s.[20] In 1956 the International Law Commission submitted to the General Assembly for consideration a set of draft articles on the Law of the Sea.[21] These were subsequently broken up into four separate draft treaties dealing with the territorial sea and contiguous zone, the continental shelf, the high seas and fishing. Treaty negotiations on these topics occurred in Geneva in 1958 – being the first United Nations conference on the law of the sea (UNCLOS I) – and resulted in four final conventions (the 1958 Geneva Conventions).[22] While there were landmark events in the development of the law, these negotiations did not settle one of the

major outstanding questions, being the width of the territorial sea. Famously, the Second United Nations Conference on the Law of the Sea (UNCLOS II) was convened in 1960 to consider only this issue. A compromise text which would have acknowledged a six-nautical mile territorial sea plus a further six-nautical mile fishing zone failed to be adopted by single vote.[23]

While in one sense the Geneva Conventions were a substantial achievement, they fell a long way short of creating a universal legal regime for the governance of the oceans. Breaking the text crafted by the International Law Commission up into four separate conventions opened the possibility of picking and choosing which parts of the law one would adhere to; law of the sea *à la carte*, as it were.[24] Levels of ratification of the four Geneva Conventions varied significantly. The most widely ratified convention, the high seas convention, attracted 62 ratifications while the fisheries convention has only 37.[25] Apart from the other historical considerations discussed in the introduction to this chapter necessitating a new comprehensive convention, this was of itself a manifestly unsatisfactory state in which to leave the law of oceans governance.

POLYMETALLIC NODULES, THE DEEP SEABED AND THE UN SEABED COMMITTEE (1967–1973)

As noted, the wedge which was used to reopen the question of codification of the law of the sea was, ultimately, polymetallic nodules on the deep sea floor. This might seem an unlikely issue to galvanise the concerns of newly independent states in their quest for a more equitable system of international law and their concerns to establish a New International Economic Order. Some context is thus required. Despite the nodules' existence having been known since the late nineteenth century, what had changed by the 1960s was estimates of their abundance and the commercial viability of their extraction. In particular, scientific projects undertaken in 1957–1958 as part of the first "international geophysical year" attempted to map the ocean floor and test drilling technologies that could penetrate the ocean crust.[26] The latter US project, called the "Mohole Project," was led by the Scripps Institution of Oceanography and also involved "extensive dredging and photographing of the Pacific floor, during which they found rich deposits of manganese nodules."[27] The work of the Scripps Institution was carried further by the University of California with a project to examine the feasibility of nodule mining. The work of one of the scientists attached to the project, John Mero, was to become particularly influential. In particular, Mero's well-known 1965 book, *Mineral Resources of the Sea*, "asserted that several billion tons of ore-grade nodules could be efficiently harvested from the seabed"; and he "estimated that a $100 million mining operation, permitting the recovery and processing of 5,000 tons of nodules per day, would generate a return of 30 per cent on investment."[28] Mero's book caused a stir. While Mero admitted his figures were "speculative," Pardo championed them at the General Assembly as "conservative."[29]

Pardo's speech to the General Assembly in November 1967 spoke of astounding quantities of nodules running to billions of tons of aluminium, copper, manganese,

zirconium, nickel, cobalt, iron, titanium, magnesium, lead, and vanadium.[30] Pardo described these resources "as easily recoverable" and his speech "highlighting the value of these minerals for economic development, and the need for legal regulation to ensure equitable distribution to avoid a glut on the market, ignited debate on how, and whose, jurisdiction may be established on the deep seabed."[31]

As a consequence of Pardo's intervention, the UN General Assembly established the Sea Bed Committee in 1967 to examine questions relating to the exploitation of resources of the deep seabed beyond the limits of national jurisdiction. Many newly independent states "were keen to have the deep seabed and its resources internationalised and declared the 'common heritage of mankind', in order to avoid a 'land-grab' for its resources from which only developed states would be in a position to benefit."[32] However, once "the door had been opened for consideration of one aspect of oceans law" some national groupings, especially a diplomatically skilled coalition of South American States, saw a strategic opportunity to advance their own claims that coastal states should have significantly wider authority to control resource exploitation off the coasts.[33] Similarly, for strategic reasons the United States and the USSR wished to secure agreement on a 12-nautical mile territorial sea and a preserved high seas corridor through international straits in order to secure the mobility of their fleets and had been pushing for a treaty on the question since 1966.[34]

Irrespective of such political manoeuvring, establishing new rules applicable to the seabed beyond national jurisdiction necessarily required the conclusion of more certain rules about the limits of national jurisdiction, and in particular more precise rules on the limits of the continental shelf. On the latter point, the 1958 Geneva Convention permitted the exercise of sovereign rights over the continental shelf by a coastal state to a depth limited arguably only by technological feasibility of exploitation (which was, obviously, constantly improving and thus potentially changing the legal outer limit of the shelf).[35] In addition, "many states were increasingly concerned about the problems of over-fishing and marine pollution off their coasts" which could not satisfactorily be addressed within the jurisdictional framework of the 1958 Conventions.[36] The fundamental interconnectedness of these issues, and of ocean space itself, led to agreement in 1970 to convene a new general conference on the Law of the Sea.[37] The Sea Bed Committee continued to work from 1971 to 1973 as, in effect, the preparatory commission for UNCLOS III.[38]

THE UNCLOS III NEGOTIATIONS (1973–1982)

Introduction: negotiating the package deal

Unusually for a major treaty negotiation, the Conference opened without a draft negotiating text: "instead there exist[ed] a vast mass of conflicting proposals, amendments and texts of differing status."[39] This followed in part from the suspicion of newly independent developing states as to how such negotiation texts had been assembled in the past, and in particular their doubts about the representativeness of the International Law Commission.[40] For many states, there was

simply too much at stake to leave even the drafting of the negotiation text to a technical preparatory commission – issues of vital national interest were seen as only capable of being resolved by political representatives.[41] The lack of a single text also perhaps reflected the sheer volume of issues for discussion. By the time it concluded its work the Sea Bed Committee had identified a non-exhaustive list of 25 topics to be addressed, some with as many as 19 subtopics.[42] The Committee's final report thus consisted of "six volumes of proposals and counter proposal submitted by states, as well as a number of studies prepared by the UN Secretariat at the behest of the Committee."[43]

Negotiations were plainly going to be highly politicised as between developing and developed states, and also complicated by the sheer number of participants. Some 164 states registered to participate and in any given session of negotiations approximately 140 were represented.[44] "In addition, six non-independent states, eight national liberation movements, twelve specialist agencies and the International Atomic Energy Agency . . ., nineteen intergovernmental organizations, a number of quasi-autonomous units of the UN as well as a host of non-governmental organisations" were in attendance.[45] Nonetheless, it is not apparent that non-state actors (other than the mining industry) played a particularly significant role in negotiations. This is perhaps a consequence of the extent to which many states engaged in negotiations saw themselves to be involved in highly political bargaining over core matters of national interest.

So complex was the situation that the first 1973 session of the Conference ended without even concluding rules of procedure. However, two guiding principles rapidly emerged. The first was the "Gentlemen's Agreement," by which negotiation would proceed by consensus for as long as possible with voting only taking place after all efforts to achieve a consensus had been exhausted. The second critical element was the understanding that the final text of the convention would be a "package deal" to which no reservations would be allowed: the final convention would be an integral unit open to membership on a take it or leave it basis only. As Koh and Jayakumar observed:

> Implicit in this package deal concept was the assumption that the convention should meet the minimum interests of the largest possible majority while accommodating essential interests of the major powers and dominant interest groups. Another assumption implicit in this . . . concept was that there would be trade-offs and reciprocal support between various claims: for example, support for navigational freedoms in straits and in the Exclusive Economic Zone (EEZ) in return for support for claims for sovereign rights over [EEZ] resources.[46]

The result of this process of negotiating a package deal by consensus "was an intricately interlocking web of compromises, in which every country or group of countries gained something and lost nothing intolerable (or not as much as it would lose with no treaty), and which taken all together, no country could afford to reject."[47] Nonetheless, it was also not always obvious what was in a particular

national delegation's interests. That is, while it was not difficult to pronounce upon an issue of the law of the sea in general terms, such expressions of principle had to be reduced to precise legal drafting. Working out which drafting formulation to support on any question required a state to "decide what was in its best interests."[48] But, how was a state to know which formulation of – for example – the rule on the outer limits of the continental shelf best served its interests? Making such a judgment potentially required expertise in scientific, environmental, strategic, and even financial questions which delegations did not necessarily possess. Accurate calculations of national interest under such conditions of uncertainty was "in many cases . . . impossible."[49]

Some developing states simply lacked requisite knowledge and expertise or gained it (partially) through the course of negotiations. Even for well-resourced states, the implications of radically new proposals such as the Exclusive Economic Zone were not always readily apparent. Thus, the United States' traditional hostility (as a major naval power) to creeping coastal state jurisdiction which might impinge upon navigational freedoms meant it was long opposed to the exclusive economic zone, despite ultimately being one of the concept's greatest beneficiaries as a coastal state.[50]

A further important dynamic, at the time of the Cold War, was the rapid breakdown between East-West tensions and the rise of North-South confrontation (later rebranded "North-South dialogue"). That is, the US (and its allies the UK, France and Japan) and the USSR were more united by common interests in freedom of navigation and their status as highly industrialised states with consortia interested in deep seabed mining, than they were divided by other questions.[51] However, the extent of North-South confrontation can also be overstated. That is, while members of the Group of 77 developing states[52] held relatively common views on the desirable outcomes on questions of seabed mining, "on non-seabed issues . . . [they] had no unity at all."[53] More broadly, "ideological postures and alliances foundered on geographic realities . . . hostile countries were forced into alliances by common interests, and traditional allies found themselves opposed on many issues."[54] For example, Israel and Iraq had the same interests on "the question of passage through straits," and the Soviet Union and South Korea had similar interests in the right to fish "off foreign coasts."[55] Thus, as Allott puts it, negotiating States – having identified their interests – had to recognise other states that shared those interests and combine to pursue them.[56] The result was the formation of a series of interest groups among states which were "fluid, temporary, overlapping in membership, sometimes only weakly coherent, sometimes notably monolithic" and which included:

> the coastal states, the maritime states, the broad-margin states, the principal fishing states, the landlocked and geographically disadvantaged states, the marine scientific research states, the nuclear weapons states, the land-based producers of minerals, the like-minded states, . . . , the Arab states, the European Community states, the Soviet and East European states, [and] the Group of 77.[57]

Such interest groups met outside the official negotiating sessions and the larger and more permanent groups, such as the 76 states which met as the coastal states groups, had a sophisticated degree of internal organisation with formal chairmen, coordinating committees, spokespeople on particular issues, etc.[58] There was also a number of important groupings outside these semi-formalised interest groups. One such was the Castañeda Group, a group of 17 influential diplomats from coastal states that first met in 1977 under the chairmanship of the Mexican delegation to resolve the impasse over the EEZ's legal status.[59] It later expanded its membership in 1980 to become an informal steering committee for negotiations generally, and met twice weekly at the Australian mission under the chairmanship of Ambassador Keith Brennan.[60]

In the event, the Convention wrought a number of substantial changes to the international law of the sea and the framework for oceans governance. As Harris puts it:

> [these] main changes or additions are the acceptance of a 12-mile territorial sea; provision for transit passage through international straits; increased rights for archipelagic and landlocked states; stricter control of marine pollution; further provision for fisheries conservation; acceptance of a 200-mile exclusive economic zone for coastal states; changes in the continental shelf regime; and provision for the development of deep sea-bed mineral resources.[61]

While space prohibits consideration of the negotiating dynamics which led to rules being adopted on each of these issues, many are covered below. In particular: the width of the territorial sea and passage through international straits; the rights of archipelagic states; the regime of the continental shelf and exclusive economic zone; deep seabed mining; and fisheries conservation. A few short observations shall also be made about the dispute settlement system as an integral feature of the Convention. Note must also be taken of how close the Convention came to failing at the eleventh hour through the opposition of developed states and in particular the crisis that came with US opposition after the election of President Ronald Reagan in 1981.

SPECIFIC TOPICS OF NEGOTIATION

(a) The width of the territorial sea, regime of straits, and archipelagic waters

Despite prior controversy, the question of the width of the territorial sea did not prove particularly difficult at UNCLOS III. Indeed, by "the closing stages" of negotiations "the great majority of states claimed territorial seas of 12 miles or more."[62] This "steady shift towards 12-mile territorial seas, especially among newly independent states, was a reflection of the desire to bring coastal waters – and the fishing, pollution and so on conducted, often by foreign vessels, within

them – under national control."[63] Thus, by the end of negotiations the "consensus in favour of the 12-mile territorial sea was . . . perfectly clear"[64] and the rule may be treated as having passed into customary law before the Convention came into force. The more complex question was settling the navigational regime through international straits. Prior to the advent of the 12-nautical mile territorial sea any international strait greater than 12 nautical miles in width would have a corridor of high seas through it (in which freedom of navigation could be exercised) so long as bordering coastal states claimed only territorial seas of 3 to 6 nm in width. There are, however, some 200 or so straits used for international navigation of no more than 24 nautical miles in width which risked being entirely enclosed by new 12-nm territorial sea claims.[65]

Major naval powers were concerned that any such "'territorialisation' of international straits would compromise the freedom of overflight of (military) aircraft and navigation of foreign warships, including submerged submarines."[66] Pre-existing international law guaranteed warships and foreign ships generally a right of non-suspendable innocent passage through straits used for international navigation.[67] Nonetheless, major naval powers successfully lobbied for the inclusion of a new right of "transit passage" through international straits which, while subject to coastal state regulation in certain respects, could not be hampered or suspended.[68]

A more radical change to the law of the sea was introduced by the concept of "archipelagic waters." The literature generally distinguishes between "coastal" archipelagos on the one hand and "mid-ocean" archipelagos on the other. In respect of the former, it was accepted at the 1958 Geneva Conference on the Law of the Sea that the baselines[69] from which the territorial sea are measured could be drawn so as to enclose collections of small islands sufficiently close to the coastline (that is, "coastal" archipelagos). This concession simplified producing charts but also meant that the waters enclosed by such straight baselines would be treated as fully sovereign internal waters, analogous to ports. At the 1958 Conference Indonesia and the Philippines had argued that a similar special regime should apply in respect of states constituted by collections of islands and lacking any continental land territory, so-called "mid-ocean archipelagos."[70] The principal opposition in 1958 to any "special regime for archipelagos came from the major maritime states."[71] Naval powers and major shipping states feared "such a regime [would result in] in areas which had previously been high seas or territorial seas becoming internal waters, with the consequent loss of navigational rights" especially where such archipelagic states, including Indonesia and the Philippines, straddled important shipping lanes.[72]

However, vigorous lobbying by a group of archipelagic states – principally Fiji, Indonesia, and the Philippines (with early involvement from Mauritius) – was, despite its limited membership, "very effective in having its claim accepted and reflected in the convention."[73] In essence, the result achieved at UNCLOS III was a special regime for archipelagic states consisting of two principal elements. The first is the right to draw straight baselines around the outer islands and atolls of an archipelagic state. (Defined as a state which, when such baselines are drawn,

has an area within them with ratio of between 1:1 and 9:1 of water to land.) The second was a new concept of "archipelagic waters," being the area enclosed by such straight baselines. The archipelagic waters concept balanced the interest of archipelagic states in sovereign control over such waters with those of navigating states. This was done by making it clear archipelagic states were sovereign over their archipelagic waters, but doing so without equating them entirely to internal waters by preserving both rights of innocent passage through them and creating a special navigational regime of "archipelagic sea lane passage" similar to transit passage through international straits.[74]

(b) The outer limits of the continental shelf

The *Truman Proclamation on the Continental Shelf* of 28 September 1945 – and later the *Geneva Convention on the Continental Shelf* of 1958 – rapidly established as part of international law the exclusive sovereign right of all coastal states over the natural resources of their continental shelf as the natural prolongation of their land territory.[75] As noted, however, the Geneva Convention left the legal question of the outer limits of the continental shelf in an unsatisfactory state, given its use of an exploitability criterion capable of moving over time with improvements in technology. How to resolve the question was a delicate matter.

Some three or four different sets of interests and concerns had to be balanced. First, there was a debate to be had between a strict distance criterion and a geological criterion. A group of "narrow margin" states with limited continental shelves took the view that the entire question should be subsumed into the exclusive economic zone regime, creating a uniform system of sovereign rights over seabed resources out to a maximum 200-nautical mile limit (see further the discussion of the EEZ below).[76] However, 60 or so "broad margin" or "margineer" states which were "naturally favoured" with a continental shelf extending beyond 200 nautical miles preferred a formula setting the limit as being the "outer edge" of the continental margin; in their view, this was an advantage that they had under the 1958 Convention which they were not prepared to surrender.[77] Taking a contrary view, those states which took a strongly NIEO stance on deep seabed mining were inclined to see any rights in a continental shelf beyond 200 nautical miles as a subtraction from the common heritage of mankind.[78] There was also the question of how to prevent states "including Iceland and Portugal, that abut on the huge submerged mountain chain called the Mid-Atlantic Ridge . . . from claiming the Ridge itself, and so adding many extra hundreds . . . of miles to their continental margins."[79]

The compromise reached, unsurprisingly perhaps, allowed the fixing of the limits of the continental shelf on *either* the distance or geological criteria.[80] The question was how to define the latter in legal terms. The result was a legal definition of the "outer edge of the continental margin" which did not necessarily correspond particularly closely to any scientific appreciation of the concept. In essence, determining the permissible limit of the legal continental shelf beyond 200 nm involved a package of formulas respectively known as "the Irish formula"

and "the biscuits formula" (the first formula was named after its architects, the second after a packet of biscuits on a luncheon table as its drafters wished to remain anonymous given the sensitivity of the issue).[81]

Under the Irish formula a coastal state could claim a continental shelf beyond 200 nautical miles to the outer edge of the continental margin, defined as being either a series of points 60 nautical miles beyond the foot of the continental slope, or a series of points where the depth of sediment was 1 per cent of the distance to the foot of the slope. (States can use the points generated by either of these formulas in whatever combination is most advantageous to produce a composite line.) This was then subject to a cut-off provided by the biscuits formula of a maximum limit of either 350 nautical miles from the coastline or no more than 100 nautical miles beyond the 2,500 metre isobath. The Mid-Atlantic Ridge problem was solved by providing that the maximum limit of 350 nautical miles applied absolutely in the case of ridges, though an exception was made for "submarine elevations that are natural components of the continental margin, such as its plateaux, rises, camps, banks and spurs."[82] The concerns regarding the common heritage of mankind were addressed by providing for a relatively modest system of royalty payments to the International Seabed Authority for the exploitation of seabed mineral resources occurring on the continental shelf beyond the 200-nautical mile limit.[83]

One of the fundamental questions that the conference was convened to address was, obviously, seabed mining beyond national jurisdiction (further discussed below). Having an effective system governing seabed mining beyond national jurisdiction required, as noted, determining the limits of national jurisdiction. It was therefore desirable that states finalise their continental shelf claims as soon as possible. However, non-margineer states were somewhat suspicious of the "considerable uncertainty"[84] as to how the mixed Irish/biscuits formula might be applied in practice. This issue was resolved in the Convention through the device of establishing a Commission on the Limits of the Continental Shelf which would review proposals from broad margin states and make technical recommendations upon them. Only outer limits to a continental shelf claim declared on the basis of Commission recommendations would be considered final and binding upon other parties to the Convention.[85]

The Convention also provided for a system of time limits to make submissions to the Commission.[86] This was one of several examples of the Convention providing a technical solution to what might otherwise have been a political problem, and of guarding against self-serving interpretations through creating an oversight mechanism.[87] Under-resourced and staffed by part-time technical experts without legal expertise, the Commission's operation in practice has not been without a degree of controversy.[88]

(c) The exclusive economic zone

As noted, following the Truman Proclamation, the existence of sovereign rights on the part of the coastal state over the resources of its continental shelf rapidly

became accepted as part of international law. However, the breadth of the continental shelf of any given coastal state is simply an accident of geology. Coastal states with little or no continental shelf were thus "geologically disinherited" by the new legal regime and took the view that they "could reasonably claim compensation in the form of an exclusive right to the living resources of the sea adjacent to their coasts to provide their economic security and well-being," in the absence of significant "hydrocarbons and other mineral resources" available to states with wide continental shelves.[89]

Thus it was that various Latin American States began to declare zones of 200 nm off their coasts in which they often claimed not merely exclusive rights to exploit living resources but full sovereignty. Such laws were passed in 1947 by Chile and Peru and were soon followed by Costa Rica (1948), El Salvador (1950) and Honduras (1951).[90] This approach was reinforced by the trilateral 1952 Declaration on the Maritime Zone made by Chile, Ecuador and Peru (commonly called the Declaration of Santiago).[91] This was followed by further national legislation among Latin American states and in 1970 by the Declaration of Montevideo on the Law of the Sea ('Montevideo Declaration') and the Declaration of Latin American States on the Law of the Sea ('Lima Declaration').[92] While the Montevideo and Lima Declarations both "purported to preserve the freedom of navigation and overflight for other States" within the 200-nm limit some States (Brazil, Panama, Nicaragua, and Ecuador) entered reservations to these Declarations, effectively asserting that they saw the zone as an extended territorial sea.[93] The difficulty, of course, was in the assertion of complete sovereignty throughout such a zone: it was readily "apparent that the maritime powers would not accept such an extensive territorial sea which would [adversely impact their] economic and military interests."[94]

A compromise proposal for a more limited exclusive economic zone concept was first proposed by Kenya in 1971 and 1973 at meetings of the Asian-African legal consultative committee.[95] To some extent, this development was mirrored by changing Latin American State practice which was by 1972 advocating the concept of a "patrimonial sea" through the Declaration of Santo Domingo.[96] In such a zone, the Declaration asserted, a coastal State should have "sovereign rights over the renewable and non-renewable natural resources, which are found in the waters, [and] in the seabed . . . adjacent to the territorial sea."[97]

The Declaration also "established a 12nm territorial sea limit and stated that the whole of the area of both the territorial sea and the patrimonial sea . . . should not exceed a maximum of 200 nm."[98] In its focus on sovereign rights over resources, while preserving third states' freedom of navigation, the Declaration of Santo Domingo's conception of the "patrimonial sea" prefigured the EEZ as we know it today. Thus, the African EEZ and the Latin American patrimonial sea "had effectively merged by the time" UNCLOS III began and "attracted the support of the most developing states" and even that of "some developed coastal states such as Canada and Norway."[99]

As it emerged, the regime of the EEZ balanced a number of considerations. First it resolved the geological disenfranchisement of coastal states with narrow

continental shelves by providing them with, in effect, all the rights they would enjoy in a continental shelf out to a maximum distance of 200 nm irrespective of whether an underlying geological continental shelf existed in fact. It also conferred exclusive rights of management and exploitation of living resources both in the seabed and in the water column above. By defining the exclusive economic zone as a bundle of sovereign rights and jurisdictions over various subject matters,[100] the zone could be made more palatable to major maritime powers and be presented as not intrinsically impeding traditional high seas freedoms of navigation.

Nonetheless, the creation of the new zone gave rise to complex questions of legal characterisation.[101] A structural change was required, given the traditional division of the oceans into internal waters (i.e. harbours, bays, and rivers), territorial seas, or the high seas.[102]

While the need for some structural adaptation of the traditional law to the EEZ regime became apparent early in UNCLOS III, it was

> not at first sight clear whether the EEZ is essentially the high seas with a special EEZ regime superimposed upon it (the 'high seas minus' view) or whether the EEZ is a new . . . [sovereign] zone of the coastal state in which the high seas freedoms are the equivalent of the right of innocent passage in the territorial sea (the 'EEZ minus' view).[103]

For a period, national positions remained quite divided between the 'high seas minus' and 'EEZ minus' approaches. The generally accepted view that emerged in the 1976 Revised Single Negotiating Text was that the EEZ "is neither the high seas nor [an extension of] the territorial sea. It is a zone *sui generis*."[104]

This turning point in terms of approach did not lead to an immediate drafting breakthrough. The approach which eventually succeeded in giving effect to the *sui generis* nature of the EEZ (now found in Article 86 of UNCLOS) was to stipulate that the provisions of the Convention relating to the high seas "apply to all parts of the sea that are not included in" the EEZ, territorial sea, internal waters, or archipelagic waters of a State; but to also provide that this does not curtail the existence of certain high seas "freedoms enjoyed by all States in the exclusive economic zone in accordance with article 58." The net result is that high seas freedoms continue to apply in the EEZ except to the extent displaced by the sovereign rights or jurisdiction of the coastal state. This drafting solution was first proposed by the Castañeda Group in 1977.[105]

Irrespective of such precise technicalities, as early as 1975 the idea of the EEZ appeared to be generally accepted.[106] States began to proclaim EEZs in their national legislation and the vast majority of states "did so well before the entry into force of the Law of the Sea Convention"; often, indeed, in the 1970s while negotiations were still underway.[107] "The volume of such claims, coupled with the almost complete absence of protest" led to the widespread view that the EEZ had passed into customary international law long before the Convention came into force.[108] Indeed, the customary status of the EEZ was recognised in two cases by the International Court of Justice prior to the Convention entering force.[109]

There was no effort to circumscribe the outer limit of the EEZ in the course of negotiations. "The 200 nautical mile outer-limit of the EEZ was accepted from the start of negotiations in UNCLOS III for the practical reason that it represented the most extensive claims then in existence, and not for geological, geographical, economic or ecological reasons."[110] Nonetheless, the "vast majority of commercially exploitable fish stocks and submarine hydrocarbon resources are found within 200 nautical miles of most coasts."[111] Indeed, it is estimated that over 90 per cent of the world's fishing catch of fish annually is taken within 200 nautical miles of coastlines, making the exclusive economic zone extremely valuable to coastal states.[112] Nonetheless, the creation of the EEZ may not, overall, have had the redistributive effect initially desired by African and Latin American States. Wijkman observed in 1982 that the principal effect of the Convention in this regard would be to:

> Redistribute income from long-distance fishing fleets and other foreign fishermen to those states with long coastlines bordering on rich fishing grounds. The richest fishing grounds, like the richest countries, are located in the temperate zones, and three quarters of the world catch is taken from waters of the developed countries . . . A total of at least $1.2 billion annually is to be re-distributed to coastal states [principally developed countries].[113]

While developing coastal countries do gain something at the expense of distant water fishing fleets from developed countries, overall the convention "favours rich coastal countries over poor ones, and coastal states over others."[114] This might seem a surprising and unintended consequence of a proposal supported by NIEO proponents of the Group of 77. "Nevertheless, as a symbol of the control exercised by a state over its natural resources the introduction and acceptance of the EEZ was a considerable psychological gain for developing countries."[115]

(d) The management of fisheries

As has already been noted, the inception of the exclusive economic zone substantially rebalanced fishing rights in favour of coastal states. This occurred despite the major windfalls going to rich and highly developed states largely, it seems, as a consequence of NIEO ideological solidarity among the Group of 77 with the Latin American and African states which had proposed the concept. Nonetheless, within the EEZ certain modest provisions were made for the licensing to foreign fisherman of any unallocated part of the total "allowable catch" (being that which could be taken consistent with maintaining fish stocks at the "maximum sustainable yield"),[116] with priority being given to developing landlocked states and "geographically disadvantaged" states.[117] In the event, this was obviously something of a non-concession which could be defeated by the simple expedient of allocating the entirety of the allowable catch to one's own nationals.

However, as fish do not read maps and a single biomass of fish may occur across national boundaries (or be present both within an EEZ and an adjacent high seas

area), or may pass through multiple jurisdictions and the high seas in the course of their migration, provisions had to be made for so-called "straddling stocks" and certain "highly migratory species."[118] In essence, in respect of straddling stocks, the states fishing for such stocks must seek "either directly or through appropriate . . . regional organizations, to agree upon the measures necessary for the conservation of these stocks."[119] A slightly more robust provision exists as regards highly migratory species where there is a concrete obligation to either create a regional fisheries management organisation to promote the "optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone" or to participate in any such existing relevant regional fisheries management organisation.[120] These rather general duties were further elaborated upon in the second of the UNCLOS implementing agreements, the *Straddling and Highly Migratory Fish Stocks Agreement* of 1995 (discussed below).

(e) Seabed mining beyond national jurisdiction and the International Seabed Authority

Undoubtedly one of the most controversial areas was the establishment of a regime governing deep seabed mining in the area beyond national jurisdiction ("the Area") under the supervision of an International Seabed Authority (ISA). As early as 1970 there had been agreement in the General Assembly that it was "essential that an international regime applying to the area and its resources and including appropriate international machinery should be established as soon as possible."[121]

Nonetheless, positions were initially polarised on what such a regime and its "machinery" should look like. Developed states wanted an ISA which would function as little more than a registry of title to various prospecting and exploitation sites.[122] The Group of 77, however, saw the ISA as the test-bed for NIEO ideas[123] and envisaged an ISA which not only had extensive regulatory powers but which would be the sole actor legally empowered to conduct mining in the Area on behalf of all humanity and which would do so through a subsidiary organ, the Enterprise.[124] The solution found was the so-called "parallel system," which envisaged the ISA both licensing commercial mining and conducting mining on its own account through the Enterprise.[125]

In this scheme, the Enterprise nonetheless, enjoyed certain advantages. It would not have a profit incentive and theoretically its operation could be financed by the ISA choosing to subsidise it from licensing and royalty payments from commercial miners. Further, at the licensing stage commercial miners needed to identify two potential mining sites of equal value – one of which the ISA would reserve or "bank" for exploitation by the Enterprise. This spared the Enterprise the expense and difficulty of initial exploration activity. Finally, the Enterprise benefited from technology transfer provisions which were extremely unpopular with developed states.

At the conclusion of UNCLOS III, developed states were left with a number of key concerns about the ISA envisaged in the treaty as adopted. These included: the cost effectiveness of the ISA; its lack of (in their view) an adequately

market-oriented approach (including production policies, the status of the Enterprise, technology transfer obligations, financial terms of contracts, and economic assistance for land-based producers); and the process of decision-taking and policy-making within the International Seabed Authority.[126] It is convenient to summarise the ISA as originally designed by addressing these points. They are set out in turn below, other than the question of the status of the Enterprise which has already been outlined.

As to cost effectiveness, the Convention on paper established – in a single big bang – the ISA as a standing regulatory body, with various subsidiary commissions and a secretariat, and the Enterprise as a mining concern.[127] Moreover, in the absence of generating its own income or receiving licensing fees and royalties, the early years of ISA operation could be financed by borrowing or levying contributions on member states.[128] Developed states were not keen on providing a blank cheque to an untested organisation, the policies of which would be determined largely by developing states.

Reflecting the controlled-economy approach of many G-77 states, the ISA as originally designed also included complex rules on production limitation. These rules were intended to minimise the impact of sea-bed mining on developing states whose economy relied upon land-based production of such minerals. The Convention achieved this through a "production ceiling," intended to last for an interim period of 25 years, which was pegged to global nickel production and which broadly held that in any given year nickel production from the seabed should supply no more than 60 per cent of growth in demand for nickel.[129]

This complex system resulted from an attempt to turn what was essentially a political question into a technical exercise, and the formulas involved derived in part from computer modelling done at MIT at the behest of talented Singaporean negotiator Tommy Koh.[130] In a sense, it is possible to speculate that the political issues were sufficiently complex that only a strategy of replacing them with an even more complex (but seemingly objective) technical mechanisms allowed consensus to be reached and negotiations to continue. Nonetheless, developed states remained unsatisfied and sceptical.

While a major controversy at UNCLOS III was the idea that there were compulsory provisions in the Convention for the transfer of mining technology to the Enterprise and developing states, in truth the obligations embodied in the final text were relatively anodyne. Under Annex III, article 5(b), contractors mining in the area would be obliged to undertake to make available to the Enterprise "on fair and reasonable commercial terms and conditions" mining technology but only if "the Enterprise finds that it is unable to obtain the same or equally efficient and useful technology on the open market." The idea that compulsory licensing of intellectual property is incompatible with capitalist economies is readily refuted by the existence of systems patent law.[131] The reference to "fair and reasonable commercial terms" also falls far short of any truly "compulsory" system of licensing or acquisition.

Concerns regarding the financial terms of contracts concluded with the ISA under which commercial mining could occur were more reasonably based. The initial system was very complex indeed.[132] In brief, it involved an initial application

fee of US$500,000; an annual fixed fee of US$1 million for each year of the contract; and then potentially a further production charge consisting of a royalty of 5 per cent of the market value of the processed metals recovered in the first 10 years of production, rising to 12 per cent in year 11 and subsequent years. The effect of this would have been close to confiscatory and likely to make production commercially unviable.

UNCLOS also provided for the International Seabed Authority to establish a "system of compensation" for those land-based developing economies which experienced disruption as a result of seabed mining.[133] The lack of specificity to these provisions and their open-ended nature was considered undesirable by developed states.

Finally, many of these concerns were only compounded for developed states by the ISA decision-making process. Under the Convention as concluded, the Authority has "two political organs, the Assembly and the Council." Of these, "[t]he Assembly, of which all Convention parties are members, was originally conceived as the policy-making body. It takes decisions by a two-thirds majority."[134] This outcome reflected the G-77 position (and NIEO approaches generally), that the ISA should have been a model of "one-state one-vote" egalitarian decision making with no particular privileges held by any particular group of states, especially not traditionally dominant Western states.[135] Unsurprisingly, this displeased those same traditionally dominant states who feared a majoritarian ISA Assembly could take decisions adverse to their interests. As we shall see, these concerns underpinned US objections to the final text and became a crucial obstacle to participation in UNCLOS by developed states.

(f) The dispute settlement system

There was some controversy during UNCLOS III as to whether the Convention should include, as it eventually did, a *compulsory* dispute settlement system. Adede, who chaired the dispute settlement working group, recorded vigorous differences of opinion during the negotiations both as to whether the Convention should contain a compulsory dispute settlement system and, if so, which subject matters it should cover.[136] Even on questions as sensitive as maritime boundary delimitation there were strong calls for a compulsory dispute settlement system to apply. Ambassador Padro argued, for example: "[I]t was difficult to credit the good faith of a country in signing a convention if it then refused to allow conflicts about [any and every part of] the application of that convention to be settled by some independent organ or authority."[137]

Developing states and smaller powers were, however, split. Having just secured jurisdiction over extensive fishing zones, some developing states were not keen to have their exercise of discretionary powers to regulate EEZ fishing subject to (potentially complex and expensive) judicial review.[138] On the other hand, for some less powerful states the dispute settlement system was a *sine qua non* of their consent to the whole.[139] Kingsbury explains the attraction of including dispute settlement systems in a treaty:

> Less powerful states in particular require assurances that the promises of powerful states are credible. . . . [Winning] a case may provide some bargaining leverage, but they rely much more on the prospect that the court process and eventual decision will help mobilise other major states to put pressure on the powerful [respondent] state in order to maintain the rule-governed system [of international law] and respect for its institutions.[140]

In this case, given that the Convention was negotiated as one grand bargain, any system which allowed states to adopt unilateral and self-serving interpretations risked undermining the integrity of compromises reached on specific issues and the Convention as a whole. A compulsory dispute settlement system was thus seen by many as providing a useful break on the possibility of fragmented and diverse interpretations of the Convention's provisions. Even major naval powers were, on the whole, in favour of a compulsory dispute settlement system in order to promote consistent interpretation of the Convention and prevent "creeping jurisdiction" being asserted by coastal states in a manner which might impinge upon navigational freedoms. In the end, "many of the 1982 Convention rules contain lacunae or, inevitably, are generally phrased, and since some state practice is of doubtful consistency with them, the availability of judicial or arbitral proceedings offers an exceptional [and necessary] opportunity to clarify the law and to resolve disputes" between state parties.[141] Thus it was that the President of the Conference, Ambassador Amerasinghe, said that "[d]ispute settlement procedures will be the pivot upon which the delicate equilibrium of the compromise [reached] must be balanced."[142]

The dispute settlement system as established in the Convention is contained in Part XV. It is, in principle, compulsory and comprehensive but contains, nonetheless, a number of wide exceptions.[143] The result is complex.[144] In essence, the starting principle of Part XV is that "any dispute concerning the interpretation or application of this Convention shall, where no settlement has been reached . . . [through preliminary or alternative mechanisms], be submitted at the request of any party to the dispute to the court or tribunal having jurisdiction."[145] Thus, the dispute settlement procedure is both comprehensive and compulsory, *unless an exception applies.* The major such exceptions are now found in Articles 297(2) and (3) of the Convention.

These expressly exclude from compulsory dispute settlement disputes over marine scientific research (as an EEZ or continental shelf activity) and fisheries regulation (within the EEZ), but provide for a system of compulsory but non-binding conciliation in such cases. In addition, states may also choose to make an elective declaration that they do not accept the application of Part XV to certain sensitive subject matters, principally: maritime boundary disputes (which are again subjected to an alternative and mandatory conciliation procedure) military activities, and EEZ law enforcement activities in respect of marine scientific research or fisheries management.[146]

Notably, however, all of these exceptions are subject to a further exception. Article 297(1) contains a jurisdiction affirming provision listing categories of

disputes which can never be excluded from the scope of Part XV dispute settlement: disputes concerning either freedom of navigation or "specified international rules and standards for the protection and preservation of the marine environment."[147] This makes it possible to characterise the subject matter scope of the dispute settlement system as one in which all conflicts concerning the Convention are covered (everything is in), unless an exception excludes them (some things are out), unless a further jurisdiction affirming provision applies (some things can be brought back in). Finally, there were divisions of opinion among states as to which body should have jurisdiction to hear such disputes. There were differences of opinion as to whether to entrust such a function: only to the International Court of Justice (an idea unpopular with developing States); only to a new International Tribunal for the Law of the Sea (ITLOS) established under the Convention; or only to ad hoc arbitral tribunals (to maximise party choice over the composition of the arbitration panel). In the end, the system adopted was to make all three mechanisms available.[148] Parties to the Convention may make a declaration as to their preferred dispute settlement forum. However, in the absence of such declarations by parties to a dispute, or where the parties have expressed different preferences, the Part XV system defaults to arbitration.

The complexity of the system lends itself to states carefully framing their dispute as being about subject matters within Part XV jurisdiction, even if logically this results in only one aspect of a broader dispute being presented. Boyle has referred to this as "salami-slicing" and, as he predicted, states have used the technique to bring proceedings against recalcitrant respondent states on sensitive issues in a number of cases.[149] Nonetheless, the validity of this approach and its consistency with the letter and spirit of the Convention has generated a degree of controversy.[150]

After a relatively quiet start, the use of Part XV appears to have been expanding in recent years.[151] It is possible to speculate that smaller states (or the lawyers representing them) have found the (in principle) compulsory nature of Part XV, coupled with the near universal membership of UNCLOS, attractive given the general difficulties of bringing litigation at the international level in what is generally a consent-based system.[152]

The crisis

Notoriously, a crisis came for the Convention's negotiators with the election of President Reagan of the United States. As Wertenbaker put it:

> The Third Law of the Sea Conference and the seabed portions of the treaty as drafted were as antipathetic to most of the principles of the Reagan Administration as anything it could be called on to embrace, and the Administration reacted with commensurate enthusiasm.[153]

The Reagan Administration announced that it would conduct an internal review of the US position with regard to the treaty and promptly replaced most of the

US negotiating team. (A change implemented so quickly some US officials found they were no longer delegates only in reading newspapers while en route to the Conference.[154])

The position the United States brought back to the negotiations was ideological,[155] in a conference which to some extent had – as noted – succeeded in abandoning purely ideological positions relatively early. In this the Administration appeared to have been directly influenced by lobbyists for the American mining industry and free-market think tanks such as the American Enterprise Institute.[156] Moreover, at least one well-placed member of the Administration was accused of real-time briefing against US negotiators to ensure corporate interests could engage in continuous lobbying in Washington DC against any concessions being made.[157]

Nonetheless, in attempting to secure any substantive changes to the Convention the US faced a number of challenges. The first was the unwillingness of the other delegations, which had come so far, to retreat from the prospect of concluding the near-finalised treaty and to allow years of work to be unpicked. The next was that the US position was far from clear, and formation of a coherent policy was hampered by a degree of internal infighting.[158] There was certainly a point of view within part of the Administration that the Convention should simply be walked away from; in Ratiner's words:

> this point of view held that the treaty was flawed because it created adverse precedents for other negotiations on economic issues between developed and developing nations – the North South dialogue – subjugated American industry to an international regulatory and management system, and was incompatible with President Reagan's apparent desire to return the United States to a period of power and influence in world affairs in which its policies would simply be enunciated rather than sold to others through a process of diplomacy and negotiation.[159]

It is significant that Ratiner himself was a Reagan Administration official. Ratiner belonged to another camp which thought the draft treaty was flawed but improvable and, critically, he considered that seabed mining would prove commercially impossible absent some form of universally accepted treaty-law architecture guaranteeing stability of title.[160] These two viewpoints within the Administration were not readily reconcilable. As a result, while the US knew what it didn't want, it did not have any detailed and specific counter-proposals to put on the table in 1981. To the extent the Administration had a position it was able to articulate, it was embodied in "six points" given by the President to the US negotiating team.[161]

These ranged from the plausibly achievable (restrictions on technology transfer), to the clearly expressed but probably unachievable (that any amendments to the treaty should not bind parties without their express consent), to the vague and undeliverable (the treaty "would not set other undesirable precedents for international organizations"), to guarding against remote contingencies (that the

seabed mining regime would not allow for "participation by, and [deliver] funding for, national liberation movements" which was a theoretical possibility but one which any member state with a seat on the Council could effectively veto).[162]

Notably, however, the six points did contain a sober and correct assessment of the political reality that the treaty as drafted would not pass the US Senate. The other difficulty faced by the United States was the character of the man given the job of selling the US position. The popular US lead negotiator Ambassador Richardson[163] had been replaced by a rather stern figure in Ambassador Malone, a man who attended few of the social events or informal proceedings which are the lifeblood of a major treaty negotiation and who seemed to lack trust and confidence in his own staff (an attitude which they returned).[164] His position was undermined further by leaking against him in major US newspapers, which appeared to be a further byproduct of the infighting within the Administration.[165]

In the end, the US was unable to secure substantive changes to the draft treaty text. Negotiations had come too far. By 1977 it had been agreed that further changes to the draft text (by then called the Informal Composite Negotiating Text) "should emerge from the negotiations themselves" rather than the proposal of any single party; thus recognising that "a heavy burden of proof" had to be met to make changes now that the "large majority of articles" enjoyed "widespread and substantial support."[166] In the end, the US demanded a recorded vote on the final adoption of the text and was defeated. The Convention text was adopted by 130 votes in favour, 4 against, and 17 abstentions. The US was not alone in finding the Convention unacceptable. "The list of those countries that did not vote in favour of the Convention include[d] most industrialized states and Soviet states" (although the "Soviet and Eastern European states changed their position and signed the Convention when it was opened for signature 1982").[167] The common objection was the Part XI system of deep seabed mining.[168]

Malone shed few tears for the US's failure to achieve its objectives, noting that "U.S. companies support the President's decision not to sign the Convention."[169] He also seemed to share fears that UNCLOS set a bad precedent,[170] noting the impact of NIEO ideas on the drafting. He characterised the project of NIEO as advocating "redistribution of the world's economic wealth through organizations such as the International Seabed Authority" and saw "grave dangers of legitimizing this socialist concept" if the US signed UNCLOS, as some NIEO advocates were already proclaiming the applicability of the ISA model to "other areas such as the Antarctic and outer space."[171]

Before turning to the question of how the impasse over deep seabed mining was resolved it is necessary to outline the convention as concluded.

THE CONVENTION IN OUTLINE

Briefly put, the Convention is enormous. It consists of 320 Articles and 9 Annexes. It is divided into 17 Parts, the first 11 dealing with marine spaces and their associated legal regimes.[172] The convention thus divides maritime space into: internal waters, territorial seas, contiguous zones, archipelagic waters, the exclusive economic zone,

international straits, the continental shelf, the high seas, and "The Area" beyond national jurisdiction. Specific issues are addressed in parts XII to XV, namely: "the protection and preservation of the marine environment (Part XII), marine scientific research (Part XIII), development and transfer of marine technology (Part XIV), and settlement of disputes (Part XV)."[173]

The remaining Parts of the Convention deal with formalities: general and final provisions. Tanaka usefully notes several of the Convention's major achievements.[174] These include: settling the width of the territorial sea (at a maximum of 12 nautical miles), including a system of compulsory dispute settlement (albeit a complex one with numerous exceptions), and the fact that the convention was concluded as an integral whole to which no reservations were permitted (solving the problem of Law of the Sea *à la carte*). Further, the Convention created three new institutions: the International Tribunal for the Law of the Sea as a forum for dispute settlement, the Commission on the Limits of the Continental Shelf, and the International Seabed Authority.[175] Overall, at least in terms of ratifications, the UN *Convention on the Law of the Sea* is one of the world's most successful multilateral conventions having, as at March 2019, some 168 state parties.

"PIONEER INVESTORS" AND THE RECIPROCATING STATES REGIME (1982–1994)

A key outstanding concern of developing states remained the position of so-called "pioneer investors," corporations or consortia which had already invested substantial sums in developing seabed mining technology and which in some cases had already made claims to areas of the seafloor for prospecting and potential exploitation. These concerns were meant to be met through the creation of a pioneer investor regime through special rules set out in Resolutions I and II appended to the Convention. "The main consideration for this privileged treatment of pioneer investors was intended to be the adherence of western mining states" to the Convention.[176]

It was hoped that these two Resolutions coupled with the elaborate system of Part XI would be seen as a compromise sufficient to bring these states on board. Nonetheless, "[c]onservative, freemarket governments in a number of western states . . . considered the text still allowed an unacceptable degree of interference with intellectual property rights and [subjected] . . . the activities of mining companies [to] an unnecessarily complex, cumbersome and expensive international" regime."[177] More would be needed to satisfy them.

In the interim, the states with the capacity to engage in deep seabed mining needed to establish their own legal framework for prospecting and mining before the UN *Convention on the Law of the Sea* came into force, for at least two reasons. The first was that even if they were to become parties, multilateral treaties typically take at least five to ten years to come into force.[178] At least in theory, the pioneer investor could not necessarily wait until the Convention came into force before commencing operations. They therefore needed "an interim regime to permit and regulate mining before the Convention entered into force."[179] Second, the need for such a system was only the more pressing in the case of states which

"were so dissatisfied with the Part XI provisions that they were unlikely ever to ratify" the Convention.[180]

The answer was the Reciprocating States Regime concluded between France, West Germany, the United Kingdom and the United States.[181] Essentially, the regime allowed for the mutual recognition as among the parties of the effect of national laws regulating high-seas seabed mining by nationals of each reciprocating state. This still left the risk of potentially overlapping licences. Such overlapping licences were resolved through the so-called "Midnight Agreement" of 14 August 1987 as concluded between the reciprocating states and the Soviet Union.[182]

Nonetheless, this remained only an interim solution. While it was perfectly possible for the reciprocating states to claim they were doing nothing more than regulating their nationals' activities in the exercise of traditional high-seas freedoms, this argument did not necessarily carry them very far. Certainly, they could claim "that [their] sea-bed miners were entitled to 'reasonable regard' from other users of the high seas . . . so that there should be no willful interference with mining vessels"; however, laws based on the freedom of the high seas "could not [logically] . . . create exclusive rights over sea-bed sites enforceable against other states outside the Reciprocating States Regime."[183]

Nor could rights be created which would prevent the International Seabed Authority issuing licences which overlapped with those granted to the nationals of reciprocating states. Something more would be needed. Fortunately, since the time of adoption of the Convention text a parallel process of negotiations had been unfolding in an effort to make the Convention acceptable to developed states.

THE 1994 IMPLEMENTATION AGREEMENT

A further moment of crisis approached in 1994 when enough developing states had ratified the Convention to bring it into force. The sixtieth ratification was deposited by Guyana on 16 November 1993, meaning the Convention was due to enter into force on 16 November 1994.[184] The risk was that if the Convention entered into force without the participation of any of the industrialised states with the capacity for deep seabed mining, which seemed increasingly likely, then the Convention as a whole could be a dead letter (and the mining regime certainly would be). That is, not only did developing states lack the technology to conduct mining but they also lacked the resources to fund that regime and indeed the new institutions the Convention created, including not only the ISA but also the International Tribunal for the Law of the Sea.[185] It was anticipated that these, especially the former, could be very expensive to run.

As noted, at the conclusion of negotiations there were a number of key concerns on the part of developed states which had not been adequately addressed. These may be summarised as concerns regarding: cost effectiveness; market-oriented approaches (including subsidiary questions of production policies, the possibility of the Enterprise enjoying a competitive advantage over commercial actors through the operation of the "parallel system," technology transfer obligations, financial terms of contracts, and economic assistance for land-based producers);

and decision-taking within the International Seabed Authority.[186] A way out of the "impasse" was brokered by the United Nations Secretary General.[187]

Indeed, the need to find some way to make the Convention acceptable to the industrialised states had been foreseen for some time and work had been underway since the early 1990s. An amending protocol modifying a treaty might normally solve such a problem. However, there was the problem that, as a matter of law, one could not adopt such a protocol to a treaty not yet in force. The Convention does not allow for reservations "and the procedures for its amendment are both protracted and only open to state parties."[188] Neither such path was therefore either open or convenient to address developed states' concerns. The mechanism chosen, then, was the "Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982" (Implementation Agreement).

The Implementation Agreement "is a curious creature."[189] Its title "disingenuously [implied] it was concerned to put into effect the 1982 provisions rather than to change them."[190] The theory was that through simultaneously becoming parties to both the Implementation Agreement and UNCLOS, states could agree to further detail about how UNCLOS obligations would be implemented. However, while the Implementation Agreement stipulates that the two agreements are to be "interpreted and applied together as a single instrument" it nonetheless stipulates that certain provisions of the Part XI regime "shall not apply," modifies others, and provides that the Implementation Agreement is to prevail in the event of any inconsistency between it and UNCLOS.[191] A number of the principal changes wrought to the ISA regime are addressed below, grouped according to the major concerns of developed states.

Cost effectiveness

First, as noted, there were substantial concerns that the International Seabed Authority and its mining arm, The Enterprise, could be expensive to set up and run, especially if they were established some years ahead of actual mining operations commencing. These concerns were dealt with by stipulating that the Authority would take an "evolutionary approach" to establishing its organs and working practices, disallowing its power to borrow to finance its budget, and establishing a Finance Committee with significant powers over its budget.[192]

A market-oriented approach

Second, the cluster of "market-oriented approach" issues went to several fundamental features of the deep seabed mining regime as originally designed. As noted, the Convention as concluded had contained very complex provisions on production limitation intended to minimise the impact of sea-bed mining on developing states whose economy relied upon land-based production of such minerals. This system was entirely disapplied by the Implementation Agreement and replaced with a thoroughly market-oriented approach.[193]

The question of technology transfer obligations had been particularly controversial in the United States, smacking of compulsory acquisition of proprietary technology and the appropriation of innovations resulting from substantial time, effort and investment. As noted above, the final version of the technology transfer obligations embodied in the Convention was relatively anodyne. In any event, the relevant provisions were disapplied by the Implementation Agreement and replaced by a general obligation upon parties and contractors to "cooperate fully and effectively with the Authority" in its efforts to "acquire . . . technology on fair and reasonable commercial terms and conditions, consistent with the effective protection of intellectual property rights."[194]

As discussed above, concerns regarding the financial terms of contracts concluded with the ISA under which commercial mining could occur were more reasonably based. Under the Implementation Agreement this complex system, fixed in treaty law, was replaced with a more flexible approach under which the ISA would adopt royalty or profit-sharing systems which could be revised from time to time and which would be subject to a general principal that:

> rates of payments under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage.[195]

The fee payable for initial applications was also reduced to US $250,000.[196]

A further key concession was the end, in effect, of the parallel system. No longer would the Authority conduct mining of its own through the Enterprise, rather it was envisaged under the Implementation Agreement that the Enterprise "shall conduct its initial sea-bed operations through joint ventures" with national commercial actors and would operate on the basis of "sound commercial principles" in doing so.[197]

While this left the door open to future operations conducted only by the Authority, that possibility would seem remote in practice. As noted above, UNCLOS had originally provided for the International Seabed Authority to establish a "system of compensation" for those land-based developing economies which experienced disruption as a result of seabed mining.[198] However, the original text contained no specific provision as to where funding for this should come from. To avoid any inference that the ISA or the UNCLOS Assembly of State Parties could levy contributions against Convention members to support the compensation system it was concluded in the Implementation Agreement that the economic assistance fund should be funded only by the Authority and only from such funds as it had left over after meeting its administrative expenses.[199]

Decision making in the ISA

As noted above, of the Authority's two political organs, it was the Assembly – representing all state parties – and not the Council which was originally to be the policy-making body. As Harris succinctly explains:

> Under the 1994 Agreement, "the general policies of the Authority should be established by the Assembly in collaboration with the Council" and most decisions by the Assembly shall be "based on the recommendation of the Council," thereby shifting the balance of political power between the Assembly and the Council significantly towards the latter.[200]

Further,

> under the 1994 Agreement, decisions by the Council on questions of substance are taken by two-thirds majority, provided they are not opposed by majority in any one of the Council chambers [created by the Implementation Agreement and] . . . composed of groupings of states with specified interests.[201]

A number of these four-member chambers, such as those for States which have invested the most in deep seabed mining, or which are the highest consumers/importers of minerals which can be mined in the Area, will be controlled by highly developed states. This arrangement gives the developed states, at least collectively, an effective veto in policy-making covered by the fig-leaf of needing to form a (very small) majority in one chamber of the Council.

The net effect of the 1994 Agreement therefore is that it increases "the power of the Council at the expense of the Assembly and the influence in the Council of developed states."[202]

Conclusion

"In the end, developed states [had] held out for a radical rewriting of the UNCLOS deep seabed mining regime, which had been the key NIEO achievement in the Convention, and this was duly done."[203] Changes wrought to meet these concerns through the Implementation Agreement were plainly extensive. As noted, these changes were based around the idea that "seabed resources should be developed in accordance with commercial principles" and included: reducing both the scale of "financial obligations to the ISA" (including a greatly simplified system of royalty and annual licence payments) and the "application fee for mining licenses" (to $US250,000); expanding the role and powers of the ISA Council (at the expense of the Assembly); ending the "functional privileges" accorded to the Enterprise by placing it on "same commercial footing as other contractors"; and removing Part XI's "technology-transfer obligations and [its complex system of] production limitations and subsidies."[204]

Generally, the pretence was maintained that the Implementation Agreement was only that and did not constitute a fundamental amendment of the convention. Nonetheless, the result was a significant alteration to the Convention and its provisions, including "several that were integral to the common heritage principle as [originally] conceptualised"[205] especially as regards the equitable sharing of benefits and governance of the ISA on the basis of one-state one-vote. Among major

textbook authors, only Harris questions the extent to which this development undermined the status of UNCLOS as a "package deal" and rebalanced the Convention to "clearly favour . . . developed States."[206]

Nonetheless, at the time the Implementation Agreement was concluded, there was also an increasing "acknowledgement of the practical barriers to seabed mining" which meant that on the whole the ISA issue had "begun to be seen as irrelevant and an unnecessary impediment to the universal ratification" of the Convention.[207] Further, a significant block of African States had moved by the 1990s to more market-oriented economies, in part as a result of conditions imposed for IMF and World Bank aid.[208] The need for such aid resulted, in turn, from "corruption and mismanagement" of domestic economies dominated post-independence by large State-owned enterprises.[209] This sequence of events had to some extent discredited the kind of central economic planning the ISA as originally designed had embodied.

THE UN *FISH STOCKS AGREEMENT*[210]

The 1995 *Straddling Fish Stocks Agreement* (FSA)[211] represents a remarkable effort to create a regulatory framework for sustainable management of international fisheries and add detail to some of the overly general UNCLOS provisions on fisheries regulation.[212] It is thus an implementing agreement in the classic sense, expressly designed to create a further level of legal detail regarding a specific subject matter within the broader UNCLOS framework. In essence, the FSA provides an agreed framework for co-operative fisheries management and a series of minimum enforcement provisions.

The FSA aims "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of" UNCLOS.[213] To this end the FSA stipulates that "coastal States and States fishing on the high seas" shall give effect to their duties to cooperate under the Convention by "adopt[ing] measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization."[214] As a matter of language, this assigns a somewhat stronger role to the concept of sustainable development than the original language of the Convention.[215]

In pursuit of the co-operative management of straddling and highly migratory stocks, the FSA assigns a central role to RFMOs.[216] The FSA's regional emphasis "draws heavily" in this regard on models provided by the North Atlantic Fisheries Organization (NAFO) and Central Bering Sea Convention.[217]

However, any approach based on voluntary regulation may obviously create free-rider problems. To counter this, the FSA aims at creating a regime where "only those who play by the rules may fish."[218] First, FSA members are obliged to "give effect to their duty to cooperate" in fisheries management by joining any RFMO competent to establish measures over a stock fished by their flag vessels.[219] Further, where states fish on the high seas for a straddling or highly migratory fish stock and there is no relevant RFMO in place, those states "shall co-operate to establish such an organization" or other arrangement and "shall participate in [its] work".[220]

Article 8(4) attempts to give teeth to these provisions, providing that only RFMO member states or states which agree to apply the RFMO's conservation measures "shall have access to the fishery resources to which those measures apply." Further, Article 17 of the FSA provides that an RFMO non-member state "is not discharged from the [UNCLOS and FSA] obligation to cooperate" in conserving and managing fish stocks and it must not authorise its flag vessels to fish for straddling or highly migratory fish stocks covered by RFMO measures.

A further provision adding some bite to the FSA is the emphasis it places on the creation of at-sea boarding and inspection regimes within RFMOs.[221] That is, under the FSA if an RFMO has not adopted a scheme of conservation and management measures which includes an at-sea boarding and inspection regime within two years of being established, then the FSA provides for a default scheme of boarding and inspection rules which FSA members may apply among themselves (potentially as a sub-set of the relevant RFMO membership).[222]

CONCLUSION

The *Law of the Sea Convention* is an astonishing achievement. It is remarkable that such a complex treaty of such a comprehensive character was able to be negotiated at all, particularly in the face of late US intransigence. The nature of the package deal and negotiation by consensus was such that very complex trade-offs between states with quite divergent interests was possible. Various pressures at work in the Convention's negotiation were thus able to be resolved into a whole. It was a process in which personalities played a particular and often decisive role.[223] Nonetheless, as we have seen in a number of areas, the way in which the divergence of interests was reconciled was simply that different positions were all included into a single text (as with the different forums available for dispute settlement) or layered on top of each other (as in the combination of the Irish and biscuits formulas for determining the outer limits of the continental shelf). A number of deeply complex political issues were legalised or proceduralised in order to gain any consensus at all, such as through creating the Commission on the Limits of the Continental Shelf. As a result, it is unsurprising that the Convention is occasionally less than clearly drafted. As Christine Gray has noted of international legal instruments, the price of consensus is often ambiguity.[224]

It is interesting to reflect on the profound degree to which deep seabed mining drove the dynamics of the negotiation. In pursuing that subject as a testing ground for the ideas of the New International Economic Order, it is possible that groupings of developing states gave too much away on other fronts. That is,

> [a] number of provisions in the area of the more traditional law of the sea [e.g. those on the right of transit passage through international straits], as well as the acceptance of compulsory judicial and arbitral settlement, were, for example, concessions by developing states to which acceptance of the (original) deep sea-bed regime was a necessary counterweight.[225]

Thus, after the rebalancing achieved by the Implementation Agreement, the final Convention regime is arguably one that gave far more to developed states than developing states, despite the numerical advantage the latter enjoyed during the negotiating process.

NOTES

1 1833 UNTS 397.
2 See: Robin R. Churchill, "The 1982 United Nations Convention on the Law of the Sea," in Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, and Tim Stephens (eds), *The Oxford Handbook of the Law of the Sea*, Oxford: OUP, 2015, 24–45, 27.
3 International Seabed Authority, "Polymetallic Nodules," (undated), 3, available at: https://www.isa.org.jm/mineral-resources/55.
4 Ibid., 1.
5 Yoshifumi Tanaka, *The International Law of the Sea* (2nd ed.), Cambridge: Cambridge University Press, 2015, 178.
6 Figures given in 1998 USD to control for inflation. See the series "Historical Statistics for Minerals and Material Commodities in the United States," 2014, available at: http://minerals.usgs.gov.
7 "Deepsea Ventures, Inc.: Notice of Discovery and Claim of Exclusive Mining Rights, and Request for Diplomatic Protection and Protection of Investment," *International Legal Materials* (1975), 14 (1), 51–68.
8 Ibid., 66.
9 See for example: Norman Polmar and Michael White, *Project Azorian: The CIA and the Raising of the K-129*, Annapolis, MD: Naval Institute Press, 2010, Chapter 1.
10 UNGA, First Committee, UN Docs A/C.1/PV.1515-1516, 1 November 1967. See further the 1970 Declaration of Principles Governing the Sea-Bed and the Ocean Floor, UN General Assembly Resolution 2749 (XXV) 17 December 1970 adopted by 108 votes in favour, with none against and fourteen abstentions.
11 Polar and White, *Project Azorian*, 2.
12 From a large literature see: Boleslaw Adam Boczek, "Ideology and the Law of the Sea: The Challenge of the New International Economic Order," *Boston College International and Comparative Law Review* (1984), 7, 1–30; Richard J. Payne and Jamal R. Nassar, "The New International Economic Order at Sea," *Journal of Developing Areas* (1982), 17, 31–50.
13 Edwin Egede, *Africa and the Deep Seabed Regime: Politics and International Law*, Berlin: Springer, 2011, xxi, quoting Ambassador Engo, head of the Committee dealing with Seabed Mining at UNCLOS III.
14 Egede, *Africa and the Deep Seabed Regime*, 10.
15 R. R. Churchill and A. V. Lowe, *The Law of the Sea* (3rd ed.), Manchester: Manchester University Press, 1999, 78–9.
16 Gemma Andreone, "The Exclusive Economic Zone," in Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, and Tim Stephens (eds), *The Oxford Handbook of the Law of the Sea*, Oxford: OUP, 2015, 161 (footnotes omitted).
17 Tanaka, *The International Law of the Sea*, 25.
18 *Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982* (concluded 28 July 1994), 1836 UNTS 3 (Implementation Agreement).

19 *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks 1995*, 2167 UNTS 3.
20 James Harrison, *Making the Law of the Sea: A Study in the Development of International Law* (Cambridge University Press 2011) 29–31.
21 *Yearbook of the International Law Commission* (1956) Volume II, UN Doc A/CN.4/SER.A/1956/Add.1, 1–103.
22 *Convention on the Territorial Sea and the Contiguous Zone 1958*, 516 UNTS 205; *Convention on the Continental Shelf 1958*, 499 UNTS 311; *Convention on the High Seas 1958*, 450 UNTS 11; *Convention on Fishing and Conservation of Living Resources of the High Seas 1958*, 559 UNTS 285.
23 In a wide literature see: Tanaka, *The International Law of the Sea*, 24; Churchill and Lowe, *The Law of the Sea*, 79.
24 Harrison, *Making the Law of the Sea*, 35.
25 Ibid.
26 Tanaka, *The International Law of the Sea*, 178; Surabhi Ranganathan, "Manganese Nodules," in Jessie Hohmann and Daniel Joyce (eds), *International Law's Objects*, Oxford: Oxford University Press, 2018, 275.
27 Ranganathan, "Manganese Nodules," 275.
28 Ibid.; see also John L. Mero, *The Mineral Resources of the Sea*, Amsterdam: Elsevier, 1965, 72, citing an even more optimistic projection that is where a $3.5 million initial investment, resulting in recovery of 400,000 tons of nodules annually, would produce a return on investment of 40 per cent.
29 Ranganathan, "Manganese Nodules," 276, n 19.
30 UNGA, first committee, UN Docs A/C.1/PV.1515–1516, 1 November 1967, paragraph 26.
31 Ranganathan, "Manganese Nodules," 273.
32 Churchill and Lowe, *The Law of the Sea*, 16; President Johnson of the US made a famous speech in 1966 to the same effect. William Wertenbaker, "The Law of the Sea – I," *The New Yorker*, 1 August 1983, 38–65 at 48.
33 T.B. Koh and Shanmugam Jayakumar, "Negotiating Process of the Third United Nations Conference on the Law of the Sea," in Myron H. Nordquist (ed.), *United Nations Convention on the Law of the Sea 1982: A Commentary* Vol. 1, Dordrecht, Boston, Lancaster: Martinus Nijhoff, 1985, 29–134 at 36.
34 Koh and Jayakumar "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 37; Leigh S. Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," *Foreign Affairs* (1982), 60 (5), 1006, 1007.
35 On arguments regarding the inadequacy of the Geneva Convention definition of the limits of the continental shelf see Tanaka, *The International Law of the Sea*, 138; for evidence that such criticisms may have been overblown see Ranganathan, "Manganese Nodules," 276.
36 Churchill and Lowe, *The Law of the Sea*, 16.
37 UN General Assembly Resolution 2750 (XXV), 17 December 1970.
38 Churchill and Lowe, *The Law of the Sea*, 16.
39 Constantin A. Stavropoulos, "Procedural Problems of the Third Conference on the Law of the Sea," in Myron H. Nordquist (ed.), *United Nations Convention on the Law of the Sea 1982: A Commentary* Vol. 1, Dordrecht, Boston, Lancaster: Martinus Nijhoff, 1985, p. lvii.
40 Harrison, *Making the Law of the Sea*, 40.

41 Ibid.
42 Koh and Jayakumar, "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 32–6.
43 Harrison, *Making the Law of the Sea*, 41.
44 Koh and Jayakumar "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 39.
45 Ibid., 39–40.
46 Ibid., 40.
47 Wertenbaker, "The Law of the Sea – I," 52.
48 Koh and Jayakumar "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 44.
49 Ibid., 44.
50 Ibid., 44–5.
51 Wertenbaker, "The Law of the Sea – I," 50.
52 Which was by this time was, in fact, much larger than 77 States.
53 Wertenbaker, "The Law of the Sea – I," 51.
54 Ibid., 49–50.
55 Ibid., 50.
56 Philip Allott, "Power Sharing in the Law of the Sea," *American Journal of International Law* (1983), 77 (1), 1–30, 6.
57 Ibid.
58 See Koh and Jayakumar, "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 68–86.
59 Ibid., 108.
60 Ibid.; and Wertenbaker, "The Law of the Sea – I," 63–4.
61 David John Harris, *Cases and Materials on International Law* (7th ed.), London: Sweet & Maxwell, 2010, 322. Despite the title of his text, Harris provides succinct and insightful commentary on the UN *Convention on the Law of the Sea* and, as noted in the conclusion to this chapter, takes a perspective often neglected by treatise writers.
62 Churchill and Lowe, *Law of the Sea*, 79.
63 Ibid.
64 Ibid.
65 Tanaka, *International Law of the Sea*, 98.
66 Ibid.
67 *Corfu Channel Case*, ICJ Reports 1949, p. 22 at 28; Article 16(4), *Convention on the Territorial Sea and the Contiguous Zone 1958.*
68 Articles 39, 42 and 44, UNCLOS. See commentary by Bing Bing Jia, in Alexander Proelss (ed.), *The United Nations Convention on the Law of the Sea: A Commentary*, Munich, Oxford, Baden-Baden: Hart, Beck, Nomos, 2017, 300–345 (hereafter, "Proelss (ed.), *UNCLOS Commentary*").
69 On baselines generally, see: Churchill and Lowe, *Law of the Sea*, Chapter 2; Rothwell and Stephens, *International Law of the Sea*, 33–42; Tanaka, *International Law of the Sea*, Chapter 2.
70 Churchill and Lowe, *Law of the Sea*, 119.
71 Ibid.
72 Ibid.
73 Koh and Jayakumar, "Negotiating Process of the Third United Nations Conference on the Law of the Sea," 77.

74 See now Articles 49, 52 and 53, UNCLOS and commentary by Clive Symmons, and Richard Barnes and Carmino Massarella, in Proelss (ed.), *UNCLOS Commentary*, 376–9 and 389–404. See further: C. F. Amerasinghe, "The Problem of Archipelagoes in the International Law of the Sea," *International and Comparative Law Quarterly* (1974), 23, 539–75; R. P. Anand, "Mid-Ocean Archipelagoes in International Law: Theory and Practice," *Indian Journal of International Law* (1979), 19, 228–56.
75 See now Article 77, UNCLOS and commentary by Amber Maggio, in Proelss (ed.), *UNCLOS Commentary*, 604–14.
76 Rothwell and Stephens, *The International Law of the Sea*, 112; and Tanaka, *The International Law of the Sea*, 139.
77 Harris, *Cases and Materials*, 403; Rothwell and Stephens, *The International Law of the Sea*, 112; Wertenbaker, "The Law of the Sea – I," 57.
78 Wertenbaker, "The Law of the Sea – I," 57.
79 Ibid.
80 See now: Article 76, UNCLOS and commentary by Lindsay Parson, in Proelss (ed.), *UNCLOS Commentary*, 587–604.
81 Churchill and Lowe, *Law of the Sea*, 148–9; Wertenbaker, "The Law of the Sea – I," 57.
82 This new limit and its further exception were needed to meet both concerns of marginal states and those of Russia concerning the Chukchi Rise between Siberia and Alaska: Wertenbaker, "The Law of the Sea – I," 58.
83 See now: Article 82, UNCLOS and commentary by Aldo Chircop, in Proelss (ed.), *UNCLOS Commentary*, 639–51.
84 Churchill and Lowe, *The Law of the Sea*, 149.
85 Article 76(8), UNCLOS and commentary by Lindsay Parson, in Proelss (ed.), *UNCLOS Commentary*, 587–604.
86 UNCLOS, Annex 2, Article 4. In practice, these time limits have had to be extended on several occasions through a procedural device in the Assembly of State Parties, despite the fact that one might think time limits specified in the Convention could only be modified by amending the Convention itself: Rothwell and Stephens, *The International Law of the Sea*, 117–18.
87 Ted L. McDorman, "The Role of the Commission on the Limits of the Continental Shelf: A Technical Body in a Political World," *The International Journal of Marine and Coastal Law* (2002), 17 (3), 301–24.
88 Rothwell and Stephens, *The International Law of the Sea*, 119; Andrew Serdy, "The Commission on the Limits of the Continental Shelf and its Disturbing Propensity to Legislate," *The International Journal of Marine and Coastal Law* (2011), 26 (3), 355–83.
89 H. Shirley Amerasinghe, "The Third United Nations Conference on the Law of the Sea," in Myron H. Nordquist (ed.), *United Nations Convention on the Law of the Sea 1982: A Commentary* Vol. 1, Dordrecht, Boston, Lancaster: Martinus Nijhoff, 1985, 1–10, at 2.
90 Tanaka, *The International Law of the Sea*, 127; Dolliver Nelson, "Exclusive Economic Zone," *Max Planck Encyclopedia of Public International Law* (last updated March 2008), available at: http://opil.ouplaw.com/home/EPIL, paras 3–5.
91 Tanaka, *The International Law of the Sea*, 127; Nelson, "Exclusive Economic Zone," paras 3–5. The *Declaration on the Maritime Zone* was concluded as a treaty. Text in 1006 UNTS 323.
92 Tanaka, *International Law of the Sea*, 127; Nelson, "Exclusive Economic Zone," para 7. The text of the Montevideo Convention is found in: *American Journal of International Law* (1970), 64, 1021–3.

93 Nelson, "Exclusive Economic Zone," para 7.
94 Tanaka, *International Law of the Sea*, 127.
95 Churchill and Lowe, *Law of the Sea*, 160.
96 Ibid., 160. See the *Declaration of Santo Domingo*, June 1972. Text in UN Doc A/AC.138/80 (1972).
97 Nelson, "Exclusive Economic Zone," para 8 (quoting the *Declaration of Santo Domingo*).
98 Ibid.
99 Churchill and Lowe, *Law of the Sea*, 160.
100 See now Article 56(1), UNCLOS and commentary by Alexander Proelss in Proelss (ed.), *UNCLOS Commentary*, 418–37.
101 The remainder of this paragraph draws upon Douglas Guilfoyle, "Article 86," in Proelss (ed.), *UNCLOS Commentary*, 675–8.
102 International Law Commission, "Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea," UN Doc. A/3159 (1956), 23.
103 Allott, "Power Sharing in the Law of the Sea," 15.
104 UNCLOS III, Revised Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/REV.1/PART II (1976), 153 (para. 17).
105 Castañeda Group: Informal Proposal (1977, mimeo.), reproduced in Renate Platzöder (ed.), *Third United Nations Conference on the Law of the Sea: Documents*, vol. IV (1984), 427.
106 Tanaka, *International Law of the Sea*, 127.
107 Churchill and Lowe, *Law of the Sea*, 161.
108 Ibid., 161.
109 *The Delimitation of the Maritime Boundary in the Gulf of Maine (Canada/United States of America)* (1984) ICJ reports 246 at [94]; *Continental Shelf (Libyan Arab Jamahiriya/Malta)* (1985) ICJ reports 13 at [34].
110 Rothwell and Stevens, *International Law of the Sea*, 87.
111 Ibid.
112 Harris, *Cases and Materials*, 396.
113 Per Magnus Wijkman, "UNCLOS and the Redistribution of Ocean Wealth," *Journal of World Trade* (1982), 16 (1), 27–48 at 31–32.
114 Ibid. See further Churchill and Lowe, *Law of the Sea*, 176–9.
115 Ibid., 179.
116 See now Articles 61 and 62, UNCLOS and commentary by James Harrison and Elisa Morgera, in Proelss (ed.), *UNCLOS Commentary*, 493–506.
117 See now Articles 69(3) and 70, UNCLOS and commentary by James Harrison, in Proelss (ed.), *UNCLOS Commentary*, 543–52.
118 See now Articles 63 and 64, UNCLOS and commentary by James Harrison and Elisa Morgera, in Proelss (ed.), *UNCLOS Commentary*, 506–19.
119 Article 63, UNCLOS and commentary at n. 119.
120 Article 64, UNCLOS and commentary at n. 119.
121 UN General Assembly Resolution 2749 (XXV), 17 December 1970.
122 Anthony Bergin, "Australia and the Third United Nations Conference on the Law of the Sea," unpublished PhD thesis, Australian National University, 1990, 22, 39, 51, available at: https://openresearch-repository.anu.edu.au/bitstream/1885/132094/2/b17732165_Bergin_Anthony_Samuel_Vol1.pdf .
123 Boczek, "Ideology and the Law of the Sea," 2.

124 Bergin, "Australia and the Third United Nations Conference on the Law of the Sea," 22, 39, 51.
125 See generally: Churchill and Lowe, *The Law of the Sea*, Chapter 12; Rothwell and Stephens, *The International Law of the Sea*, Chapter 6.
126 Tanaka, *The International Law of the Sea*, 189–90.
127 Article 156 and 170, UNCLOS. See further commentary by Valentin Schatz, in Proelss (ed.), *UNCLOS Commentary*, 1097–1107.
128 Article 171(a) and 174, UNCLOS.
129 Article 151(3) and (4), UNCLOS and commentary by Siegfried, in Proelss (ed.), *UNCLOS Commentary*, 1066–74; Churchill and Lowe, *The Law of the Sea*, 229.
130 Wertenbaker, "The Law of the Sea – I," 63–4.
131 For claims it undermined patent law, see e.g. Thomas F. Marsteller, Jr. and Robert L. Tucker, "Problems of the Technology Transfer Provisions in the Law of the Sea Treaty," *Idea: The Journal of Law and Technology* (1984), 24, 167–80.
132 UNCLOS, Annex III, Article 13.
133 Article 151(10), UNCLOS. See commentary noted at n. 130.
134 Harris, *Cases and Materials*, 413; citing Implementation Agreement, Annex, Section 3, paras 1 and 4.
135 See generally William Wertenbaker, "The Law of the Sea – II," *The New Yorker*, 8 August 1983, 56–83.
136 A. O. Adede, *The System for Settlement of Disputes Under the United Nations Convention on the Law of the Sea: A Drafting History and a Commentary*, Dordrecht: Martinus Nijhoff, 1987, especially at 88–9, 104–8, 128–32.
137 Myron H. Nordquist, Shabtai Rosenne, and Louis B. Sohn (eds), *United Nations Convention on the Law of the Sea, 1982: A Commentary*, Dordrecht: Martinus Nijhoff, 1989, vol. V at 131.
138 See, for example, *Official Records of the Third United Nations Conference on the Law of the Sea (1973–1982)*, Vol V, 36.
139 Alan E. Boyle, "Dispute Settlement and the Law of the Sea Convention: Problems of Fragmentation and Jurisdiction," *International and Comparative Law Quarterly* (1997), 46 (1), 37–54, 38.
140 Benedict Kingsbury, "International Courts: Uneven Judicialisation in Global Order," in James Crawford and Martti Koskenniemi (eds.), *The Cambridge Companion to International Law*, Cambridge: Cambridge University Press, 2012, at 2017–18.
141 Harris, *Cases and Materials*, 418.
142 UN Conference on the Law of the Sea III, Memorandum by the President of the Conference on Document A/CONF.62/WP.9, UN Doc. A/CONF.62/WP.9/ADD.1 (1976), at 122, para. 6; quoted in *South China Sea Arbitration (Philippines v. China)*, Permanent Court of Arbitration, Award on Jurisdiction and Admissibility, 29 October 2015, para. 255.
143 See generally: Natalie Klein, *Dispute Settlement in the UN Convention on the Law of the Sea*, Cambridge: Cambridge University Press, 2005.
144 This complexity is in part the consequence of numerous options generated by Professor Louis B. Sohn of Harvard, participating as part of the US delegation. In early 1979 he produced an options paper containing "seven models and fifteen variants" which proved too lengthy to discuss in Committee. He later presented a paper containing 28 variant dispute settlement possibilities, which he subsequently expanded to 45 possibilities. He was eventually prevailed upon later in 1979 to present a paper

"[d]eparting from his usual style" containing only four variants. See: Adede, *The System for Settlement of Disputes Under the United Nations Convention on the Law of the Sea: A Drafting History and a Commentary*, 176–8. One diplomat present at negotiations confided to the present author that it was possible that the drafting of Part XV was only able to attract consensus because, taken as a whole, what Sohn had produced was too complex to understand. The experience might cast some doubt on the wisdom of academics acting as treaty negotiators.

145 Article 286, UNCLOS. See commentary by Tullio Treves, in Proelss (ed.), *UNCLOS Commentary*, 1844–9.

146 See now: Article 298(1), UNCLOS and commentary by Andrew Serdy, in Proelss (ed.), *UNCLOS Commentary*, 1918–32.

147 Klein, *Dispute Settlement*, 141–2.

148 See now Article 287 UNCLOS and commentary by Tullio Treves, in Proelss (ed.), *United Nations Convention on the Law of the Sea*, 1849–57.

149 See generally: Boyle, "Dispute Settlement and the Law of the Sea Convention."

150 Natalie Klein, "The Effectiveness of the UNCLOS Dispute Settlement Regime: Reaching for the Stars," *American Society of International Law, Proceedings of the Annual Meeting* (2014), 108, 359–64; Natalie Klein, "The Vicissitudes of Dispute Settlement under the Law of the Sea Convention," *International Journal of Marine and Coastal Law* (2017), 32, 332–63; Stefan Talmon, "The Chagos Marine Protected Area Arbitration: Expansion of the Jurisdiction of UNCLOS Part XV Courts and Tribunals," *International & Comparative Law Quarterly* (2016), 65, 927–51.

151 One can view the docket of ITLOS at: https://www.itlos.org/cases/list-of-cases/. Many of the arbitration cases heard under the auspices of the Permanent Court of Arbitration at present arise under Part XV of UNCLOS: http://www.pcacases.com/web/allcases/. The highest profile recent case is the *South China Sea Arbitration (The Republic of Philippines v. The People's Republic of China)* Award, Permanent Court of Arbitration, 12 July 2016.

152 See further: Douglas Guilfoyle, "The South China Sea Award: How Should We Read the UN Convention on the Law of the Sea?," *Asian Journal of International Law* (2018), 8, 51–63; Douglas Guilfoyle, "Governing the Oceans and Dispute Resolution: An Evolving Legal Order?" in Leon Wolff and Danielle Ireland-Piper (eds), *Global Governance and Regulation: Order and Disorder in the 21st Century* London & New York: Routledge, 2018, Chapter 11.

153 Wertenbaker, "The Law of the Sea – II," 67.

154 Wertenbaker, "The Law of the Sea – I," 41.

155 Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," 1012.

156 Wertenbaker, "The Law of the Sea – II," 67–8, 74; see also pieces by AEI scholars such as Robert A. Goldwin, "Locke and the Law of the Sea," *Commentary* (June 1981), 46–50. Compare Bergin, "Australia and the Third United Nations Conference on the Law of the Sea," 139–40.

157 Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," 1013. Compare Bergin, "Australia and the Third United Nations Conference on the Law of the Sea," 139–40.

158 Wertenbaker, "The Law of the Sea – II," 69–70; for a remarkably candid account of the "intragovernmental adversarial process" that took place to form a policy position under Reagan see generally: Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy."

159 Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," 1008.
160 Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," 1008–9, 1017.
161 James L. Malone, "The United States and the Law of the Sea after UNCLOS III," *Law and Contemporary Problems* (1983), 46 (2), 29–36, 30.
162 Ibid. On possibly providing funding to national liberation movements, revenue sharing from seabed mining could theoretically be used to benefit "peoples who have not attained full independence or other self-governing status," but such a policy had to originate in the ISA Council (see Article 162(2)(o)(i)), where its adoption could only be by consensus (see Article 161(8)(e)) and then required ratification by the ISA Assembly (Article 160(2)(f)(i)). The key point being, however, that this and other US objections led to it being offered, in effect, a guaranteed seat on the Council which would allow it to block the adoption of any such policy by raising a formal objection. See further: Wertenbaker, "The Law of the Sea – II," 66–7 and 72.
163 Wertenbaker, "The Law of the Sea – II," 64.
164 Ibid., 70.
165 Ibid.
166 Harrison, *Making the Law of the Sea*, 46; quoting Barry Buzan, "Negotiating by Consensus: Developments in Technique at the United Nations Conference on the Law of the Sea," *American Journal of International Law* (1981), 75 (2), 324, 337, and Bernard H. Oxman, "The Third United Nations Conference on the Law of The Sea: The Seventh Session (1978)," *American Journal of International Law* (1979), 73 (1), 1–41, at 5.
167 Harrison, *Making the Law of the Sea*, 47 and n. 103.
168 Although Harrison notes Turkey and Venezuela voted against its adoption due to provisions on continental shelf delimitation and Israel objected to the new navigational regime for international straits: Harrison, *Making the Law of the Sea*, 47 n. 102.
169 Malone, "The United States and the Law of the Sea after UNCLOS III," 31.
170 Ratiner, "The Law of the Sea: A Crossroads for American Foreign Policy," 1008.
171 Malone, "The United States and the Law of the Sea after UNCLOS III," 31.
172 Tanaka, *International Law of the Sea*, 30.
173 Ibid., 31.
174 Ibid., 30–32.
175 On these bodies as compliance mechanisms see: Robin Churchill, "The 1982 United Nations Convention on the Law of the Sea," in Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, and Tim Stephens (eds), *The Oxford Handbook of the Law of the Sea*, Oxford: OUP, 2015, 38–9.
176 Churchill and Lowe, *International Law of the Sea*, 231.
177 Ibid.
178 Ibid., 232.
179 Ibid.
180 Ibid.
181 An international legal basis for the regime was eventually published as: "Agreement Concerning Interim Arrangements relating to Polymetallic Nodules of the Deep Sea Bed," *International Legal Materials* (1982), 21, 950.
182 Churchill and Lowe, *The Law of the Sea*, 233.
183 Ibid., 234.

184 Ibid., 19.
185 Harris, *Cases and Materials*, 411; Egede, *Africa and the Deep Seabed Regime*, 118–119.
186 Tanaka, *The International Law of the Sea*, 189–90.
187 Rothwell and Stephens, *The International Law of the Sea*, 18.
188 Ibid., citing Articles 309–17.
189 Churchill and Lowe, *Law of the Sea*, 20.
190 Ibid.
191 Article 2(1), Implementation Agreement.
192 Implementation Agreement, Annex, Section 1; Section 3, para 7; and Section 9.
193 Ibid., Section 6.
194 Ibid., Section 5.
195 Ibid., Section 8, para 1(b).
196 Ibid., Section 8, para 3.
197 Ibid., Section 2, para. 2.
198 Article 151(10), UNCLOS. See commentary noted at n. 130.
199 Implementation Agreement, Annex, Section 7, para 1(a). Payments into the fund are subject to a degree of Finance Committee supervision.
200 Harris, *Cases and Materials*, 413; citing Implementation Agreement, Annex, Section 3, paras 1 and 4.
201 Ibid.
202 Ibid.
203 Guilfoyle, "The South China Sea Award," 63.
204 Ranganathan, *Strategically Created Treaty Conflicts*, 175.
205 Ibid.
206 Harris, *Cases and Materials*, 324, n. 28.
207 Ranganathan, *Strategically Created Treaty Conflicts*, 175–6.
208 Egede, *Africa and the Deep Seabed Regime*, 117.
209 Ibid.
210 This section draws substantially on Douglas Guilfoyle, *Shipping Interdiction and the Law of the Sea*, Cambridge: CUP, 2009, Chapter 6. See also Rosemary Rayfuse, *Non-Flag State Enforcement in High Seas Fisheries*, Leiden: Martinus Nijhoff, 2004.
211 The *United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks 1995*, 2167 UNTS 88 (FSA). Entered into force 11 November 2001.
212 Jean-Pierre Lévy and Gunnar G. Schram, *United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks: Selected Documents*, The Hague: Martinus Nijhoff, 1996, 3.
213 Article 2, FSA.
214 Article 5, FSA.
215 Tanaka, *International Law of the Sea*, 248–9.
216 Articles 8–13, FSA.
217 R. Barston, "The Law of the Sea and Regional Fisheries Organisations," *International Journal of Marine and Coastal Law* (1999), 14, 333 at 349.
218 D. Balton, 'Strengthening the Law of the Sea: The New Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks," *Ocean Development & International Law* (1996), 27, 125 at 138.
219 Article 8(3), FSA.

220 Article 8(5), FSA.
221 See generally: Guilfoyle, *Shipping Interdiction and the Law of the Sea*, Chapter 6. See also Rayfuse, *Non-Flag State Enforcement in High Seas Fisheries*.
222 Articles 21 and 22, FSA. Note in particular Article 21(3).
223 Wertenbaker, "The Law of the Sea – Part I," 55.
224 Christine Gray, *International Law and the Use of Force* (3rd ed.), Cambridge: Cambridge University Press, 2008, at 9 (referring to General Assembly resolutions).
225 Harris, *Cases and Materials*, 323–4.

Chapter 10

Whaling

INTRODUCTION

Whaling as an activity has been carried out from the dawn of human history and in many parts of the globe. For centuries humans treated whales as a "free resource," in the sense that they were considered a gift from nature to be exploited by anyone who could catch them.[1] Until the development of more efficient harvesting technologies, however, humans lacked the ability to catch pelagic or large whales in large numbers so overexploitation of whales was not a problem. This ongoing exploitation of whales led them to the brink of extinction.

In an effort to protect the global whaling industry, whaling nations came together in the late 1940s to create the International Whaling Commission (IWC). This whaling regime was initially set up not to protect whales, but rather as a cartel designed to protect the interests of the whaling states. However, setting overly generous quotas to avoid states leaving the fledgling organisation threatened the viability of whales as a whole by the 1960s. This led to a decades-long debate amongst those states that called for greater conservation practices to be adopted by the IWC and those states and ENGOs which were determined to preserve whales, culminating in a global commercial whaling ban imposed in 1982 (to come into effect in 1986) that is still in existence today.

The fight by ENGOs to preserve whales is considered to be the first modern, global environmental campaign and in many ways the whale is still regarded as the symbol of the ENGO transnational movement.[2] Environmentalists often cite this campaign as a model of how to achieve environmental goals. Yet these claims belie a more complex history, characterised by a morass of competing interests and positions regarding the killing of whales, that continues to this day.[3]

This chapter will examine the modern exploitation of whales and the competing attempts by various stakeholders to influence the policy direction of the IWC. It will focus in particular on the ongoing internal attempts to resolve the schism between conservationist minded actors and preservationist stakeholders. In particular, it

focuses on the campaign by preservationist actors to introduce a global commercial whaling moratorium. It then considers efforts by pro-whaling forces led by Japan to roll back the moratorium and impose conservationist mores on the IWC.

Issues such as how to define the term 'conservation'; the attempts to implement a Revised Management Scheme (RMS); the Irish Proposal for the Future of the IWC; the Small Working Group talks involving the Future of the IWC and the Consensus Decision to Improve the Conservation of Whales will be critically examined as to the reasons why they were not implemented. Instead, there has been a decades long stalemate and increasingly acrimonious language as to which set of actors is destroying the IWC as a functioning organisation.

The chapter focuses on key IWC meetings, and considers the reasons why the IWC structure and processes to date have failed to overcome the ongoing schism between the two sides. It critically examines the 2014 ICJ decision on scientific whaling brought by Australia (and New Zealand) against Japan, and its impact on Japan's scientific whaling programme. It scrutinises the debate that occurred at the 2018 IWC Meeting when the host state Brazil offered a resolution which focused on the non-lethal uses whales can be put to and that there was no longer a need to commercially hunt, given it was not a viable economic activity, or carry out research via lethal means. However, Japan proposed a document that, if passed, would see a new Sustainable Whaling committee which would decide which whale stocks had sufficiently recovered to be hunted again, in line with the original mandate of the IWC setting the scene for a showdown between pro-whaling and anti-whaling forces.

Lastly, with its proposal defeated in Brazil, Japan announced that it was leaving the IWC from 30 June 2019. This exit could potentially break the policy deadlock that has dominated the IWC since the global whaling moratorium was announced in 1982 and the ramifications of this decision will be considered. The resignation of the key pro-whaling state opens the door for the IWC to move in the direction most members wish it to, that of a body dedicated to protecting whales rather than, as historically, the whaling industry.

GLOBAL INDUSTRIAL EXPLOITATION OF WHALES

While humanity had caught whales for centuries it was the advent of *industrial* whaling at scale, however, which is thought to have originated with the Basques in the eleventh century in the Bay of Biscay, which changed the dynamic between humans and whales, threatening to drive the whales to extinction.[4] Initially whaling was limited to coastal shores and done from small boats. By the middle of the fifteenth century, however, Basque whalers were venturing further afield, in ever-larger boats, as far as the eastern coasts of Canada.[5] Other nations soon joined the hunt for what was then a huge population of different species of whales.[6] From the seventeenth century whaling countries ventured as far as the Arctic in pursuit of whales.[7] In this period English and Dutch vessels in their hundreds hunted primarily right whales (greenland-whales and nordcapers) in the Arctic, bringing untold wealth to their national treasuries.[8] From 1750 to

1870 whales were considered an economically valuable source of oil, bone and other products, such as perfume and clothing. By the mid to late nineteenth century a whale carcass sold for over U.S. $2,000 making whaling a highly profitable enterprise.[9]

Modern whaling is considered to have commenced in 1864 when Svend Foyn of Norway first used explosive grenade harpoons fired by cannon to hunt whales from the north-east coast of Norway. This enabled whalers to hunt larger, faster swimming, rorqual whales such as blue, fin, sei and minke whales.[10] Instead of rowing boats Foyn introduced small, fast steamers, which came to be called catchers. These ships hunted whales for permanent whale oil factories set up close to the whaling grounds.[11] The advent of these new technologies enabled whalers for the first time to begin harvesting whales in large numbers, to the point that they threatened the viability of several species of pelagic whales. These new whaling technologies enshrined exploitationist practices as the global standard.

Both Elizabeth DeSombre and F. D. Ommanney maintain that it was not until the middle of the nineteenth century that it became readily apparent that human hunting of whales was having a negative impact on whale stocks but whaling continued at ever increasing rates threatening the species as a whole.[12] Robert Ellickson points out that prior to this point, there might well have been a short-term economic incentive for states to continue excessive hunting to prevent other whaling nations from exploiting this resource.[13]

At this point in time the idea of "frontier economics," with no oversight of whaling practices, defined the whaling industry. Whalers assumed that the marine environment consisted of virtually limitless resources and that economic growth could be decoupled from nature.[14] The industry operated on a "boom to bust financial cycle," driven by the need to maximise financial returns; short-term exploitation was enhanced by the biological nature of whales, which are slow to mature compared to fish stocks.[15] By the nineteenth century whalers exploited whales so severely that whaling vessels were compelled to go further out to hunt every year.[16] Individually, whalers maximised their returns by taking all the whales they could using the newly developed technologies without considering managing the resource for the long term. This led to the inevitable extinction of coastal whale stocks.[17]

By the twentieth century whaling had developed into a global industry supplying the world economies with whale oil and other by-products in vast quantities.[18] By the season of 1904/05 the newly developed factory whaling ships had reached the hitherto pristine Antarctic waters at South Georgia and there was no longer any place where whalers had not ventured.[19] The use of steam was followed by diesel powered floating factories, which enabled the whalers to catch the faster-moving large fin-whales (blue, fin, humpback and sei-whales) and not waste time towing carcasses to land-based factories or risk losing the corpse.[20]

The increased scale of exploitation caused concern in the traditional whaling states of Scandinavia which attempted to regulate domestic whalers. In 1902 Norway passed a law strictly limiting its whaling companies' activities with the

aim of conserving whale stocks as a valuable state asset. The new law stipulated that each whaling station was to have only one catcher and the stations must be 50 miles apart.[21] Iceland was the first state to put in place a domestic whaling moratorium on whaling, for 20 years, starting from 1915.[22]

The taking of so many whales in the early part of the twentieth century led to proposals for limited international regulation, starting in 1918, of the harvesting of whales by the whaling industry. Some elements were cognisant that the industry relied on viable numbers of whales to be profitable, but the effort came to naught and regulation was not agreed to. The imminent collapse of the whaling industry became an issue of global concern with even the League of Nations becoming involved.[23]

At approximately the same time, the issue of managing global marine resources as a whole began to emerge as a state issue. Many leaders and diplomats, while acknowledging the need to protect these resources from exploitation, felt they lacked the technical knowledge to guide their actions, however. They tended to leave the regulation of different marine species to those states with the greatest interest in harvesting them as a result.[24]

Organisations such as the Whaling Committee, established under the International Council for the Exploration of the Sea, comprised those states that regularly whaled. This started a long trend of whalers being allowed to govern themselves, with disastrous results for whale stocks. The Whaling Committee did attempt to regulate the industry at the 1927 meeting where the Norwegian delegate recommended curbing a free-rein approach to whaling. He argued that a system of licences should be implemented. This plea was unsuccessful, however, and exploitation continued unabated.[25]

BUILDING A GLOBAL WHALING REGIME

Prior to the establishment of the IWC in the post-World War II period, there were earlier attempts to create a global whaling regime. The effort however, was hampered by a lack of commitment from the relevant parties, despite ample long-term economic imperatives to do so. In the early 1930s, the killing of blue whales hit such heights that it depressed whale oil prices.[26] Anthony D'Amato and Sudhir Chopra argue that at this point whaling nations began to recognise the need to regulate the taking of whales to prevent the extinction of the major whale species, acting out of their own self-interest to maintain profits.[27] The whalers themselves also had realised that the national controls proposed by states such as Norway and Iceland were not sufficient and that a global regulatory system aimed at stabilising prices was needed.[28]

After four years of negotiation between the states attached to the League of Nations, the first *Convention for the Regulation of Whaling* was created in 1931 in Geneva Switzerland (the Geneva Convention). The Convention covered all waters (Article 9), including states' territorial waters (Article 1), and it enforced the licensing of whaling vessels (Article 8).[29] It also exempted coastal aboriginal peoples providing they utilised "canoes, pirogues or other exclusively native craft

propelled by oars or sails" and did not use firearms or employ non-aboriginals in their whaling activities.[30]

For the first time conservation as a concept was applied globally to whaling, though D'Amato and Chopra persuasively argue that the idea was limited to merely protecting the long term viability of the whaling *industry* rather than the welfare of whales.[31] The Convention, while outlawing the "killing of calves, immature whales and female whales accompanied by calves" still allowed the hunting of adult whales virtually unhindered.[32] Furthermore, Japan, Germany and the USSR, all of which were prolific whaling states, did not sign onto the Convention since the economic incentives, in their eyes, were not sufficient enough to do so. Without several of these key players that accounted for approximately 30 per cent of whales harvested, the Convention was a collective failure and ineffective in its aims.[33]

The failure of the Geneva Convention opened the door for whaling companies to attempt to stabilise the situation. They created "a regime of mutual production restraint," known as the International Association of Whaling Companies, to stabilise world oil prices by limiting production of whale oil.[34] For the 1933/34 whaling season the major Antarctic whaling companies agreed to restrict their actions via this production agreement. However, two British companies and one Norwegian company refused to join the cartel and harvested 34,521 barrels of whale oil.[35] Due to the defections of the British and Norwegian companies, and the collapse of the accord, in the 1934/35 period whaling in Antarctica increased to 26,087 from 24,327 as compared to the previous year. The global total was reported to the Committee for Whaling Statistics as being 32,167.[36]

John Vogler argues that the behaviour of the whaling companies was motivated more "by the need to maintain and support oil prices in a depressed market rather than any concern with long-term sustainable management."[37] The refusal of some companies to amend their behaviour led to the Association collapsing, like many voluntary arrangements.[38]

In 1937 another global agreement was attempted between the whaling nations of Argentina, Australia, Germany, the Irish Free State, New Zealand, South Africa, the United Kingdom and the United States of America. All agreed to implement the *International Agreement for the Regulation of Whaling* (1937). This is noteworthy because the Convention concerned covered for the first time shore-based operations and was the first comprehensive global whaling agreement.[39] The Convention outlawed the taking of both grey whales and right whales, limited hunting areas (by time and geographic area), and regulated the length of the whaling season in order to protect young and immature whales.[40] The problem was again the way the main whaling states of this period (Japan, Germany, Chile, Argentina and the USSR) refused to be bound by its provisions.[41] In 1938 a Protocol to the Convention "banned the taking of humpback whales for two years except in the area south of 40 degrees south latitude, where a one-year ban was imposed." In 1939 the Protocol was amended to slightly increase protection for the humpback whale.[42] The problem remained that despite these added paper protections, the exploitation of whales in the 1930s continued virtually unchecked.[43]

By the 1937/38 season the number of whales taken by whalers had risen to 54,873.[44] Patricia Birnie argues this was for many reasons, including the "inadequacy of the scope of regulations; inadequate scientific data; non-cooperation by some major whaling nations; poor enforcement of agreements and no international supervision or control; and lack of global interest."[45] To this impressive list of regulatory failures can be added that it was in the economic interest of whalers to continue harvesting what was perceived by many to be a "free" resource, to be taken as quickly as technology allowed.

The only thing that prevented complete extinction of major whale species at this time was the advent of WWII. Naval interdictions confined most floating factories to port, while others were destroyed or utilised in the war effort.[46] For example, only 6,197 whales were caught in the 1943/44 season (about 10 per cent of pre-war figures) allowing whale stocks to recover slightly. However, there were still attempts by whaling states to better regulate the industry.[47] At the height of World War II, in 1944, it was agreed by whaling states that they would attempt to regulate the whaling industry on the basis of how much oil particular whales contained, and to restrict the size of a catch to a standard measure, known as the Blue Whale Unit (BWU), regardless of the whale species being hunted.[48]

In the post-World War II period, edible fat was in short supply, causing an upsurge in interest by even traditionally non-whaling states for this resource.[49] At the close of WWII the victorious Allies resumed negotiations, under the auspices of the 1937 Agreement, to facilitate the orderly exploitation of whales. A new set of regulations was quickly drafted to apply for the 1945/46 season, which incorporated the new BWU measure. It was agreed that the Antarctic season should be ended when whalers had taken the equivalent of 16,000 BWUs.[50] In the 1946/47 season the number of whales taken jumped to 34,720, and by the following season it had increased to 43,378 BWUs.[51]

The concomitant decrease in whale stocks alarmed environmentalists and those who saw this example of over-fishing as leading to not only the extinction of whales, but the extinction of the whaling industry. This formed a powerful convergence of interests.[52] Combined with this was a burgeoning understanding that whales should no longer be seen as the property of individual states but as a global resource. In 1946, Dean Acheson, the US Secretary of State, encapsulated the new mood when he declared: "The world's whale stocks are a truly international resource in that they belong to no one single nation, nor to a group of nations, but rather they are wards of the entire world."[53]

THE INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING (1946)

In this atmosphere of a re-invigorated whaling industry and a greater appreciation of the nature of whales as a global resource, it is clear that most whaling nations recognised that there was a need for a new and more effective convention to prevent over-exploitation. Heeding this call, the United States, architect of much of the post-World War II political landscape, spearheaded a call for an

international conference to re-examine the issues.[54] Out of this conference came a new *International Convention for the Regulation of Whaling* (ICRW). This superseded all previous agreements, coming into effect on 10 November 1948. It established the IWC as the pre-eminent body regulating the global whaling industry.[55] It introduced maximum catch quotas (16,000 BWUs) for the total season for Antarctic pelagic whaling and initially encompassed only the great whales.[56] The Preamble to the Convention highlighted that whales needed to be protected against overfishing and that the delegates' aim was to manage exploitation of the great whales.[57] The Preamble's language incorporated the more conservationist goals of intergenerational equity, however, and the safeguarding of endangered species.[58]

The Preamble outlined the Convention as being about the orderly development of a commercial whaling industry and the conservation of existing whale stocks. The inherent tension between these dichotomous aims would lead to much acrimony between member states, as they could not be easily reconciled.[59] Vogler argues that whilst the Preamble paid lip service to the idea of conservation it was essentially an arrangement between states with an interest in commercially exploiting whales.[60] Certainly conservation was understood to be merely the facilitation of an orderly resource allocation regime, rather than the maintenance of sufficient stock for future generations. The ICRW did enable the opening up of a discourse between whaling states however, whereby it was permissible to consider protecting whales as an objective.[61]

The Convention created the IWC as a supra-authority with the power to issue binding regulations to protect whales.[62] Its establishment as the global regulatory body for whaling meant that the ideas underpinning the organisation would reflect those operating in the broader world. The IWC was initially composed of delegates of the signatory whaling nations, but was open to all states and was to meet annually to review the schedule on non-allowed whaling activities.[63] The allowing of other states to join the IWC, whether whaling nations or not, was to prove a critical factor in idea transformation. This step would not have occurred in the absence of this new view that whales should be considered a global resource and not just the property of whaling states. The provision allowed states to circumvent potential veto coalitions by recruiting like-minded allies, a tactic used by both pro and anti-whaling forces.[64] The powers of the ICW to protect whales from exploitation are enumerated in a Schedule which allowed the body to:

> fix protected and unprotected species; open and close seasons; open and close areas, including sanctuaries; limitations on the size of species taken; methods and intensity of whaling, including maximum catch; types of gear and equipment used; methods of measuring whales taken; the requirement that returns be made of catch; and statistical and other biological information.[65]

The IWC operates under a majority-voting rule that requires a three-quarter majority of present members to vote to approve changes to the Schedule that contains the operative rules governing the global whaling regime.[66] The ICRW

also allows dissenting states to opt out of any decision arrived at within the IWC by filing an objection within 90 days, applying for an exemption under Article V(3), a loophole that would allow rogue whaling states significant wiggle room in evading IWC directives.[67] Objections were so common in the first few decades of the IWC that it was rendered virtually impotent. Enforcement was left to individual member states as well, whose interests dictated continuing whaling unhindered so were unlikely to police themselves rigorously. Further the Commission was powerless to regulate the activities of non-member countries since the Convention was not applicable to non-members.[68]

The ICRW allowed under its "primary rules" (the regulations attached to the Schedule to the ICRW) for the creation of conservationist programmes to enhance the protection of existing and future whale stocks.[69] It also allowed for potential preservationist outcomes in that the IWC had the power to create whaling sanctuaries and ban the taking of particular whale species. At this point in time, however, IWC members could not even frame the question as to what whale preservation meant, let alone answer it, since no member states thought of whales as intrinsically worth saving.[70] The ICRW Schedule also banned the taking of grey, humpback and right whales in certain areas.[71] However, this restriction, combined with seasonal time limits and quotas was unsuccessful in stopping the ongoing exploitation of whales, despite the emphasis on limited conservationist aims in the ICRW.[72]

In fact, the restrictions on taking certain whale species has had the opposite to the intended effect. It set in train a technological race to create better ships and more advanced killing technologies to achieve designated quotas as rapidly as possible, leading to whalers referring to the period as the "Whaling Olympics."[73] During this period, in the late 1940s, whalers raced the clock to catch whales before the season ended, in an effort to beat the competition. From 1946 to 1951 the whaling season shrank from 112 days to only 64 but the catching technologies became more efficient. An unintended consequence of the new, deadlier ships, however, was a significant increase in the cost of outfitting a whaling fleet. By 1960 some nations had ceased whaling on economic grounds, due to the prohibitive capital costs against returns.[74]

Problematically the IWC set initial whaling quotas too high to ensure whaling states would not pull out of the IWC, yet even so they were usually exceeded.[75] By the 1948/49 season whaling had rebounded from the WWII interregnum and 31,262 whales were taken.[76] Throughout the 1950s the whale catch continued to increase despite the presence of the IWC and its conservationist edicts.[77] IWC prohibitions to ban the taking of certain species for a limited time were met by numerous states lodging objections, including Canada, Japan, the US and the Soviet Union. This enabled these states to continue to be able to exploit whales unchecked.[78] In the 1950/51 whaling period the greatest yet whale kills were recorded with 55,795 whales taken globally.[79] By the 1957/58 season the number of floating factories operating in Antarctic waters had increased to 20 with 2 shore stations and 257 catchers and by the following season 64,586 whales, a new high, were being killed annually.[80]

D'Amato and Chopra characterise the period 1948 to 1960 as "wasted years" in that states continued to argue mainly over quota allocations, backed by grandstanding threats of withdrawal from the IWC.[81] Before 1960 the whaling industry dominated the IWC, mostly through their national governments' delegates. The IWC was still "a whalers' club" and the majority of members were themselves whaling nations whose interests were synonymous with whaling industry interests.[82]

Indeed, not only were many state delegations filled with members with a pro-whaling bent, the IWC was also attended, from the second meeting onwards, by representatives of the Association of Whaling Companies.[83] The IWC in this period had little sense of urgency when it came to protecting whales, perceiving them only as a resource to be utilised. For many states, the establishment of a regime was considered to have "solved" the problem, despite the voluminous evidence that the problem was worsening. Frustrated delegates to the ICW, who wanted to promote a conservationist platform, could not alter the situation in a context where there was little public knowledge of whaling issues and practices.[84]

SCIENTISTS AND THE INTERNATIONAL WHALING COMMISSION

By the 1960 IWC meeting in London, it was clear to most IWC members, based on their own compiled figures, that stocks of blue whales, fin whales and humpback whales had declined to crisis levels.[85] With the situation at crisis point the delegates turned to a hitherto ignored group, cetologists, to provide a new conservationist policy direction.[86] Up until this point, scientists had been perceived, and had acted, as virtual mouthpieces for their states, with their policy prescriptions tending to reflect nationalistic demands for whale products.[87] To ensure that scientific advice given to the member states was not tainted by states' interests the United Kingdom proposed that a Committee of three independent scientists (later four) be established and the motion was passed. The Committee's role would be to quantify potential catch reductions to allow policy to be determined on more objective grounds.[88]

Once freed of the constraints of serving as states' spokesmen the scientists quickly exhibited a high degree of independence in their scientific advice. Given that most cetologists' backgrounds were in biology it was not surprising that their advice regarding whaling reflected that background and focused on the conservation of whale stocks. They advocated quotas to protect scientifically determined, fragile whale stocks, to impose temporary moratoriums, and to reduce the overall catch.[89]

Despite their efforts, their efficacy as advocates was severely limited by a number of factors. They were only ever small in number, 30 at most, and their advice was merely advisory in nature, advice which member states were free to disregard or object too if it was not in accordance with their interests.[90] Problematically, cetologists also lacked the theoretical models and a consensus amongst themselves as to the correct policy prescriptions, without which they could not plausibly convince whaling states to abandon exploitationist practices.[91] Further,

they were unable to link their arguments with higher values that would persuade whaling states to adopt conservationist practices. Lastly, they were constrained by the platform from which they had to communicate. Scientists were forced to conform to the agenda and operating ideas of the IWC. This limited their effectiveness.[92] It limited their ability to communicate the need for conservationist mores and, despite their best efforts, the overall harvest rate was not limited for a further 18 years.[93]

By the 1967 Meeting in London, the Joint Parliamentary Under-Secretary of State for Scotland, Mr. Buchan, in his opening speech to the IWC, revealed some sobering statistics regarding the parlous state of global whale stocks. In 1937 there were approximately 100,000 blue whales in the oceans. By 1967 there were around one thousand.[94] The official BWU catch limit set at that Meeting was only 3,500, but there were reports that whalers were going after younger whales.[95] By the 1971 Meeting it was clear to many IWC members that whale stocks were not recovering but were going backwards. In a breakthrough, however, the US decided, due to domestic pressure, to put eight types of whales on the domestic Endangered Species List and that, as a country, it would no longer issue licenses for its whalers to hunt.[96] This defection by the US from the whalers' faction would prove a critical factor in the battles ahead since its relative economic power in the global system ensured states were wary of crossing it for fear of sanctions or other retributive action.

It was clear that the IWC as an entity was unable to change the exploitationist ways of its members in view of the vested economic interests at play, which were dedicated to preserving the status quo. However, the sea change in the US foreign policy on whaling led them to seek another forum to raise the matter, which they duly did at the 1972 UN Conference on the Human Environment in Stockholm, Sweden.[97] The US at Committee Two of the Conference, which examined questions of natural resource management, called for a ten-year moratorium (Resolution 33) on whaling to enable stocks to replenish.[98] States at this point were still advocating the conservation of species for future use. Predictably, whaling nations like Japan automatically opposed such a measure since it was not in their interests. Over their objections the motion was passed 52–0 and included in the conference recommendations despite the IWC's Scientific Committee arguing that any such action was not scientifically valid[99]

The passing of the motion by such an overwhelming margin indicates that saving the whales was now perceived by much of the world as an issue of critical importance. Further, the IWC as an organisation was put on notice that its ineffective approach to date was being challenged from without. D'Amato and Chopra argue it is difficult to pinpoint when measures undertaken to protect the whaling industry started "to become transformed into protective measures undertaken for the survival and longevity of whales as a species," because it is difficult to measure when global psychological change becomes reflected in legal texts.[100]

To focus on the economic or institutional arguments is to overlook the moral sea change in general attitudes to the depletion of whale stocks, however.

Critically, the issue of overexploiting whales was becoming of global concern at a time when the global public was becoming more worried and better educated on global environmental issues. This global concern provided both a backdrop and a fillip to ENGO articulations of a preservationist position and in the attempt to persuade the IWC members of the need to alter their behaviour.[101]

ENGOS AND THE INTERNATIONAL WHALING COMMISSION

Any understanding of the shift in the IWC's operation must account for the role played by ENGOs, who in the 1970s pushed a preservationist agenda both within the IWC and to the global society in general. Initially ENGOs had little interest in the IWC and they did not even attend until the Fifteenth Meeting when Major K.R.C. Priestley represented the International Society for the Protection of Animals.[102] In the 1960s the environmental movement's arguments on whaling were in accord with the position of scientists, namely, that conservationist programmes were needed.[103] However, the decision by the IWC in 1970 to allow ENGOs to make statements opened the door for the more forceful articulation of environmental positions to the IWC members.[104] Despite this availability, it was not until Greenpeace, an organisation founded on a "biocentric philosophy that challenged the idea that humans were the supreme beings on the face of the planet," became involved (in the mid-1970s) that a preservationist position was put forth.[105] For environmentalists, whales became a potent symbol of the entire environmental movement's commitment to save the planet and bring about a more ecologically aware society.

ENGOs like Greenpeace, the World Wildlife Fund, the International Fund for Animal Welfare and the Environmental Investigation Agency were able to tap into, articulate and publicise the Western public's horror of whaling.[106] Their tactics were to use mostly peaceful protests and public information campaigns to highlight the brutality of whaling and its impact on whale species and persuade the global populace to end whale hunting and reframe the debate from one of exploitation or conservation to preserving all whales in perpetuity.[107]

Their aim was to put pressure on the regime states to change their expectations, behaviours and identities. DeSombre argues that rather than use science to advance their position, the ENGOs conducted a campaign that focused on brutality, capturing images that promoted their view that whaling was barbarous and should be ended.[108] They linked their arguments to higher values that highlighted the intelligence and uniqueness of whales and argued that they therefore deserved to live unhindered.[109] Framing their approach in this way helped their arguments resonate with the global public in a way scientists had been unable to do thus far. This put increased pressure on states to alter their behaviour. By the early 1980s over 50 ENGOs were represented at the IWC in an effort to influence debates, either through persuasion, direct action or putting states on notice that the constituents they represented were watching.[110]

The IWC's own downplayed, but still worrying, figures backed up the ENGOs' case that the methods to conserve whales utilised to date were not working. Initially anti-whaling groups concentrated on arguing their case in terms of extinction. However, when nations like Japan were able to argue plausibly that there was no threat of extinction of certain species, for example, minke whales, anti-whaling states and ENGOs shifted ground to argue that it was simply unethical to kill whales.[111]

Initially the ENGOs made little headway despite the global paradigm shift in thinking on the issue that had begun to manifest. However, there were signs that the member states knew that their approach to date had not been effective in promoting conservationist practices. For example, upon the advice of the Scientific Committee, the IWC voted to discard the BWU measurement in favour of fixing catch limits by species for the future. The larger issues of catch size remained off-limits, though.[112]

THE PUSH TO IMPOSE A MORATORIUM

At the 1972 IWC meeting in London, Maurice Strong the UN Secretary-General attended, and put the case to the members that as the just completed UN Conference on Human Environment had resolved there should be a ten-year moratorium on all commercial whaling, the IWC should address the issue. The United States and the United Kingdom delegations moved a global moratorium motion arguing that the current assessment of whale stocks was so poor that it would be prudent to stop whaling. Such a moratorium on whaling was initially perceived as a conservationist measure that would allow stocks to recover over time. However, the Scientific Committee argued successfully that a blanket ban should not be imposed since whaling was better regulated at the individual species level and a moratorium would lead to a reduced research programme on whales and possibly the unregulated taking of whales. The IWC voted the motion down with four countries voting for the proposal and seven against, with three abstentions.[113] To make matters worse the IWC yet again set quotas that were higher than the previous year's catches.[114]

At both the 1973 and 1974 IWC meetings the US delegation, backed by Argentina and France, again called for the moratorium to be implemented, citing new research that whaling populations had been reduced from four to five million down to a few hundred thousand.[115] A similar appeal for a ban, backed by Mexico, was also made to the IWC in 1974.[116] The petitions were unsuccessful in the face of opposition from Japan and the USSR, who acting in concert argued that stocks of fin, sei and sperm whales were still plentiful enough to hunt.[117] However it did open the door in 1974 for delegates from the FAO, UNEP and the IUCN to formally play a part at IWC meetings as a compromise measure. The participation of these IOs was to prove crucial as it paved the way for alternative non-state arguments to be presented.[118]

At this point in history the IWC member-states were unclear in their language as to what the position of the IWC should be. At the 1974 Meeting an amending

resolution to the global moratorium on commercial whaling, proposed by Australia and Denmark, argued there was a need "to *preserve* [my italics] and enhance whale stocks as a resource for future use and taking into consideration the interests of consumers of whale products and the whaling industry as required by the International Convention on Whaling."[119] The resolution was adopted by the members with the amendment of "present" being added before the term "future," demonstrating that the member states were still primarily focused on the short-term at the expense of future generations of whalers and whales.[120]

The same IWC meeting attempted to introduce a new conservationist measure to replace the BWU designation with new terminology. The Australian delegate put forth a selective moratorium schema called the New Management Procedure (NMP). The Procedure placed each whale species into three distinct groupings as designated by the Scientific Committee. It was intended to manage whale stocks by utilising the idea of "Maximum Sustainable Yield" (MSY).[121] This programme was implemented in 1975 and reduced quotas for whales to be taken until the beginning of the 1980s. However, the programme was ineffective in preventing the exploitation of whales due to poor biological data on whale species and their decline. This was critical to determining the correct levels to be set.[122]

The creation of the NMP did not achieve its primary conservationist goal. It did improve the tenor of scientific practices that influence decision-making, however. Before, scientific members gave a unanimous 'best estimate' of whale stocks without any concomitant scientific basis. Now, in response to outside pressure from both scientists and ENGOs, committee members created a more open model by which scientific papers were published and criticism sought. This enhanced the credibility of the cetologists as advocates.[123]

Despite being allowed to attend as observers by the IWC in 1977, cetologists were unable to speak with a unified voice, fracturing over questions of "uncertainty" when applied to whale stocks.[124] By 1982 the Scientific Committee was so at war internally between conservationists and preservationists that it was unable to even discuss the content of any paper submitted to it for approval.[125] M. J. Peterson argues that the rift was so wide that cetologists were unable to function as a coherent lobby group between 1974 and 1982, opening the door for ENGOs to become the primary advocates on whaling issues.[126]

The ENGOs, building on their successes in altering domestically the whaling policies of states like Australia, Argentina, Uruguay and the Netherlands, were determined to translate their policies into action in the global sphere.[127] As of 1979 ENGOs were able to attend IWC meetings officially in the dual role of observers, and in some cases, delegation members.[128] Vogler argues that their activities were particularly effective in regard to nations that had stopped whaling (because it was no longer a viable business) as well as traditional non-whaling states.[129]

The 1977 meeting in Canberra set a new benchmark for ENGO protests and political actions. The ENGOs were determined to make their point forcibly that whales were not to be hunted. ENGO tactics to pressure the IWC included a coalition of ENGOs, with the Whale and Dolphin Coalition and Project Jonah at the forefront. They placed a twelve-metre inflatable white whale in the lake next

to the Meeting place.[130] At the same meeting Jean-Paul Forton-Gouin, a wealthy Frenchman who supported the ENGO position, managed to gain entrance to the IWC by funding a Panamanian delegation and having himself declared a Commissioner, a tactic which the ENGOs would later use to great effect.[131]

That Meeting also saw, for the first time, a ban on aboriginal whaling of the Arctic bowhead whale, the most threatened whale species, though the ban was subsequently lifted (in 1978) at the request of the US, where domestically indigenous groups had sued, arguing that this infringed their constitutional rights. The United States had been at the vanguard of the moratorium approach so this perceived back-down weakened its moral legitimacy. Peru advanced two more moratorium proposals but these were quickly taken off the table when it was obvious they would not be voted up.[132]

Despite its lack of moral legitimacy, the US was willing to use its economic power to achieve its goal of imposing a global moratorium on whaling.[133] Under the US Pelly Act provisions the US certified Chile, Peru and South Korea in 1978 for continued whaling.[134] Under this pressure from a significant trading partner all agreed to be bound by IWC decisions in future. The US also certified Taiwan, which was not a signatory to the ICRW, in 1980. Fearful of alienating a powerful trading partner Taiwan decided to ban all foreign whaling from its waters and then imposed a ban on whaling in 1981.[135] Despite the US actions, commercial whaling continued and it was evident on the facts that whalers were hunting more immature whales. In 1932 the average whale caught weighed 67 tonnes but by 1978 the average was 20 tonnes.[136]

The reason why the US chose to become such an ardent protector of whales is not entirely clear from the literature or Annual Reports. While whaling was no longer an economic imperative for the US it was not in its economic interest to threaten sanctions against longstanding trading partners. It is arguable that the US might have gained a "reputational advantage" in being perceived as a good environmental citizen. As Vogler argues, for states like the US, Great Britain and France, opposing the taking of whales was "a relatively cost-free way of establishing 'green' credentials" both domestically and internationally, since none of these states had hunted whales for decades.[137] However, the economic costs in pursuing such a path were most likely greater than the potential reputational benefit since it risked trade relations. Thus, some other factors must have been in play beyond economic considerations.

By the 1979 Meeting the number of members attending the IWC had grown to 23, due in part to US economic pressure on non-member states that were whaling to agree to attend.[138] The other factor in the growth of new IWC members was the ENGOs' strategic plan to end commercial whaling by adding new non-whaling members to the IWC in order to tip the balance in favour of a moratorium and usher in a new era of preservationism.[139] Realising that moral persuasion was not working quickly enough and that whale species were threatened with extinction, ENGOs elected to act strategically. Although never officially confirmed by Greenpeace, a former Greenpeace consultant recounted that there was a plan to add:

> at least six new anti-whaling members from 1978 to 1982 through the paying of annual dues, drafting of membership documents, naming of a commissioner to represent these countries, at an annual cost of more than USD 150,000.[140]

However, Porter and Brown argue that the recruiting of anti-whaling states was actually conducted by the US, Sweden and other conservationist states. They maintain that the Seychelles was recruited, followed by seven other states (not named), all dedicated to the ideal that the oceans and their resources should be viewed as "the common inheritance of mankind."[141] While it is impossible to be certain as to which actors put in place a plan to "stack" the IWC, an examination of the membership list of that period reveals that this is in fact what happened, with countries like Switzerland and the Seychelles joining the IWC.[142]

Having said that, on the balance of probabilities, there appears to be more evidence supporting the contention that it was the ENGO strategy. Alongside the Greenpeace statements already mentioned, it is clear from the record that the Seychelles delegation appointed naturalist Lyall Watson as their plenary delegate and marine biologist Sidney Holt as the scientific committee member, both of whom were linked to ENGOs.[143] Environmentalists maintain they recruited the Seychelles to their cause as a counterbalance to Panama, which had been offered a sugar deal by Japan that ENGOs feared would influence their IWC vote.

In addition to their state infiltration strategy, the ENGOs planned to assemble a three-quarter majority of anti-whaling nations to vote along preservationist lines and ban whaling outright.[144] Since they could not match the incentives on offer by states like Japan, they approached traditionally non-whaling states that they felt would be more easily persuaded that banning whaling was the correct moral decision. One view is that it was in the interests of these non-whaling states to join because it was an easy way to acquire the kudos of being a good "green" international citizen without suffering any economic costs.[145] However, doing so ignores the work done by ENGOs to convince both state leaders and domestic populations that whaling was morally repugnant.

At the 1979 IWC Meeting Australia announced that its position both domestically and globally would be to prohibit whaling in its own waters and oppose the taking of whales in international waters. The reasons cited by the Australian delegation for this new direction were: the probable high intelligence of whales; an understanding that such actions were immoral and methods of taking were inhumane; whaling products were economically substitutable and the survival of some whale species was in doubt, thus requiring a "change in emphasis from one of the conservative utilization of whale stocks to promoting a policy of banning whaling and protecting whale populations."[146] The emphasis on the intelligence of whales and the immorality of whaling is an indication that the ENGOs publicity campaign was affecting state direction and identity.

This meant that two traditional whaling states, the US and Australia, were now staunch advocates of a global commercial whaling moratorium. President Carter of the US went so far as sending a letter asking the Commission to carry

out "effective action to ensure the survival of the great whales."[147] It is clear that given the resources put into the global moratorium that this was no mere strategic decision by the US and Australia, but rather symptomatic of a change in their very identity, from passive bystanders to active idea proponents.

The early 1980s saw the idea of a global moratorium become the central issue within the IWC, testing both its identity and future direction. On the one side there were the states and ENGOs that espoused a preservationist creed and wanted "to ban all whaling, irrespective of whether a particular species is stable or endangered."[148] Opposing them was the whale industry that, at best, favoured a conservationist perspective, but in reality had been exploiting whales for decades.[149] Such diametrically opposed positions meant whalers and preservationists were unable to reach any accord, leading to an escalation in what became known colourfully as 'the whale wars'.[150]

The Thirty-second Meeting of the IWC had 24 nations (Oman and Switzerland having recently joined) attend, with three moratorium proposals put up: "a worldwide moratorium, a moratorium on commercial whaling, and a moratorium on sperm whaling."[151] The US put forward a moratorium amendment to a proposal by France arguing it was necessary because the IWC had been unable to stop the over-exploitation of whale stocks. The amendment failed to get up, but the vote was close with thirteen votes in favour, nine against and two abstentions.[152] Iceland, Canada and South Africa all spoke for the need for a policy "which recognises whales as a harvestable resource subject to the needs of conservation."[153] The global ban that had been promoted by Australia in 1979 and had been considered by a Working Group of the IWC was rejected when the Group's Report argued such a course of action would probably have adverse economic effects and "result in the direct loss of over 7,000 jobs and an indirect loss of over 35,000 jobs."[154]

By the 1981 Meeting global interest in the issue of whaling saw the number of member nations within the IWC increase by 33 per cent. New members like Costa Rica and India came out in favour of whale preservation.[155] Despite the change in the composition of the members a United Kingdom proposal for a global ban on the taking of whales at the 1981 Meeting, which was supported by the United States, Sweden, France and New Zealand, was again not passed, with sixteen in favour, eight against, and three abstentions.[156] Also unsuccessful were plans for a ban in the North Atlantic, a ban on minke whaling, and a global phase-out of commercial whaling over the next five years. The only proposal to gain any traction was one put up by the United Kingdom, France, the Netherlands and the Seychelles, that called for a ban on the culling of sperm whales, which had been hunted in such large numbers that they were virtually extinct.[157]

At the 1982 meeting in Brighton, UK over 37 members of the IWC were present, including 8 who had never had whaling industries, and 51 ENGOs.[158] At that meeting the IWC received five moratorium proposals from the Seychelles,[159] UK, USA, France and Australia.[160] The Seychelles argued for a phase-out of commercial whaling, leading to a negotiated ban, because such an approach would:

> facilitate the adjustment that whaling nations will have to make if the whale is to be saved from extinction, and at the same time [would] safeguard the future work of the Commission as a growing alliance of nations committed to *preserving* [my italics] all cetaceans for posterity.[161]

Japan argued that as per the Scientific Committee Reports, there was no scientific basis for a blanket moratorium since some whale stocks had replenished. Further, in Japan's eyes, such a move would be hypocritical and contrary to the Convention since it would also ban traditional aboriginal subsistence whaling. Norway, Iceland and the Republic of Korea all opposed the ban on scientific grounds. Uruguay, Mexico, Argentina, Peru, Brazil, Chile and Costa Rica supported a moratorium but expressed worries over the issue of the sovereign rights of coastal states to access their resources within their 200-mile exclusive economic zones. Australia argued that a moratorium would best balance the competing interests of the whaling industry and the conservation of whales.[162]

The amendment was eventually passed twenty-five to seven with five abstentions. Whaling states were granted a three-year grace period to phase out their hunts to lessen the economic impact of the moratorium (to comply with the IWC preamble). However, the ban exempted aboriginal subsistence whaling (particularly the endangered bowhead species, hunted by the Inuit in the Arctic regions).[163]

The ENGO twin strategy of bringing in new non-whaling member states and publicising the issue to the world, combined with the economic pressure applied by the US, tipped the balance within the IWC. With the passing of the commercial whaling moratorium in 1982, to become operational in 1986, preservationism became ascendant, if not totally dominant, over both conservationism and exploitation. However, it was not a clean victory as the moratorium was confined to commercial whaling and it allowed exemptions if registered with the IWC, which countries like Japan and Norway were quick to exploit.[164] Japan immediately lodged an objection under Article V (3) which allowed them to legally continue whaling while Canada, an ardent whaler, left the IWC entirely.[165]

Peterson maintains that the passing of the moratorium, while a victory for environmentalists in general, may not have been one for those pushing a preservationist agenda since it "can be read as either conservationist or preservationist in inspiration."[166] The arguments made by the preservationist proponents within the IWC also reflect this ambivalence. Preservationist proponents' arguments were never advanced in terms of preserving whales.[167] Rather, these arguments were defended within the IWC as providing a chance for whale stocks to rebound, which left the door open for whaling to continue at a later date, which is consistent with a conservationist position.[168] This, however, looks more like a strategic decision by proponents to argue in terms they knew would be acceptable to the other delegates. Proposing an indefinite ban would most likely not have been accepted or would have split the IWC to the point where many states would leave, destroying the regime.

There were many reasons why states were willing to stop commercial whaling at this particular point. From a self-interested perspective, the fact that for many

states whaling had become a marginalised economic activity, with a declining demand globally for whale products, certainly played its part. The inexorable laws of supply and demand allowed states to change their stance from pro- to anti-whaling at minimal cost to their interests.[169] Further, many non-whaling states supported a moratorium because of domestic political pressure to appease voters, who thanks to the ENGO publicity campaign, perceived whaling as a morally repugnant activity. Voting for the moratorium cost domestic governments little strategically and appeased domestic voters.[170]

One must also consider the interest many states had of being seen as a good international citizen, however, with the concomitant reputational advantage to states of being perceived as good global environmental citizens. Further, US threats to impose sanctions under the Pelly Act had an important effect on convincing reluctant states to adhere to the moratorium or risk losing lucrative export markets.[171]

All these interest-based arguments ignore the fact that for many states and their citizens there was great concern about declining whale numbers and that many states acknowledged that whaling had been badly regulated. Also, a proper conservationist ethic had not taken hold both within the IWC and in the broader world.[172] Further, it can be seen that some states (for example, Australia, the US and the Netherlands) had come to accept that whales had an intrinsic right to live. This altered their identity within global society. For these states and most of the ENGOs whaling was a barbaric practice and the taking of even one whale was anathema. These states have been at the forefront of strengthening the commercial moratorium in the hopes of stopping the taking of any whales.

The moratorium at least put an end to the large-scale exploitation of whale stocks even if it had not ended whaling altogether. Rather, the debate appeared to have become one of proponents advocating conservation, or proselytising a preservationist position. The moratorium subsequently saw a recovery in some whale species in certain areas. For example, in the cases of Southern California grey, blue and humpback whales, stocks rebounded. One of the most threatened species, the bowhead whale, has seen a five-fold increase from 1,500 in 1976 to 7,500. North Atlantic humpback whales increased in numbers from 5,505 in the 1980s to approximately 11,000 by the middle 1990s.[173]

AFTER THE WHALING MORATORIUM

The granting of the moratorium did not end contestation within the IWC and globally as to the standard of behaviour to be applied to the practice of whaling. In many ways, the debates became more acrimonious as positions hardened. The contest also shifted to other policy battlegrounds both within the IWC and without. For the pro-whaling states the battle to define the whaling regime was not over and they sought to "refocus the whaling debate from a philosophical dilemma to the practical question of sustainable activity."[174] While preservationism is now ascendant, it hangs by a slim thread that is constantly challenged at IWC

Meetings by those seeking to roll back the ban. The tactics and strategies used by the ENGOs to bring about a moratorium have now been copied by states like Japan to end the ban.

Given this coalition of pro-whaling states' previous behaviour, there is a need to be wary about the genuineness of its professed desire for conserving whales. However, it is arguable that these states had learned that their previous exploitative behaviour had led to this outcome, and had therefore learned to be genuine in their willingness to whale according to conservationist mores. The fact that this group had violated the idea of preservation does not detract from the veracity of the conservationist idea. It still exerts a powerful effect on many states, defining their appropriate behaviour and constituting their identities, as well as the practices of many whalers.

Preservationist-minded states and ENGOs have attempted to widen the moratorium into a comprehensive ban on all whaling by creating whale sanctuaries and encouraging whale watching enterprises, while other states like Japan campaign to put in place ostensibly conservationist programmes. Despite the global social censure directed at Japan and its allies for refusing to submit to the discursive outcome of the ban, the coalition continues to flout the accepted standard in order to carry out "scientific whaling."

Japan immediately registered an objection to the moratorium on the grounds that the ban was not justified given the available scientific evidence, a theme it has consistently pushed since then.[175] Of the six remaining active whaling states at that time, three filed formal objections to the ban (Norway, Peru and the USSR), while three other nations, together with one of the absentees (Brazil, Chile, Iceland and the Republic of Korea), decided at that point to take no action. Peru decided at the meeting to withdraw its objection, leaving only the three whaling nations of Norway, Japan and the USSR as formal objectors. This made the latter increasingly isolated.[176]

The United States of America then informed Norway and Japan that under the Pelly Amendment it would seek to impose an embargo, banning the importation of their fish products to force them to comply with the IWC decision. The US was unable to use such pressures on the USSR since the US did not import fish products from the Soviet Union.[177] The threats by the US to impose sanctions was not enacted, however, since it was found to be illegal under the General Agreement on Trade and Tariffs (GATT) – a decision that eliminated a key weapon of coercion used to force states to abide by IWC decisions.[178]

By 1986 Brazil had agreed to abide by the moratorium and Japan had decided to stop its commercial whaling activities by 1987. The five-year moratorium on commercial whaling was re-examined at the 1990 meeting but the Commission refused to change the moratorium's conditions. D'Amato and Chopra believe that from this point in time, commercial whaling of the larger whale species had become obsolete. The situation is more complex and not settled, however. States like Japan, Iceland and Norway continue to hunt using the pretext of scientific research, or alternatively, refuse to recognise the authority of the IWC, thereby casting themselves as rogue states in the eyes of much of the world.[179]

Japan has emerged as the leader of a 'veto coalition' determined to roll back the moratorium, prevent the ban widening, and replace it with conservationist whaling practices.[180] It appears to have learnt from its ENGO opponents' strategies in that it has been accused by ENGOs of attempting to "stack" the IWC by using the leverage of potential fisheries markets and aid money to convince South Pacific and Caribbean states to join the organisation.[181]

Such allegations have been widely reported, such as the case of the Solomon Islands and the Caribbean states reputedly receiving "aid money" to support Japan at the IWC.[182] Their voting records certainly indicate a pro-whaling bias but this is not conclusive evidence in and of itself.[183] The Japanese deny such aid is linked to votes, and accusations of this nature are impossible to prove, given Japanese aid is distributed to over 150 states.[184] The policy continues to this day.[185] The Whale and Dolphin Conservation Society reported that of the six new states to join since June 2004 (Kiribati, Mali, Surinam, Tuvalu, Belgium and the Ivory Coast) only Belgium voted against lifting the ban giving the pro-whaling faction potentially enough votes to overturn the ban and impose the revised management scheme.[186]

CONTESTING THE DEFINITION OF 'CONSERVATION' IN THE ICRW

The Japan-led veto coalition has tried to change the terms of the debate linguistically in arguing for a clearly understood definition of the term 'conservation'. They seek not only to define and limit the debate over the direction of the IWC to terms favourable to themselves. If Japan and its allies can limit and define the contest within the IWC to one of only debating conservationist mores and practices, it knows that it has an excellent chance of eventually being allowed to whale legally again. At the Thirty-Sixth Meeting of the IWC in 1984 in Argentina, Japan and the USSR both argued that the 1946 Convention clearly spoke of the consumptive uses of whales to ensure a greater emphasis on conservation of whale stocks and greater IWC policy responsiveness.[187]

At the 1986 IWC Meeting the USSRproposed – supported by representatives from Norway, Iceland and Japan – that the 1946 Convention be revised to better reflect both scientific research and conservation mores. New Zealand, representing the anti-whaling forces, opposed the need for such a review, noting that the Convention had proved capable of evolution to meet "changing conditions," a view supported by the US, Sweden and West Germany. Since there was no consensus achieved, the Chairman decided to retain the Item on the Agenda for the next Meeting to allow governments to evaluate this matter further.[188] In 1987 the USSR proposed that a Special Working Group be established to consider the issue, one that would meet in November/December 1987 and was agreed to by the Members.[189]

The tensions between the conservationist-arguing states and the preservationist-leaning nations flared again at the Thirty-Ninth Annual Meeting when the Working Group to Examine Questions Related to the Operation of the

International Convention for the Regulation of Whaling, created at the previous Meeting, met.[190] Issues raised included the operation of the Convention and whether it needed to be revised, in particular whether the Convention should focus more on conservation. However, other members (not identified in the Chairman's Report), argued that the current Convention was sufficient and there was no pressing need to alter the Convention at this time, if ever.[191] The Working Group met annually but never seemed to make progress in its stated aims, due to intransigence by preservationist states. By the Forty-Second Meeting the USSR was complaining that the issue was not being debated seriously and that the progress to date was unacceptable.[192]

At the Forty-Third Meeting the issue of the operation of the Convention was revisited. Again, the same fault lines were present with states like Japan and Norway arguing that the IWC had departed significantly from the original Convention. The anti-whaling coalition of states argued that change was unwarranted since there were no fundamental changes in circumstances or to existing international law.[193] After much debate at the Plenary discussion it was agreed to create terms of references for the Working Group to enable it to initiate a thorough review and with the advice of experts, to ascertain those parts of the Schedule that needed altering. It was to report to the IWC by 31 October 1991.[194] Japan continued to press for adherence to conservation protocols but at the 1993 Meeting in Kyoto it was dealt a severe blow when the Working Group decided it could not proceed until the Revised Management Scheme (RMS) was implemented. To this day this has not occurred and just prior to the 2006 Meeting the Japanese, after years of anguish and deadlock, declared that for them, the RMS was dead.[195]

Preservationist states have attempted in response to control the terms of the debate by using conservation rhetoric against whaling states to undermine their arguments. Both sides to the debate have used conservationist rhetoric for their own ends, rather than actually discussing exploitation and preservation. The IWC Meeting in Mexico in 2003 saw Mexico introduce a draft Resolution, *The Berlin Initiative on Strengthening the Conservation Agenda of the International Whaling Commission*. It aimed to create a Conservation Committee (with appropriate funding) composed of all contracting parties to the Convention, to provide the institutional structure to examine conservation issues and to overcome what Mexico saw as the "stagnation" of the IWC.[196]

Australia argued that such a resolution was a milestone in the evolution of the organisation. New Zealand posited that it had the potential to meet the obligations imposed by the preamble to protect whale stocks for future generations. The US, which was in support of the proposal, maintained that the proposal was not necessarily anti-whaling and supported the draft. Ireland hoped that such an entity could re-invigorate the moribund Revised Management Scheme debate.[197] However, the traditional whaling states, and their allies, all spoke out against the proposal.[198] Denmark was concerned that the resolution did not consider the role played by the North Atlantic Marine Mammals Commission (NAMMCO) (a rival entity set up by Scandinavian whaling states) and gave too much power to NGOs to set IWC priorities. Iceland, Norway, the Republic of Korea, Antigua

and Barbuda, China, Dominica, the Russian Federation, Japan, Grenada St Lucia and Morocco were all opposed to the creation of such an entity, arguing that it would "create a radical and lasting change in the character of the IWC."[199]

However, the resolution was adopted with 25 votes for, and 20 against. The Chair argued in closing the debate that "the establishment of the Conservation Committee would not solve the problems within [*sic*] IWC" and stressed the need to continue to work to find a balance between conservation and preservation, without directly referring to this balance in these terms.[200] The problems the Chair alluded to appear to be intractable with neither faction willing to engage in a legitimate dialogue.

At the Fifty-Sixth Meeting the Conservation Committee met for the first time. The Annual Report states that the IWC delegates all agreed they "were committed to conservation" but the term is not analysed in any coherent way. While the Committee did discuss the issue in conservationist terminology (for example what constitutes "sustainable use"), it felt it could not give a definitive answer at this time. Other pro-whaling states were concerned the term would not be examined in the context of achieving "the orderly development of the whaling industry," which for them was the key aim.[201]

At the same Meeting Japan attempted to regain the policy initiative by giving a presentation to the other members under the heading, *The Centennial of Antarctic Whaling – From the History of Over-harvesting to the Creation of New Sustainable Whaling*, that focused on learning from what Japan regarded as past mistakes in the region to create a new sustainable regime. The paper provided a contextual argument highlighting Japan's traditional whaling culture and how various legal instruments state the need for the full utilisation of whales. It concluded with an analysis of how whaling should be conducted in the future and how any Revised Management Procedure (RMP) should reflect the ICRW's original objectives. It defended the practice of scientific whaling as necessary and argued that the whales taken should be fully "utilized" by being used as a food source. Japan requested that this item be placed on the Agenda for future Meetings. Although the Chair acquiesced to date the issue did not proceed any further.[202] Pro-whaling states have been unable to get anti-whaling states to agree to their preferred version of conservation, either rhetorically or in practice.

At the 2006 Meeting Japan, with a view to "normalising" relations within the IWC, responded with the "St Kitts and Nevis Declaration" which demanded a return to a literal interpretation of the ICRW and its conservationist principles as well as a rejection of the ban.[203] Japan knew if it passed this motion it could argue that a majority (but not a three-quarters majority) wanted a resumption of commercial whaling. The vote was on a knife edge until the Senegalese Commissioner turned up to vote (curiously afterwards the Senegalese President said he was unaware of the vote). The vote was 33 for, 32 against and one abstention, and, for the first time in 14 years since the Southern Ocean sanctuary vote, the preservationist forces had lost.[204] After the St Kitts conference, Japan set up a "normalisation meeting" to put whaling on a "proper course" which was

shunned by preservationist states and a report was submitted to the IWC. At the 2007 Meeting in Anchorage, Alaska, the Conservation Committee met but again could not agree on establishing the terms of reference, with the Chair deciding to try to deal with the issue before the next meeting in Chile however, to date this mechanism appears to have been subsumed into the debate around the 'Future of the IWC'.[205]

IWC SCIENTIFIC PERMITS AND WHALING

The issuing of scientific permits has been a particularly bitterly fought topic between preservationist-minded states and those states dedicated to continuing whaling. Under the ICRW, states are allowed to issue their own scientific permits to hunt whales and the IWC has few powers to prevent such permits for activities it might regard as scientifically dubious, a loophole whaling states have ruthlessly exploited.[206] Preservationist states have attempted over the years to tighten the regulations pertaining to the issuance of individual states' scientific permits but in the face of the intransigence of states such as Japan and Norway they have to date been unsuccessful.[207]

Japan, Iceland, Russia and Norway have continued to award themselves scientific permits in the face of global condemnation of the twisting of the term "scientific." They have justified this decision on the grounds that whale numbers for certain species have recovered enough for such activities, or alternatively, that killing whales is necessary to better understand them.[208] For preservationist-minded states these explanations appear dubious and are perceived as attempts to circumvent the moratorium. However, under the rules of the ICRW, states are allowed their own scientific programmes and so the sceptics have been limited to calls to stop such activities.

Following on from the IWC meeting that imposed the moratorium in 1985, Japan argued at the Joint Working Group of the Technical and Scientific Committees (chaired by K. Yonezawa of Japan) that there was a need to create better conceptual approaches. The delegate argued the aim should be to better inform the IWC, with effective scientific advice and recommendations, as well as set out a timetable for a detailed assessment of whale stocks. The Report was accepted by the Commission and this has allowed Japan and other whaling states to argue that scientific whaling was necessary.[209]

Preservationist states have continually clashed with whaling states in a number of Meetings over the regulation of scientific permits. At the 1985 Meeting there was vigorous debate as to whether such catches should be allowed to enter into international trade and whether special permit catches should be allowed from Protected Stocks. A new Resolution was adopted by consensus whereby IWC members agreed to carry out research wherever feasible through non-lethal methods and with the goal of rational management of whale stocks.[210]

Following on from the 1986 decision to review special permits Iceland, the Republic of Korea and Japan all submitted proposals to be allowed to catch

whales under a scientific permit. All three requests were turned down by the IWC citing, in the case of Korea, that it would not contribute information that answers significant management questions, while arguing in Iceland's case that the request did not meet the 1986 criteria.[211] Japan was asked not to take whales while the Scientific Committee examined its proposed research methods.[212] The following year both Norway and Iceland applied for special permits but both applications were rejected by the IWC.[213]

At the Forty-First Meeting Iceland stated it would not seek scientific permits to hunt sei whales as it had lost faith in the IWC as an organisation. Japan, Norway and initially the Soviet Union sought official permission to kill whales for scientific purposes but have found themselves consistently refused by the other delegates.[214] At the Forty-Fifth Meeting Norway decided not to ask for a scientific permit, leaving Japan isolated as the only state still claiming that whaling is a scientific activity.[215]

In the 1990s the preservationist states sought to limit scientific research carried out by IWC members to research that primarily uses non-lethal means. In 1995 the UK (acting on the behalf of Australia, Brazil, France, Netherlands, New Zealand, Oman, South Africa and the US), introduced a resolution that research should be conducted primarily by non-lethal methods, and lethal methods should only be used in "exceptional" circumstances, in order to address vitally important scientific questions.[216]

There was much debate about the meaning of "exceptional." St Vincent and the Grenadines argued this was a moral issue and wondered what made whales so special that they should not be killed. India responded that, in its particular case, it did not carry out lethal research on tigers, elephants, lions and rhinos. On being put to a vote the Resolution was passed (23 for, 5 against, and 2 abstentions).[217]

At the Fiftieth Meeting the IWC Members passed a resolution on whaling under special permit which regretted that Japan was still carrying out lethal research and recommended that whales taken should be done in a manner consistent with Section III of the Schedule.[218] At the Fifty-Fifth Annual Meeting the IWC isolated Japan even further when as an entity it:

> expressed deep concern that the provision permitting special permit whaling enables countries to conduct whaling for commercial purposes despite the moratorium on commercial whaling . . . [and that doing so was . . . contrary to the spirit of the moratorium on commercial whaling and the will of the Commission].[219]

Despite being virtually alone within the IWC Japan continues to take whales for "scientific purposes" over the objections of other IWC members.[220] Japan's decision to continue its programme has seen it subjected to global censure. Despite its continued intransigence the fact that it continues whaling in small numbers does not invalidate the preservationist idea. Quite the contrary, Japan stands out as the exception that proves the idea, which is becoming more deeply entrenched among IWC members.

ICJ scientific whaling decision

Following a pre-election promise by the Australian Prime Minister Kevin Rudd to stop Japan's 'scientific whaling' programme, the Australian Government initiated legal proceedings before the International Court of Justice (ICJ) in May 2010.[221] Australia (and New Zealand) requested the ICJ to determine that Japan, in operating its JARPA II scientific programme, was in breach of its international obligations and order Japan to cease the implementation of JARPA II.[222]

On 31 March 2014, the International Court of Justice (ICJ) handed down the eagerly awaited decision of *Whaling in Antarctica (Australia v Japan: New Zealand Intervening)*. Broadly, the ICJ determined that the scope of the current JARPA II was too broad and that the programme should be terminated. The Court was concerned that JARPA II's quotas were not driven by strictly scientific considerations but rather political considerations. They were also dubious about the scientific output of both JARPA programmes. They further maintained that the adduced Japanese evidence did not demonstrate that JARPA II's design and implementation were reasonable for achieving its stated aims. Consequently, the ICJ issued an order that: "Japan shall revoke any extant authorisation, permit or licence to kill, take or treat whales in relation to JARPA II, and refrain from granting any further permits under Article VIII, paragraph 1, of the Convention, in pursuance of that programme."[223]

At first blush this appeared a victory for anti-whaling forces but the decision still allowed for scientific whaling programmes as it focused only on the flaws inherent in the JARPA II programme. The ICJ was asked only to address the JARPA II programme's validity, but not JARPA II, a mirror 'research whaling' programme in the North Pacific.[224]

Problematically for anti-whaling supporters, the ICJ observed that both sides' experts conceded that, as a matter of scientific opinion, lethal means *can* be a part of scientific research. The Judges stated explicitly there was nothing in international law that forbids the killing of whales as part of a scientific research programme.[225] Crucially, the Court pointed out that scientific research programmes could have goals other than conservation of whale stocks which allowed Japan to sell whalemeat as a by-product of the scientific whaling programme.[226] The judges refused to provide a definition of 'scientific whaling' nor engage with the issues inherent in commercial whaling and it allows for the potential of further scientific research providing Japan abides by the strictures imposed by the decision. Thus, the decision does not end the battle over the legitimacy of scientific whaling but in essence sent it back to the IWC for continued contestation.

The decision opened the door for a third iteration Japanese scientific whaling programme if the proper conditions were met. In court, Japan was forced to concede that it does not utilise lethal means more than is necessary in its programme. In any new programme Japan had to show it had examined the potential of non-lethal means to achieve its goals. The Court also determined that Japan was now under an *obligation* to give due regard to IWC Guidelines and Recommendations when designing any future special permit programme.

In any future programme, Japan would have to show that it has considered advances in non-lethal approaches and might need to demonstrate that feasibility studies have been undertaken as to the suitability of the research aims, methodology and scope as well as being a transparent process. Japan will also need to demonstrate that any research programme has scientific validity as demonstrated by the publication of peer-reviewed scientific publications.[227]

THE "IRISH PROPOSAL" FOR THE FUTURE OF THE IWC

In an attempt to break the conservationist/preservationist deadlock, the Irish Commissioner, Michael Canny, was asked at the Forty-Ninth IWC Meeting to consult with the other Commissioners regarding the Irish Proposal with a view to seeking consensus. The Proposal would allow coastal whaling to resume once again, but still continue to ban whaling on the high seas. As a trade-off to the preservationist forces, whaling for "scientific purposes," and the global trade in whale commodities, would also be forbidden under the proposal. The submission stipulated that whaling "should be restricted to coastal areas only" but it is unclear as to how it would define "coastal."[228]

Despite holding an intersessional meeting in February 1998, attended by 17 states in Antigua and Barbuda, Ireland could not put forward a formal proposal at the next Meeting, due to the US, the UK and Australia supporting the moratorium. The only exception Members were willing to entertain was that of aboriginal whaling. They were willing to retain the item on the Agenda though. At the Fiftieth Meeting debate ensued and it was clear that there was a vast gulf in views between the two factions. Brazil declared it wished to see a South Atlantic Ocean Sanctuary created while Denmark argued it was critical to preserve whale stocks. Japan was dismissive of this argument, however, stating that its position was that the "IWC has turned into an organisation to protect whales, whereas it should consider the sustainable use of ocean resources and the total ecosystem."[229]

At the Fifty-First Meeting, in a debate over the Irish proposal, Norway argued that the IWC was not adhering to its Convention and had become "a protectionist organisation with no will to lift the moratorium."[230] Denmark thought that both sides must give up something to keep the organisation functioning. The UK wanted to see a permanent global ban except for aboriginal subsistence whaling, and that whale watching as "a benign and sustainable way of exploiting natural resources" was a better way forward.[231] Japan chided the UK for talking in terms of "conservation" when new whaling sanctuaries were annually proposed and a coalition of preservationist states were implacably opposed to whaling.[232] At the Fifty-Second IWC Meeting the Chair reported that, despite there not yet being consensus, there was at least support for a process with the aim of reaching compromise.[233]

However, the Irish compromise exposed the real positions of IWC states behind their negotiating stances. States like the US and the UK, which had opposed the resumption of whaling on ethical grounds, but couched their rhetoric

in scientific terms, were met with a plan that would meet their stated scientific goals. If the RMS were implemented Norway and Japan, who wished to return to commercial whaling, would be forced to concede their true intentions.[234] Given that neither side wanted the compromise implemented fully, it appears the proposal failed to break the impasse, and to date it has not been implemented.[235]

WHALING SANCTUARIES

The provision of whale sanctuaries has been another critical battleground between conservationists and preservationists. Preservationists have attempted to widen the scope of the preservationist idea by advocating for sections of the high seas to be declared sanctuaries under Article V of the ICRW.[236] Pro-whaling states are just as determined to prevent new sanctuaries bolstering the ban. There is a long history of such sanctuaries being created by the IWC but the issue took on new significance after the passing of the moratorium.[237]

The Indian Ocean Sanctuary

With whale stocks approaching extinction for some species, preservationist-minded states proposed an old solution for an old problem, that of sanctuaries. In 1979 the ENGO-infiltrated Seychelles put forward a proposal for a sanctuary in the Indian Ocean to the Scientific Committee, but no consensus was reached despite it being the expressed opinion of several neighbouring countries that it was a good idea and that it satisfied the criteria of being an area of ecological coherence. Such a sanctuary, the proposal argued, would enable breeding and other activities to be carried out unhindered. The Technical Committee, after debate as to the length of the review period agreed (16 votes for, 3 against and 3 abstentions) to a new paragraph to be inserted into the Schedule establishing a new Indian Ocean Sanctuary for an initial period of ten years.[238] Traditionally the region chosen has not been a commercial whaling region, which is probably why whaling states, even Japan, agreed to its implementation.[239] The sanctuary created has some flaws in that there are no monitoring or enforcement provisions to oversee the initiative, but it does exert a moral force that most states have accepted.[240]

Again in 1989, as the ten-year period was drawing to a close, the Seychelles, supported by Australia, put forth a proposal that the Indian Ocean Sanctuary created in 1979 should be extended for three years. Both Japan and Iceland were against the creation of any sanctuaries and Iceland opposed the continuation of the sanctuary because few states bordering the area were interested in the issue. Many other states including France, Spain, India, Antigua and Barbados, Oman, UK, Argentina, Brazil, Mexico, the Netherlands and the US supported the proposal. In the face of such strong support for the proposal, Japan and Iceland agreed not to oppose the provision, which was consequently accepted.[241] At the 1992 Meeting it was agreed that the status of the sanctuary would be reviewed every ten years. To date this area has retained that status.[242]

Southern Hemisphere Sanctuary

Emboldened by their success in achieving the Indian Ocean Sanctuary, preservationist-minded states argued for the expansion of whaling sanctuaries throughout the 1980s and early 1990s. The southern hemisphere sanctuary plan for preservationist states, like Australia, was the first step in preventing all the oceans from whaling.[243]

At the Forty-Fourth IWC Meeting France put forward a proposal that a sanctuary be created in the Southern Hemisphere, but while many members supported the gist of the proposal, most thought that it was better to seek input from the Scientific Committee first. Japan believed that such a motion was antithetical to the spirit and objectives of the ICRW but the sanctuary proposal was supported by many IWC members as falling within the ambit of the Convention. It was decided that any debate would be deferred to the following meeting to allow the Scientific Committee to more fully examine the idea.[244]

At the Forty-Fifth Meeting the IWC endorsed the concept of creating a Southern Sanctuary, with Australia offering to hold an inter-sessional open-ended working group to address outstanding issues so that a decision could be taken at the next Meeting (Appendix 6).[245] At the Forty-Sixth Meeting the delegates, following on from the decision taken the previous year, voted (23 in favour, 1 against and 6 abstentions) to create a Southern Sanctuary for baleen and toothed whales, to be reviewed in ten years.[246] The creation of the Southern Ocean Sanctuary was resisted strenuously by Japan which attempted to "stack" the IWC with small states to influence the vote.[247] Norway argued that doing so was contrary to the ICRW and Japan attempted to utilise conservationist arguments that such resources should not be denied future generations. Their arguments went unheeded.[248]

Phillips argues that the key factor in building support for the sanctuary was the discovery in November 1993 that the Soviet whaling fleet had been consistently underreporting its catch figures.[249] These revelations, made just prior to the Norfolk Island meeting in February 1994, showed that whalers had been ignoring IWC directives. This undercut the argument that whalers could be trusted to regulate their activities.[250] This revelation was so morally shocking to the other states that it proved to be a critical factor in the successful vote to create a whale sanctuary in the region in May 1994.[251]

Japan was not prepared to concede defeat, however. It lodged an objection and thus can still legally hunt minke whales in the region as well as trying to eliminate the sanctuary exception.[252] At the Fiftieth Meeting a Resolution proposed by Japan, Antigua, Dominica, Grenada, St Lucia and St Vincent and the Grenadines to abolish the Southern Ocean Sanctuary was declared out of order.[253] At the Fifty-First Meeting Japan attempted to lift the prohibition on hunting minke whales in the Southern Ocean Sanctuary. The motion was defeated (9 votes in favour, 22 against and 1 abstention).[254] The US argued that the robust nature of the minke whale population was not a factor in determining the validity of the sanctuary.[255]

At the Fifty-Third Meeting Japan changed its strategy and attempted to modify the Southern Ocean Sanctuary by amending the schedule to state that any prohibition would be applied if so advised by the Scientific Committee. The amendment was not passed (13 votes for, 23 against and 1 abstention).[256] At the Fifty-Sixth Annual Meeting Japan again tried to have the Southern Ocean Sanctuary abolished it but was not able to get the required three-quarter majority (19 for, 30 against, and 2 abstentions).[257] Japan seems determined to continue raising the issue until it is successful, however.

The creation of the Southern Hemisphere sanctuary represents a high-water mark in the attempt to preserve whales through the mechanism of sanctuaries. A proposed South Pacific Sanctuary, put forth by Australia and New Zealand since the late 1990s, has not received a three-quarters majority, nor has a joint proposal by Brazil and Argentina to create a South Atlantic Whale Sanctuary been successful.[258] The issue was raised at the 2018 Meeting in Brazil but the resolution for such a sanctuary was defeated, it not garnering a three-quarters majority (39 votes for, 25 against and 3 abstentions).[259]

However, the fact that the sanctuaries were meant to be temporary is significant in that preservationist states have managed to have their sanctuary status continued indefinitely, in the face of contrary scientific advice.[260] At the moment there appears to be a deadlock with neither group able to expand their sphere of influence around this issue.

THE PROPOSED CONSENSUS DECISION TO IMPROVE THE CONSERVATION OF WHALES

A draft consensus document to improve the conservation of whales was to be approved at the 2010 IWC Meeting. It was designed to try to establish a "10-year interim period of stability within which intensive dialogue will occur on the major long-term issues at the IWC with the objective of resolving those issues during that period."[261] It set forth a 'vision statement' that optimistically proclaimed:

> The International Whaling Commission will work cooperatively to improve the conservation and management of whale populations and stocks on a scientific basis and through agreed policy measures. By improving our knowledge of whales, their environment, and the multiple threats that can affect their welfare, the Commission will strive to ensure that whale populations are healthy and resilient components of the marine environment.[262]

The Consensus Decision baldly stated that the IWC had varying views on whales and whaling and that conflict and mistrust was preventing effective whale *conservation* (my italics) and concomitant management leading to fears that the IWC would dissolve. The IWC recognised that this was unsustainable and has been seeking to create a non- confrontational environment to resolve issues with the common goal of maintaining healthy whale populations. At the same time the

document maintained that no state was changing their negotiating stance and that whaling issues would continue to be the province of the IWC.[263]

The key tenets of the consensus decision were to:

- Retain the moratorium on commercial whaling;
- Suspend immediately for the 10-year period unilaterally determined whaling under special permit, objections, and reservations;
- Bring all whaling authorised by member governments under the control of the IWC;
- Limit whaling to those members who currently take whales;
- Ensure that no new non-indigenous whaling takes place on whale species or populations not currently hunted;
- Establish caps for the next ten years that are significantly less than current catches and within sustainable levels, determined using the best available scientific advice;
- Introduce modern, effective IWC monitoring, control and surveillance measures for non-indigenous whaling operations;
- Create a South Atlantic Sanctuary;
- Recognise the non-lethal value and uses of whales, such as whalewatching, as a management option for coastal states and address related scientific, conservation and management issues of such uses;
- Provide a mechanism for enterprise and capacity building for developing countries;
- Focus on the recovery of depleted whale stocks and take actions on key conservation issues, including bycatch, climate change and other environmental threats;
- Set a decisive direction to the future work of the IWC including measures to reform the governance of the Commission; and
- Establish a timetable and mechanism for addressing the fundamental differences of view amongst member governments in order to provide for the effective functioning of the Commission over the longer term.[264]

Member states also would have to agree not to whale outside the aegis of the IWC and not to exceed the prescribed catch limits (Appendix A).[265] To ensure this a new Conservation Programme Committee would be constituted.[266] Most contentiously the document in Table 4 of Appendix A put forward prescribed catch limits for all states which it argued would be sustainable and precautionary in nature and roughly equivalent to the RMP figures set by the Scientific Committee (excepting aboriginal subsistence whaling which would continue at current levels). If the sustainable level had not yet been determined then the figures were determined with the aim of preventing long-term depletion of the individual whale species.[267]

The IWC would also establish a Management and Compliance Committee. The new Committee would oversee all monitoring, control and surveillance mechanisms pertaining to whaling. This would include: national inspectors,

international observers, a Vessel Monitoring System, a DNA registry and market sampling scheme, infractions and sanctions, and whale killing methods and associated welfare issues.[268] For the first time the IWC under the consensus document would acknowledge and cover the field of the non-lethal use of whales, such as whalewatching.[269] From 2010 the new measures would be subject to review every five years to assess the overall effectiveness of new management regime.[270]

Cristian Maquieira, Chair of the International Whaling Commission, argued that the Consensus Decision, if adopted, would maintain the commercial moratorium while bringing into the fold the three states (Japan, Norway, Iceland) that currently set their own catchlimits leading to several thousand fewer whales killed over the time of the agreement. He did acknowledge that it needed to be a consensus decision of the IWC member states which would be difficult to achieve but if accepted: "For the first time since the adoption of the commercial whaling moratorium, we will have strict, enforceable limits on all whaling operations."[271]

While the consensus document had the potential to provide the basis for fruitful discussions, it is undermined by its inability to acknowledge the gulf between preservationist and conservationist forces. Rather, in many ways it merely glosses over the historical divide that has built up between the two camps over several decades and contains several critical flaws. Firstly, it is non-binding on the member states and is merely the personal opinions of the Small Working Group delegates proposing the document. Secondly, it focuses only on conservationist outcomes without accepting that for many members of the IWC, there should be no hunting of whales in any circumstances, and so cannot accept continued whaling at current levels.

The document also remained committed to retaining the commercial moratorium without reflecting that states like Japan, Iceland and Norway are implacably opposed to the ongoing ban and for decades have worked assiduously to undermine it. Also, these conservationist states have worked to ensure that activities like non-lethal activities such as whalewatching should not fall under the aegis of the IWC and that there should be no new whaling sanctuaries created (a particular aim of preservationist forces).

THE 2010 MOROCCO MEETING

Several underlying, longstanding issues became public prior to the Annual Meeting complicating upcoming negotiations over the Consensus Decision even further. First, one of the strongest preservationist states, Australia, carried through on its threat and launched legal proceedings against Japan at the International Court of Justice (ICJ) to prevent whaling in the Southern Ocean. Australia's legal argument at The Hague is expected to be that Japan has been ostensibly using Article 8 of the ICRW (scientific research on whales is permissible) but in actuality, has been killing whales for commercial purposes which is an "abuse of rights."[272] Such a potential legal flashpoint merely entrenches the diplomatic gulf between two key opposing states leaving little room for negotiated outcomes.

Then the long-suspected issue of bribery at the IWC became public news fodder.[273] A number of nations were embarrassed just prior to the 2010 Meeting when an undercover operation by the *Sunday Times* revealed what had long been suspected by preservationist leaning states: that Japan was donating development aid in return for votes on the IWC. Posing as a Swiss philanthropist, two undercover reporters offered 25 million pounds over ten years in development monies if states would vote against whaling quotas. During the sting six states – St Kitts and Nevis, the Marshall Islands, Kiribati, Grenada, Ivory Coast and Guinea – all indicated they were willing to change their vote if the right price was offered.[274]

The US Commissioner Monica Medina argued on 27 May that the US believed the IWC was "fundamentally broken and must be fixed."[275] She further went on to argue that the proposal [Consensus Decision], as currently constituted, was not 'in a place where we can accept it yet" but that the US, which had been a prime agent in putting in place the commercial moratorium, was primarily concerned to conserve whales.[276] However, Commissioner Medina maintained that the US still supported an ongoing moratorium:

> In fact, one of the key elements of the proposal that makes it possible for us to even consider it is that the moratorium would not be lifted or waived, changed or amended. The essence of this agreement would be recognizing that some whaling has been able to continue in the face of the moratorium. And the idea would be to cap that whaling and get it under the IWC's control so it can be monitored.[277]

To further complicate matters, the Chairman of the IWC, Cristian Maquieira, fell ill just prior to the Meeting commencing and was unable to attend.[278] In his absence the Meeting was chaired by the IWC vice-Chairman of Antigua and Barbuda, Anthony Liverpool, a long-time proponent of whaling, who had been tainted by the corruption charges levelled at some states regarding Japanese funds for votes in the IWC.[279] Finally, just prior to the Annual Meeting convening, Japan again, in what was becoming an annual ritual, threatened to quit the organisation if no progress was made at the Morocco meeting.[280]

The IWC Meeting (attended by 65 IWC member-state delegations)[281] opened in controversial circumstances when the usual open meeting met behind closed doors for several days at the instigation of the Acting Chair, Anthony Liverpool of Antigua. States like India and Australia and the ENGO, Whale and Dolphin society, condemned the move as anti-democratic.[282]

At the Meeting, ENGOs led by the Humane Society International (HSI) were critical of the consensus decision plan, as currently envisaged, arguing it would not require a cessation of whaling in the North Pacific.[283] The Consensus decision proposal to resume limited commercial whaling would allow Japan, Iceland and Norway to resume legitimised commercial activities but no other state would be allowed. Those three states would be allowed to kill approximately 13,000 whales over the next decade from inception.[284]

Anti-whaling delegates involved in the negotiations reported that Japan had offered a quota of 150 minke whales per annum but had not been given the 'right signals' from the EU and Latin American states.[285] During negotiations Japan had openly canvassed reducing its self-awarded 'scientific quota' but Australia demanded that discussions focus on a "phase down to zero" whaling within a "reasonable period." Japan responded that such a demand was unscientific and would mean that the current impasse would continue.[286] HSI stated that most delegates at the Meeting blamed the failure to reach consensus on the Southern Ocean whale sanctuary for the failure of the commercial whaling document to pass in 2010.[287]

Despite over 30 meetings in two days a compromise between preservationist and conservationist states could not be agreed.[288] The Consensus Decision Plan was delayed until at least the next IWC Annual Meeting to allow "reflection."[289] Japan has not given up, however. Fisheries Agency official Hideki Moronuki stated that it was a starting point for further talks after a 'cooling off period'[290] and Japan would continue to work within the IWC.[291]

The United States noted that: "We regret that the IWC failed to reach agreement on a new paradigm that would improve the conservation of whales."[292] However, Australia's representative Peter Garrett stated that his country was pleased that such a retrograde step had not been taken and the IWC should instead focus on protecting whales and reforming the institution itself, including Japan's role in funding member-states despite regulations requiring states to pay their own way.[293]

A LOST DECADE? SUBSEQUENT IWC MEETINGS

The failure to resolve the protracted issues between the two warring factions at the 2010 Meeting appears to have deflated hopes for an amicable resolution, leaving both positions firmly entrenched and even further away from resolving their competing issues. At the 2011 Meeting in St Helier, Jersey both New Zealand and the US introduced a resolution to maintain progress towards resolving these issues.[294] Japan acknowledged that progress was being made which needed to be further strengthened at subsequent meetings. However, the Chair could only have the member states agree "that very different views exist among the members regarding whales and whaling and that this difference had come to dominate the time and resources of the commission at the expense of effective whale conservation and management."[295]

They further agreed to merely continue with the ongoing dialogue with a view to building trust and cooperation among the member states despite their differing views of the scope and function of the organisation.[296] Despite these ongoing commitments the Humane Society International reports that key conservation issues slated to be discussed on the 2011 agenda were never actually dealt with because of delaying tactics deployed by pro-whaling states.[297]

At the 2012 Meeting in Panama City, Panama did nothing to assuage the fear that the chance to heal the rifts within the IWC had passed. Japan again

called for member states to continue communicating to build trust and a spirit of collaboration with a goal of building consensus but offered no new approaches on how to do so. New Zealand exhorted states to show the same spirit exhibited in the discussions of 2007–10 when agreement seemed tantalisingly close. Australia proposed a new ground-up approach that would focus on issues where agreement was possible but such an approach seemed unlikely to build enough agreement to tackle the major disagreements fracturing the body. The Chair in closing merely noted tepidly that consensus should be the goal and in its absence, voting should occur.[298]

In 2012 the IWC decide to move to biennial meetings. The first of these was Portoroz, Slovenia and occurred after the ICJ decision was handed down. New Zealand introduced a Proposed Resolution on Whaling under Special Permit and highlighted the ICJ point that the current Japanese special permits were not for scientific purpose. The proposed resolution was meant to entrench the ICJ ruling in any future discussion. Norway argued the submitted proposal would undermine future scientific programmes while Japan argued it intended to recognise the ICJ decision. However, it would not support the resolution since it did not agree with the NZ interpretation of the ICJ ruling and if passed it would narrow the scope of Article VIII. The resolution passed, requiring only a simple majority 35 for, 20 against with 5 abstentions. In an ominous sign, the topic of the Future of the IWC was not discussed at all at this meeting.[299]

The 2016 Meeting also took place in Portoroz, Slovenia and the issue of the future of the organisation was again brought up but delegates could only decide to hold informal discussion on the difference of the positions of the parties.[300] Japan's next iteration of its scientific whaling programme in Antarctica (NEWREP-A) was reviewed by the Scientific Committee. The Committee however, was unable to determine whether non-lethal means could be utilised to achieve the programme's aims. After considering the report and in accordance with Resolution 2014–15, Argentina, Australia, Austria, Belgium, Brazil, Chile, Colombia, Costa Rica, Croatia, Czech Republic, the Kingdom of Denmark, Dominican Republic, Estonia, Finland, France, Gabon, Germany, Hungary, India, Ireland, Italy, Luxembourg, Mexico, Monaco, the Netherlands, New Zealand, Panama, Poland, Slovak Republic, Slovenia, South Africa, Spain, Sweden, UK, Uruguay, and the United States, comprising a majority of states at the meeting:

(1) noted with concern that Japan issued Special permits before the Scientific Committee review was complete and before the Commission had considered the report of the Scientific Committee on NEWREP-A;
(2) assessed that on the basis of the information before the Commission, NEWREP-A is not 'for purposes of scientific research' as required by Article VIII.1 of the International Convention for the Regulation of Whaling; and
(3) requested that Japan cease the lethal component of NEWREP-A.[301]

Japan argued it was in compliance with the ICJ decision since the court had decided that "the use of lethal sampling *per se* is not unreasonable in research objectives of JARPA II."[302] While it noted the concerns raised, Japan argued its decisions were being made on scientific grounds and the report by the Scientific Committee was clearly an ongoing process at this stage.[303]

Again, the issue of improving the body was raised, in this case by Australia, which introduced a draft Resolution on *Enhancing the Effectiveness of the IWC* (IWC/66/10) (co-sponsors New Zealand, US and Brazil). It argued that much more effort was needed to align the IWC with best practice for multilateral treaty bodies and called for a comprehensive, independent review of the body. Following informal meetings, a preamble paragraph was added recognising the differing views regarding the IWC's direction and proposed a Steering Group of states representing a range of views. The resolution IWC/66/10rev was adopted by consensus and a Steering Group was formed comprising Australia, Costa Rica, Iceland, India, Japan, Monaco, Switzerland and the US, with other states welcome to participate.[304]

THE 2018 BRAZIL MEETING

The 2018 meeting took place at the Florianópolis resort in Brazil. The Meeting was considered critical by many delegates because two diametrically opposed viewpoints, encapsulated in draft resolutions of what the future of the IWC would be, were put forward by anti-whaling states led by Brazil and pro-whaling nations, led by Japan.

The Florianópolis Declaration

Brazil, an anti-whaling state, put forward a draft resolution (IWC/67/13 Rev01), the Florianópolis Declaration, with Argentina as co-proponent, and supported by Costa Rica, Mexico and Peru arguing that the social, economic and historic context had changed radically since the IWCR's inception in 1946, now encompassing such issues as whale watching.[305]

The non-binding Florianópolis Declaration proposed that the mandate of the IWC in the twenty-first century was, "to ensure the recovery and the maintenance of whale species and populations at or closest to their pre-industrial exploitation levels, in order to fulfil their ecological and nutrient cycling roles in the world's oceans and to provide maximum benefit from non-lethal uses to coastal communities, particularly in developing countries." The Declaration also argued that commercial whaling was no longer a needed economic activity and that "scientific whaling" is unnecessary in answering scientific questions, given the plethora of non-lethal research methods. Further, aboriginal subsistence whaling should be properly managed and closely monitored to ensure the ongoing conservation of whales.[306]

The debate over the issue was particularly acrimonious. Austria on behalf of the EU, Ecuador, India, Monaco, Uruguay and USA all supported the resolution. Japan, supported by Ghana, Guinea, Iceland, Liberia, Norway, Russian Federation, Sao Tome and Principe, Senegal, Solomon Islands, St Lucia, and St Vincent and The Grenadines, argued that conservation and sustainable use were compatible and therefore could not support the resolution.[307]

The resolution was eventually passed by 40 states, with 27 pro-whaling states voting against. Brazil's commissioner Hermano Ribiero, noted, "We now have an important instrument to guide our path." Nicolas Entrup of ENGO OceanCare saw the majority vote as a "'historical reorientation' of the organisation away from the lethal exploitation of whales."[308] Antigua and Barbuda Commissioner Deven Joseph however, rejected the Declaration as merely "a non-binding, irresponsible, abnormal, inconsistent, deceptive and downright wrong resolution. We will never reach any sort of consensus . . . They can take this organisation and send it to the abyss where whales go when they die!"[309]

Patrick Ramage, of the ENGO International Fund for Animal Welfare, believes that the Declaration was:

> a big win for whales and a clear signal of intent; the majority of government members recognize that conservation and whale protection is the way forward, not unnecessary and cruel whale killing. The IWC has evolved from an old whaler's club to a forward-thinking conservation body.[310]

The way forward

In its opening address to the meeting, Masaaki Taniai, the Japanese State minister for Agriculture, Forestry and Fisheries, and Mitsunari Okamoto, Vice Minister for Foreign Affairs, argued that Japan had been involved in a series of negotiations for over 30 years including the RMS negotiations and the 'Future of the IWC' that were, in their view, focused on returning the IWC to its original mandate, that of resource management and conservation. However, the IWC has not been able to resolve these issues to make the required decisions and has become an "intolerant organization which does not respect the diversity of views." To rectify the issue, Japan is proposing a new path contained in its draft resolution: *The Way Forward – IWC Reform Proposal Including a Draft Resolution and Proposed Schedule Amendment* (IWC/67/08).[311]

The proposal sought to establish a new Sustainable Whaling Committee. The Acting Japanese Commissioner Joji Morishita argued that the "Science is clear: there are certain species of whales whose population is healthy enough to be harvested sustainably."[312] The Committee would be tasked with overseeing both commercial and aboriginal subsistence whaling. The membership would comprise all contracting states committed to "sustainable whaling." The proposal also would amend the IWCR to "relax the decision-making requirement of the Commission," so that the Schedule could be altered by a simple majority vote.[313]

Japan asked for a consensus decision on the whole package. Antigua and Barbuda, Cambodia, Ghana, Grenada, Republic of Guinea, Iceland, Liberia, Nicaragua, Norway, Senegal, Solomon Islands, St Kitts and Nevis, St Lucia, St Vincent and The Grenadines and Togo all supported the proposals, believing the entity needed to be reformed to better respect divergent opinions. Australia, Austria on behalf of the EU, Argentina on behalf of the Buenos Aires Group of South American states, Monaco, New Zealand and USA all rejected the proposal's premise since they opposed the resumption of commercial whaling. They further argued that the body was not dysfunctional as alleged, but rather believed the forum could accommodate differing views. There were 27 votes in favour, 41 against and 2 abstentions and the draft resolution and proposed Schedule amendment (IWC/67/08 Rev01) was not adopted.[314]

Japan in a statement after the vote was cast expressed its disappointment at the decision and stated:

> We continuously believe in the potential of the IWC as a forum of global governance for the conservation and management of whale resources, and therefore wish to continue its cooperation with the IWC in various ways to uphold the objectives enshrined in the Convention. However, if scientific evidence and diversity are not respected, if commercial whaling based on science is completely denied, and if there is no possibility for the different positions and views to co-exist with mutual understanding and respect, then Japan will be pressed to undertake a *fundamental reassessment* [emphasis added] of its position as a member of the IWC . . ."[315]

JAPAN WITHDRAWS FROM THE IWC

Japan's Yoshihide Suga, the chief cabinet secretary, has declared in a *note verbale* that the state will leave the IWC as of 30 June 2019 and will resume commercial whaling within its own waters[316] but they will only hunt species with 'healthy' population numbers.[317] It further announced it would stop its annual hunts in Antarctic waters.[318] The pressure to leave the IWC appears to derive from the Japanese Fisheries Agency supported by a small number of pro-whaling politicians.[319] Mr. Suga stated the IWC was too focused on the issue of whale conservation to the detriment of its stated goal of enhancing a sustainable whaling industry. He also argued: "In its long history, Japan has used whales not only as a source of protein but also for a variety of other purposes . . . Engagement in whaling has been supporting local communities, and thereby developed the life and culture of using whales."[320]

A statement by the EU regretted the decision of Japan to leave the IWC but stated that they remained committed to the IWC and the global commercial ban.[321] A joint statement by Marise Payne, the Australian minister for foreign affairs, and Melissa Price, the Minister for the Environment stated: "Australia remains resolutely opposed to all forms of commercial and so-called 'scientific' whaling," the ministers said. "We will continue to work within the commission

to uphold the global moratorium on commercial whaling." However, Australia was pleased that Japan would no longer take whales from Antarctic waters and within Australian Whale Sanctuary, which had been a point of contention for decades between the two states.[322] The UK Secretary of State for the Environment Michael Gove tweeted that Britain would, "continue to fight for the welfare of these majestic mammals."[323]

Mainstream ENGOs saw this decision as an abrogation of Japan's commitment to protect the global environment. Sam Annesley, the executive director of Greenpeace Japan, decried the decision declaring: "The declaration today is out of step with the international community, let alone the protection needed to safeguard the future of our oceans and these majestic creatures," he said in a statement. "The government of Japan must urgently act to conserve marine ecosystems, rather than resume commercial whaling."[324] However, Paul Watson of the SSCS, who have carried out direct action campaigns to halt what they see as illegal whaling, maintains that the decision by Japan to re-start commercial whaling "means that Japan is now openly declaring their illegal whaling activities . . . No more pretense of research whaling. With this announcement, Japan has declared themselves as a pirate whaling nation."[325]

CONCLUSION

The whaling regime has altered almost beyond recognition from when it first started. It began as an organisation dedicated to protecting whalers' interests and by the time the global commercial whaling ban was introduced in 1982, it had become an organisation dedicated to the protection of whales. The whaling moratorium has had a positive effect in terms of reversing decades of exploitation and allowing whale stocks to recover.[326]

However, the question of how entrenched the idea of preserving whales has become is the subject of fierce debate amongst researchers in the field.[327] It is clear that for the moment preservationist ideas are ascendant and that most members of the IWC favour the total extinction of the whaling industry.[328] While preservationist proponents may not yet have brought about a universal shift sufficient to end the debate they have been remarkably successful in a relatively short period of time in changing how whales, and the practice of whaling, are perceived globally.[329] As Stoett acknowledges, "it may be argued that there is sufficient normative consensus to maintain the present non-consumptive philosophic outlook in the IWC and the broader whaling regime."[330] However, the exemptions allowing for scientific whaling and continued aboriginal subsistence whaling have complicated the operation of the ban.[331]

Friedheim in 2001 argued that it could be observed within the whaling regime that, "the preservation norm has gone through a 'tipping point' and has 'cascaded' throughout the world community, and all that needs to be done is to have it 'internalised' by the peoples and governments of the world."[332] His analysis is mostly correct but he failed to understand that many states had already internalised the preservationist idea. States such as Australia, France, the Netherlands

and the US appear to have internalised preservationist values as part of their state identities and as a consequence they have become powerful proponents for not commercial whaling.[333]

Post the moratorium the IWC entered a period where pro-whaling and anti-whaling states sought to impose their vision of what the organisation should be. While anti-whaling states were able to create two whale sanctuaries, the failure of the Irish proposal, and the RMP, the Future of the IWC and the consensus decision talks demonstrated a regime in stasis.[334] While there had been incremental change in the IWC with regard to financial reporting and better transparency regarding decision-making processes, such resolutions did not tackle the ongoing philosophical rift at the heart of the IWC.[335]

The role played by non-state actors in altering the ecological direction of the IWC was essential in altering the regime's purpose. ENGOs were critical in raising the public profile of the issue of whaling and showing the barbaric nature of whaling. They put pressure on delegations through stunts, provided position papers and successfully managed to infiltrate the IWC formal meetings with the help of sympathetic states and helped put in place the global whaling ban. This was the first global, large-scale biodiversity campaign run by the ENGOs and the lessons learnt proved invaluable when dealing with other global environmental regimes.

The role of scientists also proved important once they stopped being 'mouthpieces' for their states' interests. Over the decades the Scientific Committee has evolved into an independent, highly skilled group that provides expert information about whales' lifestyles and habitats, allowing for quality decision-making by the broader IWC.

At recent meetings Japan was unable to advance its position significantly at the IWC.[336] For years Japan threatened to leave the IWC if its positions were not adopted and they fulfilled that threat when they gave notice they would be leaving 30 June 2019.[337] It appears that the passing of the Florianópolis Declaration and the rejection of Japan's Way forward package, combined with the decades-long policy and normative deadlock, demonstrated to the Japanese government that the organisation could not be altered. The schism between pro-whaling states and anti-whaling nations would not be surmountable and they were better off free from the constraints of the body.

Japan leaving the IWC and pledging to only whale in its own waters does not resolve the issue of whaling for Japan. The popularity of the domestic consumption of whalemeat is clearly on the wane. Official Japanese figures show the consumption of whale meat has declined from 233,000 tons of whale meat in 1962, to just 3,000 tons eaten in 2016. Further, whaling no longer makes economic sense, even if practised in local waters. In 2013, the domestic whaling industry employed fewer than 1,000 people[338] and the majority of the whales caught from Japan's scientific whaling programme ends up as pet food.[339] Nanami Kurasawa of the Iruka and Kujira (dolphin and whale) Action Network (IKAN) argues that most Japanese have little interest in the issue nor in eating whale meat and this is unlikely to change in the future.[340]

The scientific whaling programme was subsidised by the government and it is not yet clear whether this new commercial programme will attract government subsidies (nor to what levels). If it is not subsidised it will become increasingly more expensive to purchase.[341] Further, scientific evidence demonstrates that whaling stocks in the Japanese Exclusive Economic Zone (EEZ), are considered to be low and are not showing the signs of recovery observed elsewhere.[342] Consequently, there may not be enough whales in the zone to meet current demand or economic imperatives even at the low domestic Japanese demand for whalemeat.

Without the lead pro-whaling state there is clearly an opportunity for the IWC to evolve into an anti-whaling body. Without the intransigence of Japan being present it is likely that more whaling sanctuaries will be created. Further, the issue of whalewatching, which Japan and their allies had blocked for years from being formally part of the ambit of the IWC, may well become a major part of the IWC's activities going forward.

Japan no longer being a member of the IWC will also be an opportunity to close the scientific whaling exception.[343] Scientific whaling in the future might potentially only allow non-lethal lines of inquiry except in the most severe circumstance. There is a very good chance that the IWC might end commercial whaling for good, only allowing aboriginal whaling in very small numbers. Without Japan as a member, the IWC appears poised to enter the next phase of its existence; as a fully preservationist body dedicated to protecting whales.

NOTES

1 Anthony D'Amato and K. Sudhir Chopra, "Whales: Their Emerging Right to Life," *The American Journal of International Law* (1991), 85, 28.
2 Niels Einarsson, "All Animals Are Equal but Some Are Cetaceans: Conservation and Culture Conflict," in Kay Milton (ed.), *Environmentalism: The View from Anthropology*, London: Routledge, 1993, 73; Paul Wapner, "Horizontal Politics: Transnational Environmental Activism and Global Cultural Change," *Global Environmental Politics* 2002, 2 (2), 37–62, 48.
3 Wapner, "Horizontal Politics: Transnational Environmental Activism and Global Cultural Change," 48.
4 Ibid., 28–9. Industrial whaling refers to the commercial hunting of the larger, migratory 79 whale species, for example, the blue whale. Sebastian Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," in Olav Schram Stokke (ed.), *Yearbook of International Co-Operation on Environment and Development 1998/99*, London: Earthscan, 1998/99, 29.
5 Elizabeth DeSombre, *The Global Environment and World Politics, International Relations for the 21st Century*, London: Continuum, 2002, 123.
6 Farley Mowat, *Sea of Slaughter: A Chronicle of the Destruction of Animal Life in the North Atlantic*, Shelburne, Vermont: Chapters Publishing Ltd., 1996, 210.
7 DeSombre, *The Global Environment and World Politics*, 123.
8 "International Whaling Statistics 1931," Oslo: The Committee for Whaling Statistics, 1931, 4.
9 Robert C. Ellickson, "A Hyperbook of Wealth-Maximizing Ideas: Evidence from the Whaling Industry," *Journal of Law, Economics, and Organization* (1989), 1, 84 n. 3.

10 "International Whaling Statistics 1931," 1, 5; Peter J. Bryant, "Biodiversity and Conservation: A Hypertext Article" ([cited 1 February 2006]), available at: http://www.dbc.uci.edu/~sustain/bio65/Titlpage.htm; Ray Gambell, "The International Whaling Commission and the Contemporary Whaling Debate," in John R. Twiss Jr. and Randall R. Reeves (eds), *Conservation and Management of Marine Mammals*, Melbourne, Victoria: Melbourne University Press, 1999, 179–80. Svend Foyn's first use of the harpoon gun was not auspicious. He managed to become entangled in the line and was hurled into the water but was rescued. F. D. Ommanney, *Lost Leviathan*, London: Hutchinson, 1971, 95.
11 "International Whaling Statistics 1931," 5.
12 DeSombre, *The Global Environment and World Politics*, 123; Ommanney, *Lost Leviathan*, 92. European whalers such as the British, French and the Germans continued large-scale hunting of Greenland bowhead whales and Biscayan right whales throughout the nineteenth century leading to the decimation of these whale populations. D'Amato and Chopra, "Whales: Their Emerging Right to Life," 28–9.
13 Ellickson, "A Hyperbook of Wealth-Maximizing Ideas: Evidence from the Whaling Industry," 96.
14 Peter John Stoett, *The International Politics of Whaling*, Vancouver: UBC Press, 1997, 48.
15 Ibid., 52.
16 Ellickson, "A Hyperbook of Wealth-Maximizing Ideas: Evidence from the Whaling Industry," 96.
17 Gambell, "The International Whaling Commission and the Contemporary Whaling Debate," 180; David G. Victor, "Whale Sausage: Why the Whaling Regime Does Not Need to Be Fixed," in Robert L. Friedheim (ed.), *Toward a Sustainable Whaling Regime*, Seattle: University of Washington Press, 2000, 295.
18 "International Whaling Statistics 1931," 4.
19 Ibid., 14.
20 Ibid., 5, 14. In 1923 factory ships were made even more efficient when they were built with a ramp at the stern to enable an entire whale to be brought aboard in a matter of minutes. "International Whaling Statistics 1931," 15.
21 "International Whaling Statistics 1931," 10.
22 Chris Stroud, "The Ethics and Politics of Whaling," in Mark Simmonds and Judith D. Hutchinson (eds), *The Conservation of Whales and Dolphins*, Chichester: John Wiley & Sons, 1996, 59–61.
23 Ibid.
24 Ibid.
25 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 30.
26 "International Whaling Statistics 1935," Oslo: The Committee for Whaling Statistics, 1935, 4. In 1930–31, 42,874 whales were taken. "International Whaling Statistics 1935," 4.
27 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 29.
28 Stoett, *The International Politics of Whaling*, 57.
29 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 31.
30 Randall R. Reeves, "The Origins and Character of 'Aboriginal Subsistence' Whaling: A Global Review," *Mammal Review* (2002), 32, 72.
31 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 31.
32 Ibid. Both Germany and Japan did not sign on to the Agreement because they considered it contrary to their interests at that time. Germany was using whale oil to lessen

their need for importing edible oil and Japan was using the sale of whale oil to pay for its imperial ambitions in China and Manchuria. D'Amato and Chopra, "Whales: Their Emerging Right to Life," 31.

33 DeSombre, *The Global Environment and World Politics*, 124.

34 "International Whaling Statistics 1935," 1; John Vogler, *The Global Commons: Environmental and Technological Governance* (2nd ed.), Chichester: John Wiley, 2000, 49.

35 "International Whaling Statistics 1935," 1.

36 Ibid., 4.

37 Vogler, *The Global Commons: Environmental and Technological Governance*, 49.

38 DeSombre, *The Global Environment and World Politics*, 124. With the failure of international accords some whaling states attempted to put in place domestic controls again. Norway, at this time a leading proponent of a conservationist ethic to be applied to global whaling enacted a law on 26 June 1934 which limited the hunting season in Antarctic waters from 1 December till 31 March from the 1934/35 season. Foreign whaling companies agreed to adhere to the time limit affixed by the Norwegian Act of 1934 except the Southern Whaling and Sealing Co. Ltd. and the Kerguelen Sealing and Whaling Co. Ltd. "International Whaling Statistics 1936," Oslo: The Committee for Whaling Statistics, 1936, 1–2. The number of defectors from the production agreements soon doomed the agreement to collapse as those adhering to the accord were unwilling to allow the free-rider companies to derive economic advantage from it.

39 "Eighth Report of the Commission," London: International Whaling Commission, 1957, 3.

40 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 31.

41 Stoett, *The International Politics of Whaling*, 57.

42 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 31.

43 Ibid.

44 "International Whaling Statistics 1953," Oslo: The Committee for Whaling Statistics, 1953, 13.

45 Patricia W. Birnie, *International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching*, New York: Oceana Publications, 1985, 129–30.

46 "Eighth Report of the Commission," 3.

47 "International Whaling Statistics 1953," 13.

48 DeSombre, *The Global Environment and World Politics*, 124. The BWU however was a scientifically dubious measurement devised in the 1930s as a way to quantify the oil produced from various species of whale. Gregory Rose and George Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," in James Cameron, Jacob Werksman, and Peter Roderick (eds), *Improving Compliance with International Environmental Law*, London: Earthscan Publications Ltd, 1996, 161. One BWU was considered equal to one blue whale which was equal to two fin whales which equalled two and a half humpbacks and six sei whales. "International Whaling Statistics 1950," Oslo: The Committee for Whaling Statistics, 1950, 2. The imprecision of such calculations only exacerbated the situation since the methodology employed treated whales merely as an exploitable resource taking the focus away from the number of whales killed and putting it on what each species economically provided.

49 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 31.

50 "Eighth Report of the Commission," 3.
51 "International Whaling Statistics 1953," 13.
52 G. J. Aplin, *Global Environmental Crises: An Australian Perspective*, Melbourne: Oxford University Press, 1995, 239–41., Vogler, *The Global Commons: Environmental and Technological Governance*, 49.
53 Stoett, *The International Politics of Whaling*, 30.
54 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 32.
55 "First Report of the Commission," London: International Whaling Commission, 1950, 3; Reeves, "The Origins and Character of 'Aboriginal Subsistence' Whaling: A Global Review," 72. The Convention was signed by the delegates of Argentina, Australia, Brazil, Canada, Chile, Denmark, France, the Netherlands, New Zealand, Norway, Peru, the United Kingdom including Northern Ireland, the United States of America and the Union of Soviet Socialist Republics on 2 December 1946. "First Report of the Commission," 3.
56 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 32; Vogler, *The Global Commons: Environmental and Technological Governance*, 53.
57 Vogler, *The Global Commons: Environmental and Technological Governance*, 49.
58 Appendix 1: The 1946 International Convention for the Regulation of Whaling, "First Report of the Commission," 9.
59 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 29.
60 Vogler, *The Global Commons: Environmental and Technological Governance*, 50. The UK delegation to the Meeting in 1945 argued that it would be in his view a "tragedy if any international machinery was to get in the way of increased production" and this was indicative of the position of all the whaling nations. Vogler, *The Global Commons: Environmental and Technological Governance*, 50.
61 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 32; Tora Skodvin and Steinar Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," *Global Environmental Politics* (2003), 3 (4), 61–86, 71.
62 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 29.
63 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 70–71. Initially only 15 nations participated in meetings, and overwhelmingly they were whaling nations. Ibid., 71.
64 Gareth Porter, Janet Welsh Brown, and Pamela S. Chasek, *Global Environmental Politics*, Boulder, CO: Westview Press, 2000, 78.
65 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 32.
66 Vogler, *The Global Commons: Environmental and Technological Governance*, 51.
67 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 30.
68 Adrienne M. Ruffle, "Resurrecting the International Whaling Commission: Suggestions to Strengthen the Conservation Effort," *Brooklyn Journal of International Law* (2002), 27, 2.
69 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 154. To amend the constitution requires the agreement of all IWC member states but amendments to the Schedule Regulations, under Article III, can be passed with merely a three-quarters majority. These regulations are also binding on all members whether they vote for them or not. Rose and Paleokrassis, "Compliance with International Environmental

Obligations: A Casestudy of the International Whaling Commission," 154. These two factors were to have a profound effect on the direction of the organization since most advocacy focused on changing the regulations due to the relative ease of doing so.

70 Milton M. R. Freeman, "Political Issues with Regard to Contemporary Whaling," in Simon Ward (ed.), *Who's Afraid of Compromise?*, Tokyo: ICR, 1990, 2–3.

71 "First Report of the Commission," 5. Yet the IWC, as one of its first acts, passed Resolution 11 which permitted the hunting of 1,250 humpback whales south of 40 degrees South Latitude in both the 1949/50 and 1950/51 seasons, "First Report of the Commission," 5.

72 The initial IWC Regulations were similar to those in force in the 1937/38 season. The maximum pelagic catch of baleen whales was set at 16,000 blue whale units. The harvest period was fixed from 15 December 1948 till 1 April 1949 and whaling from shore stations was fixed at six months, "International Whaling Statistics 1950," 1. If the level of 16,000 BWUs was reached before the end of the hunting season then operations were to stop immediately. "International Whaling Statistics 1950," 2.

73 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 161.

74 DeSombre, *The Global Environment and World Politics*, 127. While the number of floating factory ships and catchers were down from pre-WWII numbers the average size of the catchers' ships had increased, as had their engine power. The average horsepower of the catcher ships had increased from 1,100 before the war to 1,562 in 1948/49, enabling a greater taking capacity. "International Whaling Statistics 1950," 11.

75 DeSombre, *The Global Environment and World Politics*, 118. For example, see the "Third Report of the Commission," London: International Whaling Commission, 1952, 15. The Report stated that the 16,000 BWU limit had been exceeded by 413 for that year.

76 "International Whaling Statistics 1950," 10.

77 The IWC responded to the ongoing situation by resolving at the Fourth Meeting to stop taking: blue whales smaller than 70 feet; sei whales smaller than 40 feet; and humpback whales smaller than 35 feet. The same meeting banned factory ships and catchers from catching baleen whales in certain areas. "Fourth Report of the Commission," London: International Whaling Commission, 1953, 12–13. At the 1955 IWC meeting there were conservationist measures approved, with prohibitions placed on the taking of any blue whales in parts of the North Pacific Ocean and humpback whales in the North Atlantic Ocean for five years. Similar prohibitions banned the taking of sperm or minke whales except as permitted by contracting governments. "Sixth Report of the Commission," London: International Whaling Commission, 1955, 5. In 1955 the Scientific Sub-Committee recommended that the Pacific Sanctuary be re-opened, which was accepted, but the delegates refused to reduce the BWU limit by 500, negating the decision. "Sixth Report of the Commission," 17, 19.

78 "Seventh Report of the Commission," London: International Whaling Commission, 1956, 6; Ruffle, "Resurrecting the International Whaling Commission: Suggestions to Strengthen the Conservation Effort," 5.

79 "International Whaling Statistics 1953," 2.

80 "International Whaling Statistics 1959," Oslo: The Committee for Whaling Statistics, 1959, 1; "International Whaling Statistics 1960," Oslo: The Committee for Whaling Statistics, 1960, 1.

81 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 33.

82 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 63.
83 "Second Report of the Commission," London: International Whaling Commission, 1951, 3.
84 M.J. Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," in Peter M. Haas (ed.), *Knowledge, Power, and International Policy Co-Ordination*, Columbia, SC: University of South Carolina Press, 1992, 147–86, 158–9.
85 "Twelfth Report of the Commission," London: International Whaling Commission, 1961, 14–15.
86 During the first few years of the IWC, the scientific representation to the Committee was sporadic with few states sending representatives and the state of knowledge of whale stocks minimal and disputed. While scientific advice was cursorily considered, it was generally ignored by states. Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 71.
87 Gareth Porter and Janet Welsh Brown, *Global Environmental Politics*, Boulder, CO: Westview Press, 1991, 80–81; Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 76.
88 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 75–6.
89 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 153; Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 154.
90 Porter and Brown, *Global Environmental Politics*, 79; Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 154.
91 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 31; Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 160–61.
92 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 71.
93 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 154.
94 "Nineteenth Report of the Commission," London: International Whaling Commission, 1969, 15.
95 Ibid.; Porter and Brown, *Global Environmental Politics*, 79.
96 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 34.
97 David D. Caron, "The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures," *American Journal of International Law* (1995), 89 (1), 156.
98 Stoett, *The International Politics of Whaling*, 65; Rex Weyler, *Greenpeace: An Insider's Account: How a Group of Journalists, Ecologists and Visionaries Changed the World*, London: Rodale, 2004, 211.
99 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 34. Japan's response to the UN Conference on the Human Environment was to label the moratorium proposal as "dramatic and emotional." Ruffle, "Resurrecting the International Whaling Commission: Suggestions to Strengthen the Conservation Effort," 4.
100 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 32.
101 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 31.

102 "Fifteenth Report of the Commission," London: International Whaling Commission, 1965, 11.
103 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 73.
104 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 149. Representatives of Friends of the Earth, the Fauna Preservation Society, the International Society for the Protection of Animals, the International Union for the Conservation of Nature and Natural Resources and the World Wildlife Fund all made statements. "Twenty-Second Report of the Commission," London: International Whaling Commission, 1972, 20.
105 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 184.
106 Vogler, *The Global Commons: Environmental and Technological Governance*, 50.
107 Stoett, *The International Politics of Whaling*, 95.
108 DeSombre, *The Global Environment and World Politics*, 136.
109 Wapner, "Horizontal Politics: Transnational Environmental Activism and Global Cultural Change," 48. ENGOs mounted a campaign to educate the global public about the anthropomorphic qualities of whales using photographs, film and audio recordings purported to show "evidence" of the intelligence and uniqueness of whales. Some ENGOs pursued direct action methods against whalers and promoted these mini-dramas to global media outlets to emphasise their points. Wapner, "Horizontal Politics: Transnational Environmental Activism and Global Cultural Change," 48.
110 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 31. These included such well-known ENGOs as Friends of the Earth, Greenpeace International, the WWF, the Whale Coalition and Whale Project and some lesser known ENGOs such as the Assembly of Rabbis and the International Transport Workers' Federation statements. "Annual Report of the International Whaling Commission 31," London: International Whaling Commission, 1981, 35.
111 Isao Miyaoka, *Legitimacy in International Society: Japan's Reaction to Global Wildlife Preservation*, New York: Palgrave Macmillan, 2004, 90–91.
112 Ibid., 9.
113 "Twenty-Fourth Report of the Commission," London: International Whaling Commission, 1974, 24–5.
114 Weyler, *Greenpeace: An Insider's Account: How a Group of Journalists, Ecologists and Visionaries Changed the World*, 215.
115 "Twenty-Fifth Report of the Commission," London: International Whaling Commission, 1975, 26.
116 "Twenty-Sixth Report of the Commission," London: International Whaling Commission, 1976, 25.
117 Weyler, *Greenpeace: An Insider's Account: How a Group of Journalists, Ecologists and Visionaries Changed the World*, 215.
118 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 34–5.
119 "Twenty-Sixth Report of the Commission," 25.
120 Ibid., 26.
121 Ibid., 11; Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 161; Stroud, "The Ethics and Politics of Whaling," 77. The MSY was calculated by analysing whale stocks according to three criteria. Level one was "Protected stocks," where hunting

was banned until whale stocks had recovered to acceptable levels. If a whale type was designated "at or near" MSY levels they were meant to be maintained at those numbers (Sustained Management Stocks). The third grouping was a situation where whale stocks of a certain species were above the MSY level (Initial Management Stocks) they could be lowered, presumably by hunting, to the designated MSY. "Twenty-Sixth Report of the Commission," 11.

122 "Twenty-Sixth Report of the Commission," 11; Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 161; Stroud, "The Ethics and Politics of Whaling," 77.

123 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 72.

124 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 169–70.

125 High North Web: Whaling Today (High North Alliance, [cited 20 July 2000]) on file with author.

126 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 169–70.

127 DeSombre, *The Global Environment and World Politics*, 137–8. For example, in Australia this occurred through domestic electoral pressure winning the support of the Liberal/National government post 1977. In the case of the Netherlands it had stopped whaling but remained in the IWC committed to preventing commercial whaling. Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 175; DeSombre, *The Global Environment and World Politics*, 138.

128 "Annual Report of the International Whaling Commission 29," London: International Whaling Commission, 1979, 31.

129 Vogler, *The Global Commons: Environmental and Technological Governance*, 51.

130 "Whale Vote Leaves Japan out in the Cold (Publicity Material)," Greenpeace Australia, 1994. The whale was eventually discovered blocking the entrance to the Japanese assembly room leading to a situation where hotel staff and police destroyed the inflatable whale with knives in front of the media's television cameras in a wonderful publicity coup for the ENGOs.

131 Weyler, *Greenpeace: An Insider's Account: How a Group of Journalists, Ecologists and Visionaries Changed the World*, 472.

132 "Twenty-Ninth Report of the International Whaling Commission," London: International Whaling Commission, 1979, 18.

133 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 74.

134 In 1972 the US Congress enacted the Marine Mammal Protection Act (MMPA) that put in place a moratorium on harvesting and importing marine mammal products unless a waiver had been granted. The Pelly amendment of that year also supported the broad strokes of the MMPA in that it allowed the Secretary of Commerce to certify to the President actions such as sanctions, providing they were not prohibited under the then General Agreement on Tariffs and Trade (GATT), against foreign states that abrogated global nature conservation initiatives. Stephen S. Boynton, "'Whaling Policy' of the United States Yesterday, Today and Tomorrow," Paper presented at the ISANA No. 11, 1994, 2. The threat to invoke the Pelly amendment by the US government saw the routine defiance of the IWC by whaling states over the previous decades become a thing of the past by the mid-1970s. Rose and Paleokrassis,

"Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 169–70.

135 DeSombre, *The Global Environment and World Politics*, 134.

136 Aplin, *Global Environmental Crises: An Australian Perspective*, 239.

137 Vogler, *The Global Commons: Environmental and Technological Governance*, 51.

138 "Annual Report of the International Whaling Commission 30," London: International Whaling Commission, 1980, 25. Sweden and the Seychelles joined the IWC in 1979. "Annual Report of the International Whaling Commission 30," 25.

139 This was possible because, unlike the Antarctic regime, there is no requirement to actually whale for a state to become a member of the IWC, leading to such anomalies as landlocked Switzerland being able to become a member. Vogler, *The Global Commons: Environmental and Technological Governance*, 51–2.

140 Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 81. DeSombre tells a tale of an IWC secretary who alleges that an "unnamed member state . . . simply signed over the check from an environmental organization to pay its dues." Skodvin and Andresen, "Nonstate Influence in the International Whaling Commission, 1970–1990," 81.

141 Gareth Porter, Janet Welsh Brown, and Pamela S. Chasek, *Global Environmental Politics (Dilemmas in World Politics)*, (3rd ed.), Boulder, CO: Westview Press, 2000, 78.

142 High North Web: Whaling Today (High North Alliance, [cited 20 July 2000]); on file with author.

143 Weyler, *Greenpeace: An Insider's Account: How a Group of Journalists, Ecologists and Visionaries Changed the World*, 540–41.

144 High North Web: Whaling Today ([cited]).

145 Gregory Rose, "International Law and the Status of Cetaceans," in Mark P. Simmonds and Judith D. Hutchinson (eds), *The Conservation of Whales and Dolphins*, Chichester: John Wiley & Sons, 1996, 23–53.

146 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 36.

147 Ibid.

148 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 37.

149 Ibid.

150 Ibid.

151 Ibid., 36.

152 "Annual Report of the International Whaling Commission 31," 18–19.

153 Ibid., 18.

154 Ibid., 18–19.

155 "Annual Report of the International Whaling Commission 32," Cambridge: International Whaling Commission, 1982, 17.

156 Ibid., 18.

157 Ibid., 19–20.

158 Vogler, *The Global Commons: Environmental and Technological Governance*, 52.

159 The tiny island nation of the Seychelles ended up playing a critical role in the decision to impose a moratorium on whaling since the document was introduced by that nation. Behind that flag of convenience were NGOs determined to push their own preservationist agenda at the IWC meeting. The Seychelles delegation included Sidney Holt, a key player in the Save-the-Whale movement who had been chairman of Greenpeace UK and had been employed for ten years by the International Fund for Animal Welfare (IFAW). In partnership with the director of Greenpeace International,

David McTaggart, they had worked tirelessly to recruit new, non-whaling nations to the IWC. High North Web: Whaling Today ([cited]).

160 "Annual Report of the International Whaling Commission 33," Cambridge: International Whaling Commission, 1983, 20–21.
161 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 37.
162 "Annual Report of the International Whaling Commission 33," 21.
163 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 37.
164 Ibid.
165 Ruffle, "Resurrecting the International Whaling Commission: Suggestions to Strengthen the Conservation Effort," 4; Reeves, "The Origins and Character of 'Aboriginal Subsistence' Whaling: A Global Review," 90.
166 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 148.
167 Miyaoka, *Legitimacy in International Society: Japan's Reaction to Global Wildlife Preservation*, 92.
168 Peterson, "Whalers, Cetologists, Environmentalists, and the International Management of Whaling," 148.
169 DeSombre, *The Global Environment and World Politics*, 140; Stoett, *The International Politics of Whaling*, 59.
170 Oberthur, "The International Convention for the Regulation of Whaling: From Over-Exploitation to Total Preservation," 35.
171 Ibid., 33; DeSombre, *The Global Environment and World Politics*, 136.
172 DeSombre, *The Global Environment and World Politics*, 139, 141.
173 Raymond L. Bryant and Sinead Bailey, *Third World Political Ecology: An Introduction*, New York: Routledge, 1996, 3–4.
174 Kristen M. Fletcher, "The International Whaling Regime and U.S. Foreign Policy," in Paul G. Harris (ed.), *The Environment, International Relations, and U.S. Foreign Policy*, Washington, D.C.: Georgetown University Press, 2001, 217–37, 224.
175 "Annual Report of the International Whaling Commission 34," Cambridge: International Whaling Commission, 1984, 13.
176 D'Amato and Chopra, "Whales: Their Emerging Right to Life," 38.
177 Ibid.
178 Aplin, *Global Environmental Crises: An Australian Perspective*, 241.
179 Ibid., 38–39.
180 Andrew Darby, *Harpooned: Into the Heart of Whaling*, NSW: Allen & Unwin, 2007, 212.
181 Matthew Denholm, "Push to Harpoon Ban on Whaling," *The Australian*, 21 January 2005, 3.
182 St Lucia and St Vincent were the first in 1986 and a year later fisheries grant aid began to flow into those states. Darby, *Harpooned: Into the Heart of Whaling*, 213.
183 *Greenpeace Australia Magazine*, Spring 1994, 3. During the 2005 IWC Meeting there were again many allegations of Japan attempting to vote buy. The Solomon Islands National Planning and Aid Coordination, Minister Fred Fono, reportedly agreed to support the Japanese position after meeting the Japanese delegation, who offered the Solomon islands an extended aid package of US$39 million. Peter Alford, "Whaling Ban Faces Extinction as Japan Splashes Cash," *The Australian*, 20 June 2005, 4. Japan has recently been discovered paying the IWC's annual levies on behalf of Grenada and the Solomon Islands. In the case of Grenada, support for the Japanese position was bought, according to Grenada's former IWC Commissioner, Michel

Baptiste, for support of Grenada's fishing industry. Clay Lucas, "Evidence of Whale Vote Bribery," *The Age*, 18 July 2005, 4.

184 Peter Alford, "Defeated Whalers Sense Tide Turning," *The Australian*, 25–26 June 2005, 16.

185 Darby, *Harpooned: Into the Heart of Whaling*, 213–29.

186 Denholm, "Push to Harpoon Ban on Whaling," 3.

187 "Annual Report of the International Whaling Commission 35," Cambridge: International Whaling Commission, 1985, 20.

188 "Annual Report of the International Whaling Commission 37," Cambridge: International Whaling Commission, 1987, 10.

189 "Annual Report of the International Whaling Commission 38," Cambridge: International Whaling Commission, 1988, 10.

190 "Annual Report of the International Whaling Commission 39," Cambridge: International Whaling Commission, 1989, 10. The membership of the Committee comprised both preservationist and conservationist states, including representatives from Australia, Brazil, People's Republic of China, Denmark, Iceland, Japan, Republic of Korea, Mexico, New Zealand, Norway, Seychelles, Spain, Sweden, Switzerland, USSR, UK and the US. "Annual Report of the International Whaling Commission 39," 10.

191 "Annual Report of the International Whaling Commission 39," 10.

192 "Annual Report of the International Whaling Commission 41," Cambridge: International Whaling Commission, 1991, 11.

193 "Annual Report of the International Whaling Commission 42," Cambridge: International Whaling Commission, 1992, 11.

194 Appendix 1, Ibid., 46.

195 "Annual Report of the International Whaling Commission 44," Cambridge: International Whaling Commission, 1994, 11; Darby, *Harpooned: Into the Heart of Whaling*, 240.

196 "Annual Report of the International Whaling Commission 53," Cambridge: International Whaling Commission, 2003, 7–8. Mexico moved the motion on behalf of the co-sponsors Australia, Brazil, Finland, France, Germany, Ireland, Italy, Kenya, Monaco, the Netherlands, New Zealand, Portugal, San Marino, South Africa, Spain, Sweden, the UK and the US. "Annual Report of the International Whaling Commission 54," Cambridge: International Whaling Commission, 2004, 7.

197 "Annual Report of the International Whaling Commission 53," 8–9.

198 At this time the veto coalition included Denmark, Iceland, Norway, the Republic of Korea, Antigua and Barbuda, China, Dominica, Russia, Japan, Grenada, St. Lucia and Morocco. Ibid., 9.

199 Ibid., 9–10.

200 Ibid., 10–11.

201 "Annual Report of the International Whaling Commission 55," Cambridge: International Whaling Commission, 2005, 64–5.

202 Ibid., 67–8.

203 "Annual Report of the International Whaling Commission 58," Resolution 2006–1, 1.

204 "Annual Report of the International Whaling Commission 58," 64–5; Darby, *Harpooned: Into the Heart of Whaling*, 243–4.

205 "Annual Report of the International Whaling Commission 59," 11; "IWC/59/7," *Conference for the Normalization of the International Whaling Commission*, 13–15 February 2007, Tokyo, Japan; Darby, *Harpooned: Into the Heart of Whaling*, 245.

206 Rose and Paleokrassis, "Compliance with International Environmental Obligations: A Casestudy of the International Whaling Commission," 157.
207 Rose, "International Law and the Status of Cetaceans," 38.
208 Ibid., 38–9. For example, in the 1987/88 season Japan undertook a research programme with the nebulous aim of determining a better understanding of the population dynamics of minke whales in Antarctica which apparently means killing three hundred whales a year. Stroud, "The Ethics and Politics of Whaling," 69–70.
209 "Annual Report of the International Whaling Commission 35," 9–10.
210 "Annual Report of the International Whaling Commission 37," 11–12, 25.
211 Appendix 2, "Annual Report of the International Whaling Commission 38," 28; Appendix 3, "Annual Report of the International Whaling Commission 38," 28.
212 Appendix 4, "Annual Report of the International Whaling Commission 38," 29.
213 Appendices 1, 2, "Annual Report of the International Whaling Commission 39," 30–31.
214 "Annual Report of the International Whaling Commission 40," 36; Appendices 1, 2, "Annual Report of the International Whaling Commission 41," 47–8; Appendices 2, 3, "Annual Report of the International Whaling Commission 42," 46–7; "Annual Report of the International Whaling Commission 43," 49; "Annual Report of the International Whaling Commission 44," 33; "Annual Report of the International Whaling Commission 45," 29; Appendix 7, Resolution 1996–7, "Annual Report of the International Whaling Commission 47," 51–2; Appendix 6, Resolution 1997–6, "Annual Report of the International Whaling Commission 48," 47–8; Appendix 2, IWC Resolution 1998–1, "Annual Report of the International Whaling Commission 49," 42; Appendix 4, Resolution 1999–3, "Annual Report of the International Whaling Commission 50," 52–3; Resolution 2000–4, Resolution 2000–5, "Annual Report of the International Whaling Commission 51," 56; Resolution 2001–7, 2001–8, "Annual Report of the International Whaling Commission 52," 57; "Annual Report of the International Whaling Commission 54," Summary of Decisions.
215 "Annual Report of the International Whaling Commission 45," 29.
216 "Annual Report of the International Whaling Commission 46," 30.
217 Ibid.
218 Appendix 5, IWC Resolution 1998–4, "Annual Report of the International Whaling Commission 49," 43.
219 "Annual Report of the International Whaling Commission 54," Summary of Decisions.
220 Resolution 2007–1 (40 for, 2 against, 1 abstention, with 27 states not participating) required the Japanese government to suspend the lethal aspects of its research programme, "Annual Report of the International Whaling Commission 59," 5.
221 Jacquelin Magnay, "Japan Ordered to End Whaling," *The Australian*, 5 January 2015, available at: http://www.theaustralian.com.au/national-affairs/policy/japan-ordered-to-end-whaling/story-fn59nm2j-1226870372371
222 *Whaling in the Antarctic (Australia v Japan): New Zealand Intervening)* [2014] International Court of Justice 148 (31 March 2014), 13.
223 *Whaling in the Antarctic (Australia v Japan): New Zealand Intervening)* [2014] International Court of Justice 148 (31 March 2014) 10.
224 Andrew Darby, "International Court of Justice Orders Japan to End Antarctic Whaling," *The Age*, 2 April 2014, available at: http://www.theage.com.au/federal-politics/political-news/international-court-of-justice-orders-japan-to-end-antarctic-whaling-20140401-35wb0.html

225 *Whaling in the Antarctic (Australia v Japan)*, 27.
226 Ibid. 21.
227 Ibid., 13–15.
228 "Annual Report of the International Whaling Commission 49," 35. The submission does not make it apparent whether it is the 200 nautical mile Exclusive Economic Zones, the 12 nautical mile fisheries limit, or the 4 nautical mile territorial zones.
229 Ibid., 35–6.
230 "Annual Report of the International Whaling Commission 50," 42.
231 Ibid., 47.
232 Ibid., 43.
233 "Annual Report of the International Whaling Commission 51," 50.
234 DeSombre, *The Global Environment and World Politics*, 142.
235 Ibid. There is no mention of the issue being discussed at all at the 2007 Meeting in Alaska and it appears to have been allowed to lapse.
236 Rose, "International Law and the Status of Cetaceans," 37.
237 Cassandra Phillips, "Conservation in Practice: Agreements, Regulations, Sanctuaries and Action Plans," in Mark Simmonds and Judith D. Hutchinson (eds), *The Conservation of Whales and Dolphins*, Chichester: John Wiley & Sons, 1996, 460. The IWC established one in the Southern Ocean (south of 40 degrees, between 160 degrees west and 70 degrees west) in 1946 but it was really the same sanctuary set up in 1938 under the auspices of the 1937 International Agreement for the Regulation of Whaling. Whalers accepted the 1946 sanctuary because the region quarantined was not considered economically viable due to whales being scarce in the region. However when blue and fin whale stocks became scarce whaling states succeeded in convincing the IWC to rescind sanctuary status to the area and exploitation continued. Phillips, "Conservation in Practice: Agreements, Regulations, Sanctuaries and Action Plans," 460.
238 "Annual Report of the International Whaling Commission 30," 34.
239 Rose, "International Law and the Status of Cetaceans," 37.
240 Ibid.
241 "Annual Report of the International Whaling Commission 40," 21–2.
242 "Annual Report of the International Whaling Commission 43," 26.
243 Darby, *Harpooned: Into the Heart of Whaling*, 220.
244 Ibid., 26–7; Annex IWC/44/19: *A Southern Whale Sanctuary Proposal by the Government of France*, "Annual Report of the International Whaling Commission 43," 41–48.
245 "Annual Report of the International Whaling Commission 44," 32.
246 "Annual Report of the International Whaling Commission 45," 28.
247 Phillips, "Conservation in Practice: Agreements, Regulations, Sanctuaries and Action Plans," 460.
248 "Annual Report of the International Whaling Commission 45," 28.
249 The Soviet whaling fleet, from 1948 to 1973, reported taking a mere 2,710 humpback whales but it was later revealed by Russia that the real take was over 48,000. Bryant, "Biodiversity and Conservation: A Hypertext Article," ([cited]); Caron, "The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures," 171.
250 Phillips, "Conservation in Practice: Agreements, Regulations, Sanctuaries and Action Plans," 461.
251 Caron, "The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures," 172.

252 Rose, "International Law and the Status of Cetaceans," 37–8.
253 "Annual Report of the International Whaling Commission 49," 28.
254 "Annual Report of the International Whaling Commission 50," 10.
255 Ibid.
256 "Annual Report of the International Whaling Commission 52," 17.
257 "Annual Report of the International Whaling Commission 55," 46–7.
258 "Annual Report of the International Whaling Commission 51," 15–17; "Annual Report of the International Whaling Commission 52," 17–19; "Annual Report of the International Whaling Commission 53," 33–5; "Annual Report of the International Whaling Commission 54," 24–7; "Annual Report of the International Whaling Commission 55," 48–50.
259 "Chairs Report of the 67th Meeting," Cambridge: International Whaling Commission, 2018, 37–9.
260 Andrew Darby in *The Age* newspaper cited a report being prepared by scientists for the 2004 IWC meeting in Sorrento Italy which argues that the creation of the Southern Ocean Sanctuary was not ecologically justified since it did not conform to the principles of marine reserve design, nor did it protect the whales' habitat. Rather the sanctuaries, the three American scientists argued, were a political and social compromise, not based on any hard scientific data. Andrew Darby, "Scientists Attack Whale Sanctuary," *The Age*, 13 July 2004, 5.
261 Ibid.
262 Ibid., 4.
263 Ibid.
264 Ibid., 5.
265 Ibid.
266 Ibid., 6. The Conservation Programme Committee would: "address new and emerging threats to cetaceans, including climate change, marine pollution, bycatch and entanglement by fishing activities, ship strikes and habitat degradation including noise pollution; as well as recommend an agreed framework to broaden the management tools available to the Commission to address non-consumptive uses of whales."
267 Ibid., 6–7.
268 Ibid., 7
269 Ibid.
270 Ibid., 8, 9.
271 Press Release: "IWC Chair and Vice-Chair Offer New Way to Conserve Whales and Manage Whaling," 22 April 2010.
272 Tom Arup, "Australia to Take Japan to Court over Whaling," *The Age*, 29 May 2010, 14.
273 For a fuller analysis of Japanese attempts to influence lesser developed states to vote their way in IWC proceedings through a variety of means including alleged 'vote buying' see Jun Morikawa's *Whaling in Japan: Power, Politics and Diplomacy*, New York: Columbia University Press, 2009, 77–117.
274 "Slay the Whales and Pass the Loot," *The Australian*, 2010, 13.
275 "Whaling Commission Meeting Opens in a Swirl of Corruption Claims," ed. *Environmental News Service*, 2010.
276 Ibid.
277 Ibid.
278 "International Whaling Commission Chairman to Miss 'Absolutely Critical' Annual Meeting," *Los Angeles Times*, 14 June 2010.
279 "Whaling Commission Meeting Opens in a Swirl of Corruption Claims."

280 "Japan: Quit Threat on IWC," *The Age*, 16 June 2010, 12.
281 Andrew Darby, "Whaling Talks Move into Hiding: Meeting Suspended in Peace Bid," *The Age*, 22 June 2010, 4.
282 Ibid.
283 Bernard Until, "IWC 2010: Day 1 Dispatch," ed. Humane Society International, 2010.
284 "Whaling Commission Meeting Opens in a Swirl of Corruption Claims."
285 Richard Black, "Japan 'Regrets' Lack of Agreement at IWC Meeting," BBC News, 2010.
286 Andrew Darby, "Whaling Impasse Divides Nations," *The Age*, 24 June 2010, 3.
287 Bernard Until, "IWC 2010: Final Dispatch," ed. Humane Society International, 2010.
288 Darby, "Whaling Impasse Divides Nations," 3.
289 Ibid.; Rick Wallace, "Whaling Showdown Delayed for a Year," *The Australian*, 24 June 2010, 8. The IWC Commission merely noted: "that the intense work over the last two years had led to increased understanding of the different views held and an improved atmosphere of trust. It agreed to a pause in its work on this topic to allow time for reflection until the 2011 Annual Meeting." Press Release, Day 5, 25 June 2010, available at: http://iwcoffice.org/meetings/meeting2010.htm.
290 Andrew Darby, "Australia Shifts Whale Agenda: Impasse Used to Look at Other Protection Methods," *The Age*, 25 June 2010, 16.
291 Black, "Japan 'Regrets' Lack of Agreement at IWC Meeting."
292 Darby, "Australia Shifts Whale Agenda: Impasse Used to Look at Other Protection Methods,"16.
293 Ibid.
294 Document IWC/63/7rev, "Annual Report of the International Whaling Commission 63," Cambridge: International Whaling Commission, 2011.
295 "Annual Report of the International Whaling Commission 63," Cambridge: International Whaling Commission, 2011, 7.
296 Ibid.
297 Humane Society International, *International Whaling Commission Timeline*, on file with the author.
298 "Annual Report of the International Whaling Commission 64,." Cambridge: International Whaling Commission, 2012, 9–10.
299 "Report of the 65th Meeting of the International Whaling Commission 2016," Cambridge: International Whaling Commission, 2014, 16–17.
300 "Report of the 66th Meeting of the International Whaling Commission 2016," Cambridge: International Whaling Commission, 2016, 4.
301 "Report of the 66th Meeting of the International Whaling Commission 2016." Cambridge: International Whaling Commission, 2016, 27–8.
302 Ibid., 28.
303 Ibid.
304 Ibid., 12.
305 "Chairs Report of the 67th Meeting," Cambridge: International Whaling Commission, 2018, 26–7.
306 WWF Position Statement, 67th International Whaling Commission (IWC) Meeting, Florianopolis, 04–14 September, 2018, available at: d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_position_statement_iwc67.pdf; Willy McKenzie, "Here's What Happened at the 2018 International Whaling Commission Meeting," 14 September 2018, available at: greenpeace.org.

307 "Chairs Report of the 67th Meeting," Cambridge: International Whaling Commission, 2018, 27.
308 AFP, "IWC Passes Brazil Project to Protect Whales," 13 Sept. 2018, available at: https://www.france24.com/en/20180913-iwc-passes-brazil-project-protect-whales
309 Ibid.
310 Ibid.
311 "Joint Opening Statement from Masaaki Taniai, the Japanese State Minister for Agriculture, Forestry and Fisheries and Mitsunari Okamoto, Vice Minister for Foreign Affairs," Japan, Annex D, *Statements from Ministers*, 2018, see www.jfa.maff.go.jp › whale › attach › pdf › index-13 combined with https://enb.iisd.org › iwc
312 AFP, "IWC passes Brazil project to protect whales."
313 "Chairs Report of the 67th Meeting," Cambridge: International Whaling Commission, 2018, 27; WWF Position Statement, 67th International Whaling Commission (IWC) Meeting; McKenzie, "Here's what happened at the 2018 International Whaling Commission Meeting."
314 "Chairs Report of the 67th Meeting," Cambridge: International Whaling Commission, 2018, 27–9.
315 "Japan's Statement After the Vote on its proposal for the Way Forward of the IWC," Annex E, *Other Statements*, 2018, copy on file with author.
316 *Note verbale*, 26 December 2018, iwc.int; Daniel Victor with Hisako Ueno, co-contributor, "Japan to Resume Commercial Whaling, Defying International Ban," *New York Times*, 26 December 2018, available at: https://www.nytimes.com/2018/12/26/world/asia/japan-whaling-withdrawal.html
317 Euan McKirdy, Emiko Jozuka, Junko Ogura, "IWC Withdrawal: Japan to Resume Commercial Whaling in 2019," *CNN*, 26 December 2018, available at: https://www.cnn.com/2018/12/25/asia/japan-withdrawal-international-whaling-commission-intl/index.html
318 Victor with Ueno, co-contributor, "Japan to Resume Commercial Whaling, Defying International Ban." Japan's annual quota for the 2017–18 whaling season in the Antarctic was 333 minke whales (including 122 pregnant females). Ibid.
319 Peter Bridgewater, "Japan Leaving the International Whaling Commission is a Disaster, But Not for the Reasons You Think," *ABC News*, 31 December, 2018.
320 Victor with Ueno, co-contributor, "Japan to Resume Commercial Whaling, Defying International Ban."
321 "Statement by the European Union and its Member States who are parties to the International Convention for the Regulation of Whaling on the Withdrawal of Japan from the International Convention for the Regulation of Whaling," copy on file with author.
322 Victor with Ueno, co-contributor, "Japan to Resume Commercial Whaling, Defying International Ban."
323 Bridgewater, "Japan Leaving the International Whaling Commission is a Disaster, But Not for the Reasons You Think."
324 Victor with Ueno, co-contributor, "Japan to Resume Commercial Whaling, Defying International Ban."
325 Ibid.
326 At the Fiftieth Meeting Dr Peter Bridgewater, past Australian Chairman, noted that in the past decade there had been a recovery in the population of most whale species. "Annual Report of the International Whaling Commission 49," 3.
327 Kristin Fletcher maintains that since the moratorium the IWC is split between preservationists and conservationists and had become a forum merely to air grievances.

Fletcher, "The International Whaling Regime and U.S. Foreign Policy," 226. However, most researchers agree that preservationism is now dominant within the IWC. For example, Victor argues that preservationist values were pervasive and, combined with the global public losing a taste for whale products, means there is no need to alter the IWC. Rather, Victor believes evolving ideas of how to treat whales were bringing about reform. Victor, "Whale Sausage: Why the Whaling Regime Does Not Need to Be Fixed," 294. D'Amato and Chopra argue that, due to the efforts of the ENGOs, we can now speak of "an emergent entitlement *of* whales – not just "*on behalf of*" whales – to a life of their own." D'Amato and Chopra, "Whales: Their Emerging Right to Life," 22.

328 Victor, "Whale Sausage: Why the Whaling Regime Does Not Need to Be Fixed," 292.

329 Stoett, *The International Politics of Whaling*, 134.

330 Stoett, *The International Politics of Whaling*, 133.

331 Since the moratorium was put in place there are estimates that over 14,000 whales have been killed under the guise of aboriginal whaling, commercial kills, pirate and scientific whaling. Chris Stroud argues that the moratorium has never been honoured by some whaling states. Stroud, "The Ethics and Politics of Whaling," 76.

332 Robert L. Friedheim, "Introduction: The IWC as a Contested Regime," in Robert L. Friedheim (ed.), *Towards a Sustainable Whaling Regime*, Seattle: University of Washington Press, 2001, 9.

333 DeSombre provides an example of how deep the idea has been internalised, in the speech by the UK delegate to the 50th IWC meeting. He stated: "We do not believe that any whaling is justified" and wanted "the introduction of a permanent, comprehensive moratorium on all whaling other than aboriginal subsistence whaling." DeSombre, *The Global Environment and World Politics*, 141.

334 Vogler, *The Global Commons: Environmental and Technological Governance*, 55.

335 See for example, "Draft Resolution for Improving the Effectiveness of the International Whaling Commission, IWC/6/8/rev2 Final Test, Annual Report of the International Whaling Commission 63," Cambridge: International Whaling Commission, 2011, on transparency within the IWC and "Draft Changes to F & A Report Appendix 4, IWC/64/15, Annual Report of the International Whaling Commission 64," Cambridge: International Whaling Commission, 2012, 18–22.

336 Peter Alford, "Japan's Whaling Friends a No-Show," *The Australian*, 21 June 2005, 5; Darby, *Harpooned: Into the Heart of Whaling*, 243.

337 Darby, *Harpooned: Into the Heart of Whaling*, 245–6.

338 Ibid.

339 Observer Editorial, "The Observer View on Japan's Decision to Resume Commercial Whaling," *The Guardian*, 30 December, 2018, available at: https://www.theguardian.com/commentisfree/2018/dec/30/observer-view-japan-resume-commercial-whaling?CMP=Share_iOSApp_Other

340 Euan McKirdy, Emiko Jozuka, and Junko Ogura, "IWC Withdrawal: Japan to Resume Commercial Whaling in 2019," *CNN*, 26 December 2018, available at: https://www.cnn.com/2018/12/25/asia/japan-withdrawal-international-whaling-commission-intl/index.html

341 Observer Editorial, "The Observer View on Japan's Decision to Resume Commercial Whaling."

342 Bridgewater, "Japan leaving the International Whaling Commission is a Disaster, But Not for the Reasons You Think."

343 Ibid.

Chapter 11

Atlantic tuna

INTRODUCTION

Tuna swimming outside of nation-states were historically considered to a part of the high seas and could be harvested according to the doctrine of *mare liberum* (freedom of the high seas) by any other state or non-state actor.[1] Atlantic tuna has been caught in the Mediterranean Sea from at least 8000 BC with the Phoenicians, Greeks, Carthaginians and the Romans all seeking to capture it.[2] Thus for millennia, how to ensure access to fish stocks while still ensuring the resource will be available for this and future generations in sufficient quantities has been a vexing issue for decision-makers. The ownerless nature of tuna has led in the eyes of many commentators to the last great "wild-fish gold rush."[3]

The fish lives in waters between 4 and 25 degrees Celsius, accounting for its wide spread across Norway, the Mediterranean, the West African coast to the Gulf of Mexico and up to Newfoundland and Labrador waters.[4] Tuna is an apex predator that can grow to the size of a small car and is virtually faster than any other fish.[5] The torpedo shape of the bluefin tuna, its size and muscle content enable it to swim up to 70 km/h, scoring the nicknames "Ferrari of the ocean"[6] and "Porsche of the Ocean."[7] Atlantic Bluefin Tuna (ABFT) has also been labelled the "tuna of tunas" and "the king of all fish."[8]

Prior to the expansion of its exploitation, ABFT was of low interest to most fishing missions and had a minimal market value in comparison to albacore or skipjack.[9] In fact, bluefin tuna was mostly used for pet food plants in Western markets. Its fatty parts were inedible and thrown away to cats.[10] Similarly, in the early 1900s, American fisherman referred to it as "horse mackerel" and its red strong-flavoured flesh was considered suitable fare for dogs and cats.[11] Bluefin tuna are considered by most stakeholders to be the most valued wild sourced fish.[12]

The opening of the Japanese sashimi market was the most significant development in the bluefin trade in the 1970s.[13] Since sushi and sashimi became a global phenomenon, the demand for bluefin meat has skyrocketed.[14] The southern and Atlantic bluefin tunas are two species with a high market demand and an immense

fishing rate.[15] The tuna market is highly profitable (large tunas of exceptional 'fatty' quality can fetch large sums. One 277-kilogram tuna sold in January 2019 for US$3.1 million at the Tokyo Toyosu fish market).[16] Tuna consumption is also increasing in popularity in China, which given its burgeoning population will place increasing demands on tuna producers.[17]

Moreover, due to the high price of bluefin tuna, its transportation via air to high value markets became an economically viable option.[18] Similarly, cooling and freezing technology in food storage allowed for the preserving of bluefin tuna in a way that maintained its desirable quality.[19] As a result, bluefin tuna has been aggressively exploited to provide fresh, frozen and processed tuna for many nations, primarily Japan, followed by western Europe and the United States.[20]

Since 1969 the Regional Fisheries Management Orgainsation (RFMO) that has been charged with the oversight of tuna and tuna-like species has been the International Commission for the Conservation of Tuna (ICCAT). This body has approximately 30 species of tuna that it is directly responsible for.[21] However, the body has become infamous for its continued inability to prevent the ongoing exploitation of tuna species to the point where their continued existence as a wild species has been threatened. According to *The Economist* in 2010,

> The bluefin [tuna] was supposed to have been managed by an intergovernmental body, the International Commission for the Conservation of Atlantic Tunas . . . But this was so stunningly bad at the job that it was dubbed the International Conspiracy to Catch All Tuna. In one recent year the scientific advice was to catch at most 15,000 tonnes of tuna. ICCAT imposed a limit of 30,000 tonnes. The actual catch was 60,000 tonnes. Little wonder the bluefin is vanishing fast.[22]

Even ICCAT's own independent review in 2008 noted scathingly that:

> ICCAT CPCs' performance in managing fisheries on Bluefin tuna particularly in the eastern Atlantic and Mediterranean Sea is widely regarded as an international disgrace and the international community which has entrusted the management of this iconic species to the ICCAT deserve better performance from ICCAT than it has received to date.[23]

With a growing focus on marine ecosystems and concerns regarding exploitation of the seas, however, the bluefin tuna has become a key symbolic species for the continued depletion of global fisheries.[24] The first alarm regarding the condition of tuna stocks came from ENGOs,[25] as they publicised the fish and its management as the "archetype of overfishing and general mismanagement of world fisheries."[26] This is due to its unique features and sharp decline in biomass due to heightened demand, increased fishing capacity[27] and ICCAT quotas which have, from the beginning of the body, been highly politicised decisions.[28]

While ICCAT has attempted to resolve the issue of tuna over-exploitation it can, to date, be seen as an example of collective action failure, particularly when it

comes to enforcement due primarily to 'agency capture' by both fishing producing and fishing consuming states. The tuna fishing nations and their industries have been successful in prioritising the needs of the fishing industries over that of the fish they are meant to conserve. While it can point to some small successes (bigeye tuna and swordfish) the fish stocks it manages have historically been on the verge of collapse for decades.

This chapter outlines a history of tuna exploitation and tracks the stilted development of an Atlantic tuna regime with a particular focus on the evolution and efficacy of the intergovernmental organisation charged with responsibility for Atlantic tuna: ICCAT. The development and ongoing utilisation of more sophisticated fishing techniques threatens the long-term survival of Atlantic tuna. The chapter examines global fishing production and consumption with specific emphasis on the Atlantic tuna industry. It provides a history of the creation of ICCAT, its key stakeholders (with a particular emphasis on scientists and ENGOs) and critically analyses the convention it operates under as well as the structural architecture built to enforce its mandate.

It traces the evolution of ICCAT, its attempts to better protect Atlantic tuna and its failure to do so. The chapter also, after the failure of ICCAT became self-evident to the world, scrutinises the attempts by conservationist-minded states to use CITES to ban the international trade in Atlantic tuna and the reason why these approaches failed and the aftershocks of the proposals at ICCAT. The chapter concludes with a critical examination of the progress the ICCAT has achieved in relation to its stated goals of limiting tuna exploitation. It queries what is the future of the ICCAT as an organisation and questions whether the ICCAT is 'fit for purpose' given its failures to date.

GLOBAL FISH PRODUCTION AND CONSUMPTION

Millions of people globally rely on fisheries and acquaculture for nutritional purposes and those industries employ 10 per cent of the world's population.[29] From a total of approximately 20 million tons per year, the exploitation of global marine resources quadrupled between the 1950s and the 1980s, exceeding 80 million tons per year. Similarly, fish production and consumption was growing in traditional fisheating and nontraditional states. However, during the 1950s and the 1960s and at the start of the twentieth-first century, fish production outpaced population growth significantly. Fish consumption increased from 9 kilograms per capital in 1961 to almost 17 kilograms per capita in 2003.[30] The scientific observation in the decline in overall abundance, and in the apparent abundance of older fish, demonstrates the effect heavy fishing is having on global stocks.[31] Scientific studies estimate that globally, one third of marine fish stocks are overfished which is 23 per cent higher than when measured in the mid-1970s.[32] Fisheries science usually manages stocks by setting maximum sustainable yields (MSYs) known as the largest average fish catch that a population can support over time without decreasing. Overfishing occurs when the annual catch exceeds the MSY set by the responsible body.[33]

A review of the State of World Marine Fishery Resources of 2010, prepared by the FAO, revealed the following alarming figures: In 2008, 15 per cent of the stock were underexploited (3 per cent) or moderately exploited (12 per cent), the lowest level since the mid-1970s. A figure of 53 per cent were considered fully exploited, and of the remaining 32 per cent, 28 per cent were overexploited, 3 per cent were depleted and 1 per cent were recovering from depletion.[34] As of 2018, 90 per cent of the planet's marine fish stocks are considered fully exploited, overexploited or depleted.[35]

Global fishing stocks have been damaged and depleted, in many cases irreparably, by a number of factors including: massive human population growth; ongoing technological innovation in shipping and fishing techniques; ongoing anthropogenic climate change; structural deficits in the legal instruments; and issues with monitoring and compliance. The global fishing industry has further compounded the problem of overfishing by utilising high technology methods to maximise capacity and production, ultimately transforming the global fishing industry into a highly mechanised, capital-intensive and efficient system.[36]

THE GLOBAL TUNA INDUSTRY

Given its worth and modern fishing methods, tuna has also been overfished. For example, the Canadian bluefin tuna catch decreased from 1,700 metric tons in 1970 to 1,100 metric tons in 1971, whereas the Spanish bluefin tuna catch plummeted from 5,500 metric tons in 1970 to 3,900 metric tons in 1971.[37] In his book *The Unnatural History of the Sea* Callum Robert wrote: "[Today] there is probably only one bluefin tuna left for every forty present in 1940."[38] During the 1950s, tuna fishing was generating approximately 30,000 tonnes of ABFT, which continued into the early 1960s.[39] This dropped to a level of 10,000–15,000 tonnes,[40] and then expanded again in 1974, followed by another decline during the 1980s but ultimately reaching a dangerously high peak of roughly 50,000 tonnes in 1996.[41]

As of 2009, the levels of bluefin tuna in the western Atlantic decreased by 82 per cent from their levels in the 1960s.[42] An ICCAT Report by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean in 2016 revealed the current population of bluefin tuna is estimated at 2.6 per cent of its "unfished" size.[43]

In 2012 fishing vessels landed approximately 4.6 tons of tuna globally worth US$12.2 billion at the dock (US$33.3 billion to the consumer). In 2014 the figure was 4.99 million tons worth US$9.8 billion to fishermen (worth less due to reduced prices but consumers still paid US$41.6 billion).[44]

Japan is still the major market for caught tuna. Approximately 80 per cent of the Japanese bluefin tuna market is provided by countries of the Mediterranean, which place it at the forefront of international trade.[45] Many European nations have been criticised for failing to reduce the large fleets of boats coming from France, Italy, Spain and England, that were known to be too large for the fishery areas they operate within. This stems from the significantly high quota awarded in

the west, as a result of commercial and fishing industry lobbying. Similarly, many US boats have been catching a small fraction of their quota, however it remains higher than the catch, so the quota does not limit the fishing activity.[46]

An entity like ICCAT is an example of an RFMO – these are global organisations accorded accountability by states for the management of migratory fish stocks on the high seas and adjacent seas of more than one state. If functioning well, they can play a critical role in ensuring optimal ecological functionality of the oceanic environment.[47] Currently, there are five RFMOs that focus on tuna and "tuna-like" species including the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Inter-American Tropical Tuna Commission (IATTC), the International Commission for the Conservation of Atlantic Tunas (ICCAT), Indian Ocean Tuna Commission (IOTC), and the Western and Central Pacific Fisheries Commission (WCPFC).[48] The first Commission tasked with managing tuna and tuna-like species was the IATTC, established in 1949. Its purpose was the joint management of natural resources of tuna in the Eastern Pacific Ocean. Its creation had a twofold aim: the monitoring of the usage of fish stock but also to meet the burgeoning needs of the tuna industrial lobby which wanted to increase fishing opportunities in the region.[49]

Underpinning the tuna bodies and their particular agreements has been an ever-widening net of international regulation including the United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Agreement relating to the Conservation and Management of Straddling Fish Stocks and High Migratory Fish Stocks and the United Nations Food and Agricultural Organisation's Code of Conduct for Responsible Fisheries.[50]

THE CREATION OF THE INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNA

During the 1950s Atlantic tuna fishing was producing 30,000 tonnes of ABFT annually which in the 1960s began to drop to between 10,000 to 15,000 tonnes per annum.[51] The introduction of modern fishing technology and equipment in the form of purse seiners and commercial longliners saw concern about their impact on Atlantic tuna. These technologies significantly increased the tuna catch leading to worries it could threaten the traditional Mediterranean trap fishing methods.[52]

Emile Postel, a pioneering French scientist in the area of tuna research was monitoring Senegal's fisheries when he observed that local fishing catches were expanding rapidly, with catches of 10,000 tons in 1960. In response, in December 1960 he organised and presided over an international congress on the research on fishstocks. The meeting created a summary of the current information on the biology of the differing types of tuna, but more importantly noted the ongoing exploitation of all temperate and tropical fish in the Atlantic. The Congress wrote to the FAO with a recommendation that there was an urgent need to create a tuna commission for the conservation of Atlantic tuna, drawing off the template of the IATTC which had been created in 1948 to cover the eastern pacific region.[53]

The Symposium further decided that the Commission for Technical Cooperation in Africa/Scientific Council for Africa take the initiative and invite its members to request the relevant specialised Agency of the UN (the FAO) to convene a conference of plenipotentiaries of all states with an interest in tuna to create an international body to regulate them.[54]

In July 1962, the FAO convened the first and only global symposium on tuna (the World Scientific Meeting on the Biology of Tunas) with over 250 scientists comprising the bulk of expertise in the field, which met for 15 days in La Jolla, California. The meeting prepared an analysis running to several thousand pages and again reiterated the need for an international commission.[55]

In June 1963, the FAO Council of Fisheries met in Rome and, deciding to act on the recommendations, proposed to create an *ad hoc* Working Group empowered to studying how best to create an Atlantic tuna commission.[56] At its 14th Meeting in 1963 the Working Group had grown concerned that the rapid growth in Atlantic tuna catches was becoming problematic (in 1962 the catch stood at 150,000 tons). There was consensus amongst the delegates that there "was a general desire for action to be taken for the conservation and rational exploitation of the tuna resources of the Atlantic . . . ."[57] It was decided to create the Working Party on the Rational Utilization of Tuna Resources in the Atlantic Ocean.[58]

The Working Group met in October 1963 comprising the US, Portugal, France, Spain, Japan, Brazil, and Nigeria and a number of independent scientific experts including E. Postel and from Germany, K. Tiews. A delegate from the US, W. Chapman, served as rapporteur for the group and his influence on driving the process forward was key to the eventual creation of ICCAT.[59]

The original desire of the Working Group was to model the body on IATTC with its own scientists. However, in a decision that would prove costly to the tuna population, it was decided such a model was too costly and it would be better to have a simpler structure whereby a Secretariat would be installed to oversee and coordinate the collection of statistics and state reports. France, Spain and Japan all opposed the creation of such a body, claiming such a role would be better filled by the FAO and the International Council for the Exploration of the Sea.[60]

The US's lobbying, supported by a majority of attendees in Portugal, Brazil, Nigeria and the non-voting independent scientists in attendance, was able to sway the meeting into supporting the ICCAT model. A final report by the Rome Working Group was submitted which called for the proposed ICCAT to have a "close structural relationship" with the FAO, a second Working Group should be held to finalise the basic texts of the Commission and it called for a conference of plenipotentiaries to be held to create such an entity. It further called for more delegates to attend the second Working Group since the issue had not attracted the interest of many states as shown by the minimal attendance at the Rome Working Group.[61]

The issue was becoming more critical with research indicating that in 1964, approximately 18,000 tons of bluefin tuna were taken, which was 18 times the 1960 level.[62] In July 1965, the Second FAO Working Group agreed to the documents drafted by the FAO and its Department of Legal Services. Again, only

seven states were in attendance (the same countries as at the first meeting except Spain but including Senegal with Cuba, Germany and Italy as observers along with E. Postel representing a West African Regional Commission). Again, France reiterated its opposition to the new body, which was included in the Working Party's final report. Portugal, in conjunction with Brazil and Nigeria, supported ICCAT but opposed the proposed budget as too high.[63]

The Conference of Plenipotentiaries met in Rio de Janeiro in May 1966 to adopt the ICCAT texts. Sixteen states participated while three attended as observers. The meeting made some changes to the Working Group's proposed text. The area of competence, adjacent seas and territorial waters, was the subject of robust debate by the delegates. Eventually it was defined as the 'Convention area'. There are no co-ordinates for that region but for statistical purposes the area is set between 70 degrees west and 20 degrees west in the South Atlantic.[64]

The name proposed for ICCAT was originally the Convention for the *Protection* [emphasis added] of Atlantic Tuna but this was changed to conservation. Originally, ICCAT was meant to be overseen by a Director but the delegates preferred the office of Executive Secretary with less assigned powers. It was confirmed that the ICCAT's *raison d'être* was to coordinate national research but it could, if the need arose, conduct its own research. This narrowing of its mission statement was effectively a cost-cutting measure. After fierce debate, the Working Group's detailed procedures to monitor the implementation of regulations were not part of the final text. Article IX(4) which was prescient in seeing that illegal tuna could not be marketed was deleted by the attendees.[65]

The International Convention for the Conservation of Atlantic Tunas (with Final Act and Resolution adopted by the Conference of Plenipotentiaries) was completed at Rio de Janeiro on 14 May 1966. The agreement came into force on 21 March 1969 when as per paragraph 3 of Article XIV, it was ratified by the US, Japan, South Africa, Ghana, Canada, France and Spain and deposited with the Director-General of the FAO.[66]

THE INTERNATIONAL CONVENTION FOR THE CONSERVATION OF TUNAS

The Convention preamble notes the subscribing governments came together:

> . . . considering their mutual interest in the populations of tuna and tuna-like fishes found in the Atlantic Ocean, and desiring to co-operate in maintaining the populations of these fishes at levels which will permit the maximum sustainable catch for food and other purposes, resolve to conclude a Convention for the conservation of the resources of tuna and tuna-like fishes of the Atlantic Ocean . . ."[67]

Such studies include research on biometry, ecology, and oceanography, with a principal focus on the effects of fishing on stock abundance.[68]

As per Article 3(3), "Except as may otherwise be provided in this Convention, decisions of the Commission shall be taken by a majority of the Contracting Parties, each Contracting Party having one vote. Two-thirds of the Contracting Parties shall constitute a quorum."[69] Article 3(4) stipulates that: "The Commission shall hold a regular meeting once every two years. A special meeting of the Commission may be called at any time at the request of a majority of the Contracting Parties or by decision of the Council as constituted in Article V."[70] The date and place of a special meeting shall be determined by the Council or by the Chairman of the Commission.[71]

Article IV(1) of the Convention stipulates that only ICCAT is responsible for, and can carry out, necessary programmes related to tunas and tuna-like fishes with the exception of the families Trichiuridae and Gempylidae and the genus *Scomber* in the Atlantic, "and such other species of fishes exploited in tuna fishing in the Convention area as are not under investigation by another international fishery organization."[72] Such programmes include research on fish biometry and ecology; oceanography; and the consequences of ongoing fishing on stock numbers. The Commission is also tasked with collecting and analysing statistical fish and fishing-related (including by-catch of other species, e.g. sharks) data.[73] The Commission will carry out these tasks by using the technical and scientific services of the member states.[74]

As per Article VIII(1)(a), the Commission is tasked, based on the available scientific evidence, to make "recommendation designed to maintain the populations of tuna and tuna-like fishes that may be taken in the Convention area at levels which will permit the maximum sustainable catch."[75] Problematically, Article VIII allows for the withdrawal of a recommendation in its entirety if the number of parties who filed an objection is more than the majority.[76] Further, as per Article VIII(1)(b) however, member states can object to any recommendation within a six-month period.[77]

Pursuant to Article IX(1), member states need to provide any available statistical, biological and other scientific information required for the Commission to fulfil its brief. If necessary, under the Convention the Commission can (through the Contracting Parties) seek the relevant material on a voluntary basis from companies and individual fishermen directly.[78] In terms of enforcing the regime, Article IX(1) maintains that, "The Contracting Parties agree to take all action necessary to ensure the enforcement of this Convention. Each Contracting Party shall transmit to the Commission, biennially or at such other times as may be required by the Commission, a statement of the action taken by it for these purposes."[79]

ICCAT STRUCTURE

Established in 1969, ICCAT is the RFMO tasked with the management and creation of an annual recovery plan for bluefin tuna in the "waters of the Atlantic Ocean and the adjacent seas" known collectively as "the Convention area."[80] Currently ICCAT has 52 contracting parties, including the United States, Canada, Japan and the European Union, and it has allocated numerous states

and various entities as "Cooperating Non-Contracting Party, Entity or Fishing Entity" within its structure.[81] Its membership consists of three delegates from each member state,[82] and each member state is entitled to one vote.[83] There are no legal sanctions for objecting to any decision made.[84] To date, Cuba and Benin are the only countries that have officially withdrawn from the Commission.[85]

The Commission meets annually at its headquarters in Madrid, Spain, to negotiate statistical ICCAT reports and suggest new management tactics.[86] Measures are adopted by consensus by the delegates. In the history of the Commission there has yet to be a disagreement with legal repercussions.[87] The Commission is authorised to make recommendations and resolutions designed to achieve the aforementioned preamble.[88] Over its existence, only six states have lodged objections to three recommendations.[89]

Over the years ICCAT has passed a number of resolutions and recommendations to ensure the organisation's mission. They include reporting on vessel lists and compliance. For example, member states must inspect all tuna fishing vessels in their ports, including those of non-ICCAT members, and report infractions observed to the Commission. If a non-member vessel is found to have contraband fish aboard it cannot port or transship its cargo unless it demonstrates the suspect fish were caught outside Convention waters or were taken in compliance with ICCAT rules.[90]

ICCAT is divided into different constituent bodies in order to complete its work.[91] These include the Standing Committee on Finance and Administration, the Standing Committee on Statistics and Research (SCRS) and the Commission can establish any Committee it deems necessary.[92] The SCRS works on developing "policies and procedures" for the collection and examination of fisheries statistics.[93] It is also responsible for organising stock assessments and informing the Commission on conservation measures.[94] SCRS recommendations are evaluated by Panels which then suggest management measures to be taken into account by the Commission.[95]

The Conservation and Management Measures Compliance Committee (COC) work revolves around issues concerning the efficient adoption of and abidance by ICCAT measures.[96] The COC works alongside the Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG) to suggest adherence with data analysis to the Commission.[97] ICCAT is required to submit a report on its work and findings to all its member countries every two years.[98]

The Commission's work requires the collection and analysis of statistical information related to current conditions and trends of the fishery resources in the Convention area. The Commission also undertakes work in the collection of data for other fish species that are caught during tuna fishing (by-catch, principally sharks) in the Convention area, which are not covered by another organisation.[99] ICCAT does not have its own independent scientific committee, rather it relies on national scientists from member and cooperating non-member parties to conduct data collection, scientific research and stock assessments.[100] Thus, outsourced scientific data and analysis of the data is not standardised and its quality

varies significantly, making effective decision-making difficult.[101] Member states are required to collate and publish merely 'adequate' statistics on caught tuna obtained by their jurisdiction's corporations and individual fishermen.[102]

By the time ICCAT was fully established, strong competition existed over the remaining biomass of Atlantic bluefin.[103] To counter this, members of the Commission negotiated measures that would exclude outsiders and arrange historically determined access rights before a real threat of entry from other states manifested.[104] The admission of observers was also allowed in the first meeting of ICCAT in accordance with the provisions of Article XI-3 of the Convention, wherein the Commission decided to invite the countries and international organisations listed in Annex 1-B to be represented by observers at the meeting.[105] The meetings of the Commission were also held publicly unless decided otherwise by the Commission.[106]

Enforcement of its edicts

Since almost from its inception, ICCAT has tried to improve enforcement of its recommendations, particularly 'on the ground' through the use of catch inspectors. In 1973, the Working Group started the ICCAT Scheme of Joint International Enforcement (draft), whereby a recommendation pursuant to paragraph 3 of Article IX of the Convention recommended inspectors. It stated that control shall be carried out by inspectors of the fishery control services of the member countries. The names of the inspectors appointed for that purpose by their respective governments should be notified to the Commission.[107] It further states that resistance to an inspector or failure to comply with directions would be treated by the flag state of the vessel in a manner similar to resistance to any inspector of that state or a failure to comply with their directions.[108] The ship's fishing gear would also be inspected in accordance with the regulations in force for the subarea in which the inspection takes place. The inspector was required to state the nature of the violation in his report.[109]

A 1974 review of ICCAT's Scheme of International Inspection outlined that the programme was premature for numerous reasons, including that only weight restrictions on yellowfin tuna and bluefin tuna were currently in effect and that since the area to be covered included the entire Atlantic Ocean many nations could not bear the costs of such an inspection programme.[110] In 1978, a proposal was made by Mr G. Stander (South Africa), who recommended establishing a Standing Committee on International Inspection Enforcement to review the reports of international inspections carried out, and to revise inspection norms and infractions. The Commission agreed to critically examine this proposal in the upcoming intercessional period.[111]

In 1979, the Commission recommended that the Contracting Parties bring their attention to the port inspection scheme agreed by the Commission at its First Special Meeting in 1978. The scheme would enter into force formally between the parties who accepted it, as soon as a simple majority of Contracting Parties indicated their acceptance.[112] While reviewing the report, the Committee

noted that the problems of the basic data had been or were being solved. There were still some problems of lacking or inadequate data for some fisheries and the Committee recommended that the pertinent scientists and the Secretariat look into the problems and solve them as soon as possible.[113]

To help states with information queries the Commission has created a Department of Compliance.[114] ICCAT maintains a number of databases relating to its activities such as: the ICCAT Record of Vessels over 20m (the so-called "white list" which lists vessels over 20 metres authorised to fish for tuna or tuna-like species in the Convention area); the ICCAT Record of Carrier Vessels (lists vessels authorised to receive transshipments of tuna and tuna-like species in the Convention area from large-scale tuna longline vessels); the ICCAT Record of BFT Catching Vessels (lists vessels authorised to fish actively for bluefin tuna in the eastern Atlantic and Mediterranean Sea); and the ICCAT Record of Ports (lists ports designated by Contracting Parties in which transshipment and landing of bluefin tuna is authorised).[115]

ICCAT also has a 'black list' (the IUU Vessel List) of vessels presumed to have committed illegal, unreported and unregulated fishing in the Convention region. ICCAT can also utilise non-discriminatory trade-restrictive measures against both members and non-member states to fight IUU fishing. However, that power wielded by the Commission is to date only recommendatory.[116]

ICCAT has also created two compliance bodies. Firstly, the Conservation and Management Measures Compliance Committee "reviews all aspects of compliance with ICCAT conservation and management measures in the ICCAT Convention Area, with particular reference to compliance with such measures by ICCAT Contracting Parties." Secondly, the Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures "obtains, compiles and reviews all available information for the fishing activities of non-Contracting Parties, for species under the purview of ICCAT, including details on the type, flag and name of vessels and reported or estimated catches by species and area."[117]

The ICCAT structure has a number of flaws which have prevented ICCAT from carrying out its mission. First, ICCAT is not historically, as it espouses, a conservationist body per se, but rather is best understood as an opt-in commercial forum designed to prevent the extinction of a valuable maritime resource.[118] Secondly, any contracting parties' participation is entirely voluntary, meaning they can withdraw from the ICCAT aegis at any time.[119] Thus ICCAT, similar to the situation the IWC had in its formative years, has had to strike a delicate balance between competing aims: sustainability and economic considerations to ensure member states do not abandon the body.

Thirdly, a recommendation approved and adopted by ICCAT is not self-executing in that it has no force or effect. Further, a recommendation only becomes final for all member states

> at the expiration of six months from the date of Commission approval unless within that same period of time a member-nation objects to the recommendation. In the case of an objection, the recommendation does not apply

> to the objecting nation; the nation has no treaty obligations to implement the recommendation and may conduct its fishing activities without regard to any provisions of the recommendation as approved by the remaining member nations.[120]

Fourthly, ICCAT relies for its funding on its member states which over the years has made things difficult for the body since members were constantly in arrears, preventing programmes reliant on a steady, reliable income stream.[121] Lastly, enforcement of ICCAT decisions are left to individual contracting parties who agree to "take all action necessary to ensure the enforcement of the Convention" and to "transmit to the Commission . . . a statement of the action taken . . . ."[122] Together these factors have impeded ICCAT in its ostensible 'conservationist' mission virtually from the beginning.

BIRTH OF ICCAT 1966–1981

The context that the fledgling body initially found itself in was a difficult one since information on Atlantic tuna stocks was sparse, limiting its ability to render appropriate policy decisions. In the early 1970s only Japan had a sufficient tuna monitoring system in place. Any attempt to analyse global tuna stocks was fragmented and limited with the main fishing states such as France, Spain, Portugal and Chinese Taipei only partially monitoring fisheries and catches while such information rarely rose above the national level. The FAO understood that it would take some time before ICCAT was a functioning body and organised two meetings of tuna experts in August 1968 in Miami and in October, 1969 in Cadiz. These meetings saw the first minimal analyses done of the state of Atlantic tuna stocks. The first meeting of the new ICCAT took place in Rome in December, 1969 and was chaired by Dr. Alan Longhurst.[123] Its immediate priority, as was made clear by the information they did have, was to prevent the extinction of western Atlantic bluefin, however, hampered by a lack of information ICCAT was limited in its options.[124] Consequently, the Working Group did not make any recommendations for regulatory action by the Commission due to its lack of data to establish needed action.[125]

To overcome the information deficit, in its first meeting, the Working Group strongly recommended:

(1) That member countries with research capabilities in population dynamics and stock assessment take immediate action to augment and accelerate those studies and analyses that pertain to Atlantic tunas, particularly yellowfin and albacore;
(2) That all member countries take immediate steps to undertake cooperative tuna-tagging programmes; and that studies aimed at definition of stocks by other means (e.g. serology, biochemistry, parasites) to be instituted or accelerated.[126]

The issue of where to house the new ICCAT was still to be resolved. After a spirited debate Madrid was chosen as the site for the new body. There had been a number of states that were keen to host ICCAT, including Brazil, Senegal, Spain and the US. The US in particular wished to host, having evinced a strong desire to move quickly on the issue, despite having taking minimal tuna in the Atlantic. Ironically Spain ended up the home of the ICCAT, despite being opposed to its creation.[127]

Most research activities completed by member countries included the collection of basic statistical data, biological sampling, age-determination and growth studies, and tagging. However, it was readily apparent when the material was interrogated further, that confusion had arisen due to the uncertainty concerning the utilisation of local names used to describe the different species. In response to this, the Commission was tasked to prepare a checklist of tuna species, detailing the scientific name, preferred name in each of the Commission languages and the local names.[128]

The seat agreement was signed in 1970 which saw the ICCAT Secretariat officially created and Dr. Martin, a Spanish scientist, was named Executive Secretary, a role he held for the next 22 years. However, the issue of crashing yellowfin tuna stocks was becoming critical. The total catch of yellowfin tuna in the Atlantic Ocean declined for the two consecutive years from 82.1 thousand tons in 1969 to 76.9 thousand tons in 1970 and 68.6 thousand tons in 1971.[129]

A proposal for the conservation of yellowfin tuna stocks was made unanimously by Brazil, France, Korea, Morocco, Portugal, South Africa and Spain in ICCAT's 1970–71 rounds of meetings. Delegates from Canada, the United States and Japan questioned the procedure of presenting such proposals directly to the Commission rather than through the appropriate channel. Article 8 of the Convention was reviewed and the proposal was accepted. It was hoped that this was a special case since the SCRS was not able to complete detailed study prior to the Panel meetings. It was hoped by the delegates that in future, such proposals would be presented through the appropriate panels.[130]

During the 1972–73 biennium, ICCAT passed a resolution to urge governments of all countries involved with Atlantic tuna fisheries to make special efforts to establish efficient systems for the timely collection of tuna catch-effort data.[131] It also officially defined its statistical obligations in the Task I and Task II framework. It published key documents including the *Data Record*, the *Collective Volume of Scientific Papers* and sampling manuals.[132] In 1972, Japan submitted that an annual catch limit should be established on the total catch of yellowfin in the Convention area defined in Article 1 of the International Convention for the Conservation of Atlantic Tunas. It fixed the catch limit for the calendar year at 70,000 metric tons which represented the average annual catch from 1962 to 1971.[133]

In 1973, the Secretariat held the inaugural annual two lotteries to encourage reporting by tuna fisherman. The first lottery included tropical tunas only (yellowfin, skipjack, bigeye), totalling 223 tag recoveries and the second lottery

included all other types of tunas and tuna-like species, totalling 242 tag recoveries. The winners were the Captain of a Canadian seiner, and a longshoreman in Puerto Rico, receiving $300 each.[134] That same year ICCAT adopted management measures which were shown to have been inadequate. It set a taking and landing under 3.2 kilogram limit on yellowfin tuna in 1973 and a 6.4 kilogram size limit and a freeze on fishing mortality of bluefin tuna in 1975.[135]

At the meeting Japan again reasserted its concerns regarding yellowfin tuna stocks and referred to its proposal that the Working Group should adopt a catch quote for yellowfin tuna.[136] Alternatively, the Ivory Coast stated that a quota system would be premature since the surface fishery in the eastern Atlantic continues to develop regarding area, effort and gear.[137] Following some discussion, the Group, except Japan, agreed that it is currently premature to implement a definite yellowfin tuna catch quota, acknowledging that a much more thorough review of the subject, based on up-to-date scientific funding, was crucial.[138]

In 1974, an ICCAT Report of the Working Group on yellowfin tuna regulations was presented by the Chairman, Mr. E. B. Young (Canada), who was of the opinion that the work carried out by the Group had reached a point where continuation would be counterproductive. He recommended discontinuation of the Working Group as work could be continued under Panel 1.[139]

That year, Japan increased its annual quota from 70,000 MT (metric tons) to 90,000 MT of yellowfin, and proposed that studies should be undertaken on the practicability of national allocation with exemption for those countries taking less than 2,000 tons of yellowfin. The United States suggested that no additional conservation measures were needed at the present time since the scientific assessment displayed catches could still be increased if efforts by states were increased. Senegal stated that any national allocation that did not take economic factors and the interests of the coastal states into account would be totally unacceptable to them.[140]

First ICCAT estimates of the state of Atlantic Tuna

At the time of the SCRS meeting in 1975, six years after ICCAT was created, many datapoints for important fisheries were still missing.[141] Numerous statistical deficiencies were noted in the Report of the Sub-Committee on Statistics which were seriously hindering the Commission's performance in properly managing the resources covered by the Convention.[142] The status of the northern Atlantic stock in particular raised substantial concern, as of 1975 the overall catch was at its lowest level.[143]

In 1976, the Secretariat issued the first preliminary estimates of albacore, bluefin, yellowfin, bigeye and skipjack catches for the entire Atlantic for 1975, by country.[144] The Chairman of SCRS, Dr. B. J. Rothschild, gave a summary to ICCAT, which stressed that the total landings had been at about the same level in 1974 and 1975, following a period of low catches in the early 70s. In regard to albacore, Dr. Rothschild indicated that for both northern and southern stocks, recent total catches were close to their respective estimates of average maximum yields. The relation between albacore stocks in the Indian Ocean and South

Atlantic and between those in the South and North Atlantic had problematically not yet adequately clarified. The SCRS recommended that the Commission hire a programme planner to draw up a fundamental research plan for the proposed International Skipjack Year Programme.[145]

However, no financial arrangements were prepared and the Secretariat was asked to serve as Programme Planner instead. Problematically, the Secretariat was not adequately staffed at the time to carry out proposed actions. Thus, Dr. W. E. Schaaf recommended that a full-time permanent biostatistician be hired by the Secretariat. Alternatively, he suggested that the ICCAT hire biostatisticians on a temporary basis and for short periods, which option was accepted by the delegates as having greater economic and practical merits.[146] The SCRS also recommended the implementation of an automatic data management system at the Secretariat for Atlantic tuna statistics. The Council concurred and in early 1977, the Secretariat contacted different commercial computer firms in Madrid to select the best system available.[147]

In the same year, as per the decision of the Commission in 1975, the Secretariat contacted the governments of France, Morocco and Spain in order to activate a young bluefin tuna-tagging project in the waters off the coast of Morocco in order to improve understanding of the behaviours of juvenile tuna.[148] Regrettably however, some countries continued to experience problems in meeting the requirements for collecting vital statistics. The Secretariat endeavoured to solve these issues through correspondence and sometimes by visiting the respective national statistical offices but deficiencies were still the order of the day.[149]

By 1978, tuna statistics had improved significantly with only a fraction of the total Atlantic catches not covered either by catch statistics or by biological sampling. However, despite this good news, the issue of timeliness in making data available to the Commission was still not yet satisfactory, leading to decisions having to be made without proper data to hand.[150] With regard to tagging programmes, the SCRS and the Commission at the 1978 meeting recommended that a pilot programme be started in 1978 for tagging bluefin tuna in the eastern Atlantic. However, the responsibility of organising such a programme was not set and no initiative was taken for this project at the time.[151]

At the 1978 meeting, the US once again expressed concern over the lack of full implementation of the minimum size regulation of tuna caught and highlighted the significance of the collection of suitable data to permit development of additional regulations, such as those recommended by SCRS.[152]

Similarly, France stated that it was discouraging to hear that catches of undersized yellowfin continued to be a problem, despite the almost ten years ICCAT had been operating. It urged other countries to properly implement the regulations and that creating a Programme of International Inspection might be appropriate regarding the minimum size regulation.[153]

In response to these concerns raised, the Chairman of the SCRS reported that the Committee would be making special efforts to increase the studies of the size of the spawning stock and of possible stock/recruitment relationship.[154] The role of scientists was an intriguing one at this time. While the number of scientists

attending the SCRS meetings was low, they tended to be eminent experts in the fields, particularly in population dynamics. The fact that there were fewer inter-sessional meetings and decisions were tabled at the SCRS plenaries, made it easier for experts to participate in ICCAT.[155]

In the late 1970s, apprehension was also growing about the exploitation of Atlantic bluefin tuna. The US expressed concern over the condition of bluefin stocks and the clear lack of enforcement of regulations in certain areas and the large increase in the catch numbers by fishermen of countries who are not party to ICCAT.[156] Canada also expressed concern over the recent changes in fishing patterns for bluefin. The delegate stated that the SCRS indicated a lack of improvement of recruitment to the stock of age 6+ bluefin in the western Atlantic and that the relatively strong 1973 year-class did not appear in anticipated numbers in the 1977–78 winter longline fishery.[157]

As such, the Canadian delegate proposed additional measures for the conservation of Atlantic bluefin which would see the North Atlantic divided into two management areas, limiting the fishing mortality in the western Atlantic to the same levels as 1970–74, and increasing the minimum size in the western North Atlantic to 28kg.[158] The delegate suggested leaving this proposal with the Panel until next year, at which time Canada would submit the proposal to the Commission and members would have time to consider the comments and suggestions presented this year.[159] However, the delegate from Japan expressed his concern over utilising the period of 1970–74 as the basis, as he believed that bluefin stocks had stabilised in recent years.[160]

SCRS reports indicated that the bigeye tunastock was being intensely fished. Two hypotheses were discussed: one concerning the potential existence of two stocks, a North stock and a South stock, and the other concerning the existence of a single stock in the Atlantic but scientific analysis had yet to determine which theory was correct.[161] The reports also maintained that 90 per cent of the bigeye caught by bait boats was reported to be smaller than the suggested regulatory size. The SCRS recommended the establishment of a 3.2kg minimum size limit for the species, which would hopefully lead to an increase in yield-per-recruit. However, the economic consequences on the various fleets dedicated to this species of this decision were not yet known so the consequences to state fishing fleets could be severe.[162]

In 1977 the tuna catch had surpassed 100,000 MT in each of the previous three years and it was expected to reach 114,000 MT by the end of 1977.[163] The Catch Per Unit Effort (CPUE) for 1976 was 8 per cent higher than that for 1975, but was in line with the general trend since 1964 to date (3.40 for 1964–67, 2.94 for 1968–1971, and 2.26 for 1972–75).[164] A data bank was established utilising the INFONET system in 1977 at Madrid which maintained and updated all the statistical work executed by the Secretariat.[165]

ICCAT IN THE 1980S: A REGIME ADRIFT

The 1980 Meeting opened by acknowledging that ICCAT's view was that it was prospering due to its SCRS, composed of highly qualified scientists from

different areas who worked tirelessly researching tuna species. Given their work, the Commission believed it was now more knowledgeable of tunas and consequently improving its conditions by recommendations presented to the states which allowed "a fruitful exploitation of the species."[166] ICCAT also noted it had also improved on its statistical delivery. Eleven years ago, only Japan and the US supplied statistics to ICCAT, whereas today, all member countries that fish for tuna provided statistics covering between 50 to 100 per cent of their catch. Size sampling, scarce back in 1970, covered all the species as hundreds of thousands of tuna were annually measured.[167] As most of the countries had accepted the idea of the four-year International Skipjack Year Programme commencing in 1979, 1981 was also declared to be the year of the International Skipjack programme.[168]

However, there were still a number of issues regarding the deteriorating nature of tuna stock. The Commission recommended an immediate cessation of bluefin fishing in the western Atlantic due to low numbers in the area. However, this resolution was non-binding and vague, merely requesting that states, "take measures to prohibit the capture of bluefin tuna for a period of two years in the western Atlantic" which did little to end the taking of the fish in large numbers. Moreover, despite the pressing scientific evidence calling for a complete ban on such fishing, the Commission could not reach consensus and allowed a catch of 1,160 metric tonnes for 'scientific purposes' which was raised to 2,660 metric tonnes the following year.[169]

In 1981, the stock structure remained uncertain for bluefin and no new information was presented on the matter. With the implementation of ICCAT regulatory measures, fishing rates had increased since 1976. Juvenile catches had decreased by 38 per cent since the 6.4kg size limit had been in force.[170] Japan at this time was among the few countries that had been strictly observing the bluefin regulations which had been implemented for this stock since 1975. Japan highlighted that unless and until such regulations were fully implemented by all the Contracting Parties, the conservation of the stocks could not be achieved. The Japanese bluefin tuna catch had been limited to a quota of up to 4,500 MT in the Atlantic, and had not increased at all.[171]

Dr Koffi from the SCRS commented on the progress in bluefin research and noted that the SCRS had concluded that the state of bluefin stocks was still unknown.[172] The US delegate noted that its country had been expressing concern since 1973, and that despite the progress achieved by scientists, the state of stocks remained complicated. Many fisheries indices indicated depletion of the western stock. The Canadian delegate also expressed concern over the current state of bluefin stock in the west Atlantic. He noted the increasing uncertainty of the SCRS, which recommended strong conservation measures in 1981 and did not present any management recommendations in 1983.[173]

Ultimately, the Commission proposed new regulations for Contracting Parties whose nationals had been actively fishing for bluefin tuna in the western Atlantic to take measures to limit the catch for scientific monitoring in 1984 to 2,660 MT.[174] It was reported that catches in yellowfin tuna had increased considerably

in recent years to a high of 143,000 MT in 1981, the 1982 catch was lower (136,000) and it appeared that the 1983 catch would be lower than 1982.[175]

On 11 November 1981, the SCRS formally classified western bluefin tuna as depleted, recommending that catches be cut to as close to zero as was feasible. In response, ICCAT recommended a two-year moratorium with a small quota for 'scientific purposes' (565 tons). Canada, Japan and the US were charged with monitoring the programme to estimate the abundance of the stock but the final amount to be harvested was up to these three states. However, they met and decided that the quota was insufficient and awarded themselves 1,160 tons. ICCAT Commissioners chose not to confront them directly, instead changing the policy to require all future stock assessments to be carried out by the Standing Committee on Research and Statistics, rather than rely on an individual state's scientists.[176]

In 1982 ICCAT arbitrarily established a dividing line 45 degrees west in the Atlantic Ocean creating an eastern and western populace. The decision was controversial and not based on good science since it was not a natural boundary and there was much mixing of the two designated stocks.[177] In 1983 the designated quota for the western Atlantic was again set too high, ignoring scientific evidence by SCRS that the appropriate level should be 2,660 tons.[178]

In 1983, the International Skipjack Year Programme, which began in 1979, ended. As a conclusion to the scientific work, a conference was held from 21 to 29 June 1983, at the Centro Costero de Canarias. During the first half of the Conference, some 46 scientific documents, which reported results and analyses of findings of the International Skipjack Year Programme, were presented and reviewed.[179]

The remainder of the decade saw little movement from ICCAT in properly fulfilling its mandate as quotas were consistently set too high and even then, they were mostly ignored, with more fish harvested than officially admitted to. This overfishing was further compounded by ongoing IUU fishing which meant that multiple species of tuna were being fished beyond the multiple sustainable yield advocated by scientists. Despite these readily apparent problems, on the twentieth anniversary of ICCAT's creation in 1989, Chairman Lopez noted that the organisation, after two decades, now had the means and scientific ability to carry out its mission. ICCAT had accumulated vast troves of information and made conservationist recommendations for the different tuna species and states had taken the "necessary measures for the application regulations." He noted in the last two years strict measures had been taken to restrict western Atlantic tuna catches and a port inspection scheme had been created. He criticised the members for yet again not paying their contributions with pending payments $644,343 out of a budget of $750,000 for 1989.[180]

However, ICCAT's own figures (through SCRS) clearly demonstrated that the decline in Antarctic tuna was still occurring despite the better information, for example, in the eastern Atlantic spawning stock (5+) was 60 per cent of the 1970 value. Despite this evidence, the SCRS still recommended no changes to the management measures while criticising states' non-compliance with the size limit

regulation and taking small or juvenile fish in large numbers.[181] After over two decades in existence, tuna stocks were on the verge of extinction, with ICCAT seemingly unable to convince its member states to stop their self-destructive behaviour and limit fish hunts to a level to allow them to recover.

ICCAT IN THE 1990S: CONSERVATIONISTS RUN OUT OF PATIENCE

By the end of the 1980s, the appetite in Japan for tuna saw a twenty-fold increase in catches compared to the same period in the 1970s.[182] To meet that demand the 1990s saw an explosion in industrial-scale fishing in the eastern Atlantic. Purse seiner fleets grew more numerous.[183] By 1991, ICCAT scientists estimated that spawning biomass of tuna was at a mere 22 per cent of the 1975 level. They also stated that the quota reductions being implemented were not sufficient to rebuild the stock.[184] The FAO estimated that from 1950 to 1994 the global catch of tuna peaked at 600,000 tonnes and thereafter had declined.[185]

In 1990, in an effort to cut down on large-scale fishing, ICCAT imposed a moratorium in large-scale pelagic driftnet fishing by 30 June 1992 but included a caveat that regions could continue using such methods if they could demonstrate that they had scientifically based conservationist programmes in place.[186] However, again, the SCRS noted that the size limit was not being observed in the east Atlantic and Mediterranean.[187] Further complicating the issue, a Japanese study in 1992 showed that "an increasing number of boats have been reported flying flags of convenience of ICCAT non-member countries so as to target bluefin tuna in the Gulf of Mexico and the Mediterranean Sea [the only known spawning ground], and thereby fish without any restrictions."[188]

SEEKING AN ALTERNATIVE REMEDY: GOING TO CITES

However, the days of ICCAT being the only regime interested in tuna was coming to an end with conservationist-minded states, concerned about the lack of progress in ICCAT, threatening to seek to have Atlantic tuna placed on the Convention on International Trade in Endangered Species (CITES) Appendix One which deals with endangered (or threatened with endangerment) species affected by international trade. Listing the species would put import/export controls on the tuna until it had sufficiently recovered. The issue was discussed at the 1991 meeting with the US confirming they had considered such an action but had declined. Japan noted that Sweden was proposing such an action but criticised Sweden, arguing that ICCAT was the appropriate body to deal with such issues and Sweden should have first presented that motion at ICCAT (they had been invited annually to ICCAT) but had declined to attend. The Japanese delegate argued that Japan's position was that Atlantic tuna was not endangered and therefore should not be under the aegis of CITES.[189]

Despite the threat of no longer being solely responsible for Atlantic tuna, scientific advice was again not followed. The SCRS had reported that even if

the quota for Atlantic bluefin was cut in half, the population had only a 50 per cent chance of increasing its numbers. Again, the scientists were ignored and the quota was cut by only 10 per cent. It also chose not to set quotas for the east Atlantic either, despite the population being in decline since 1970.[190]

In March 1992 Sweden, as they had threatened to do, proposed at the CITES meeting in Kyoto, Japan that the western Atlantic stock be listed under Appendix One. Japan, Canada and the US stridently opposed the measure, arguing that ICCAT was the appropriate body charged to deal with tuna and the issue should not be resolved by the CITES regime. These states drafted a resolution objecting to the Swedish proposal. Sweden, finding itself under severe pressure from this cabal, withdrew their proposal before any views on the matter could be expressed. Similarly, before the CITES conference in 1994, Kenya, at the behest of ENGOs, proposed that the international trade of northern and southern bluefin should be monitored under the auspices of CITES. However, this angered Japan, which provided US$100 million in funding a year to Kenya, who decided not to bring the motion one month before the conference.[191]

ICCAT'S RESPONSE TO THE THREAT

After the attempt to have Atlantic tuna placed on Appendix One of CITES, at the next ICCAT meeting, the Japanese delegate argued that: "Thanks to the joint effort of ICCAT member nations, we have overcome the difficulties at the last CITES meeting. . ."[192] He then noted that there was a clear distinction between the management of fisheries and endangered species and flagged that the issue was the catches by non-member states that was the real issue, and called on ICCAT to assess the situation, which ICCAT resolved to do.[193]

Despite the threat of CITES, as per the official newsletter, "No specific regulatory measures were recommended this year by the Commission."[194] The Commission did however, recommend the creation of a management review committee to *consider* [my emphasis] reducing the fishing level to 50 per cent of the 1991 scientific quota to allow the western Atlantic tuna to rebuild. The US was the only state in favour of the proposal while Canada argued it was unnecessary and Japan argued the *a priori* issue was uncontrolled fishing by non-member states. Again, the recommendation was a quota reduction of 10 per cent.[195]

The 1993 Meeting saw ICCAT finally pass a recommendation to reduce the quota of western Atlantic tuna by 50 per cent over the next two years, pending further investigations in 1994. Japan, keen to avoid a CITES listing, agreed to reduce its quota from 22 per cent to 12 per cent. However, the delegates acted without the prior knowledge of the Japanese fisherman who were outraged at the concession and demanded a boycott of US and Canadian fish.[196] In 1994, it was reported that catch levels had risen 27 per cent from 1993 to 1994. ICCAT recommended to members they reduce their eastern Atlantic and Mediterranean tuna catches by 25 per cent from current levels in the period 1996–98. However, later research confirmed that catch levels actually rose 8.4 per cent.[197]

At the 1994 meeting the US reiterated that non-member takings were "the most serious problem faced by the Commission."[198] Spain attempted at the fourth plenary session, 1 December 1994, to immediately prohibit driftnets but the motion was met with a tepid response and was withdrawn.[199] In 1995, Sweden again threatened that it would seek to list the western Atlantic bluefin tuna on the CITES Appendix One list. The concern for external action again by disgruntled states and another regime spurred the Commission to cut quotas by 10 per cent in 1995. However, a listing on Appendix One would have seen an immediate 50 per cent cut implemented.[200] At the 1995 Meeting, the SCRS revealed that the spawning biomass in 1993 of tuna in in the western Atlantic was 13 per cent of the biomass compared to 1975 and yellowfin tuna was at the MSY level.[201] ICCAT again noted that the size limit was being ignored and that 65 per cent of the catch in 1994 was below the minimum size. States however, were merely "urged" to reduce their catch in this fish below MSY.[202]

In 1996 the International Union for the Conservation of Nature red-listed Atlantic bluefin tuna, with the western Atlantic stock listed as critically endangered while the eastern Atlantic and Mediterranean bluefin was considered as endangered. That year the annual bluefin catch was 43,000 tonnes, but the SCRS had set a scientifically justified annual catch of 25,000 tonnes. Going into the ICCAT meeting the US argued for a 50 per cent reduction in the catch quota for the western Atlantic tuna, supported by the body's own scientists. Japan was adamant in trying to avoid a CITES listing and Canada was outspoken in its desire to not see quotas reduced. The negotiations continued for a week before it was decided to impose a conditional four-year phased-in 25 per cent reduction (by the end of 1996 quota reductions were only 15 per cent).[203]

Sweden when it raised the issue of the CITES listing came under heavy pressure again from Canada, Japan and the US, and capitulated and withdrew its proposal. Japan did offer a resolution that would have banned trade with non-ICCAT states but was rebuffed by the European delegates who were afraid of the consequences of such a ban on its non-ICCAT member states. However, a new system was introduced whereby all bluefin tuna had to be tagged with a "certificate of origin".[204] ICCAT further decided to ban purse seine fishing in the Mediterranean from 1 to 31 August and prohibited the use of spotter airplanes and helicopters[205] but, as Spain noted, large-scale drift nets were still operational in the Mediterranean with over 700 vessels using that equipment.[206]

In 1997 ICCAT, at the urging of the US, imposed a 25 per cent cut on marlins from 1996 catches, to be implemented by 1999. It also put in place a revised port inspection scheme targeting foreign fishing vessels. ICCAT had identified that the off-loading stage for these ships was crucial to any enforcement action and wished to give inspectors the right to inspect foreign vessels at that point.[207] Concerns were raised by France that any inspection system that did not apply to non-members would prove ineffectual.[208] ICCAT again merely appealed to members to "undertake other appropriate measures to improve the situation of the stock" of bigeye tuna since the observer system was not proving effective.[209]

In 1998, ICCAT on getting advice from SCRS that the tuna population was at historic lows, put in place a recovery plan that had both quotas and a stricter minimum size.[210] It prohibited Fish Aggregate Devices (FADs) in certain areas and times,[211] prohibited purse seine fishing in the Adriatic Sea (1–31 May) to protect juveniles, and in all other areas of the Mediterranean Sea from 16 July to 15 August. The SCRS maintained the 25,000-tonne recommendation, noting it would "halt the decline in spawning biomass" but that Atlantic tuna levels were not expected to return it to historical levels.[212] However, the TAC for 1999 was still set at 32,000 MT and in 2000 29, 500 MT, well above the MSY level.[213]

THE IMPACT OF ENGOS

It was not until 30 years after ICCAT was created that ENGOs were able to finally seek to effect change from within. ICCAT had managed to effectively exclude internal ENGO participation since its Charter stipulated that ENGOs could only participate with the unanimous consent of all state parties. Doing so had sent a very public signal that the organisation was not interested in outside voices when making decisions, particularly representatives of global environmental civil society.[214]

However, it could not stop ENGOs from seeking to exert pressure from outside. In May 1999, Greenpeace published a report denouncing the drastic decline of the eastern stock of the Northern bluefin tuna population and analysing its causes. IUU fishing for tuna was rampant in the region and was primarily being carried out by vessels flagged to Mediterranean countries, with the stock at a significant risk of collapse.[215] Greenpeace, Natural Resource Defence Council, Ocean Wildlife Campaign, Seaweb and the Wildlife Conservation Society attended the 1999 Meeting but as observers were not permitted to make opening statements.[216]

For many state members, the 30th anniversary of the founding of ICCAT was no cause for celebration. Canada argued that even after 30 years, the organisation was still hindered by a lack of quality data and an inability to enforce compliance of its edicts.[217] The US lambasted the group, noting that: "This organization has presided over the decline of many of the resources it was created to conserve and manage."[218] The US attempted to pass a resolution requiring states to collect data on sharks and give it to the FAO but it was not adopted.[219] ENGOs publicly noted that the SCRS had reported that the quota system had "stopped the hemorrhaging" but called for a quota of between ten to twelve million tons, requested a quota of between eight and ten million tons.[220] Japan however, continued to blame unreported/unregulated vessels for the continued depletion of tuna.[221]

ICCAT IN THE 2000S: CHANGE IS IN THE AIR

At the 2001 Meeting the US voiced its disapproval that scientific advice was again being ignored. The US in conjunction with Canada and Korea blocked an EU

motion that would have raised the quota for bluefin in the eastern Atlantic. The meeting was recessed by the Chair without a full discussion of the proposals so no decision was made on catch levels, allowing states a virtual free hand.[222] The ENGO Ocean Wildlife Campaign attacked the body for its failure to embed precautionary practices in its processes which was seen as a necessary precondition to altering the exploitationist behaviours of members.[223]

By 2002 it was clear that the organisation itself was in trouble. The body had always had trouble collecting its ember contributions but the total accumulated debt from budgetary and extra-budgetary contributions at the close of fiscal year 2002 amounted to US$1,865,1900.[224] The schism over whether the issue of tuna depletion was caused by IUU fishing or state malfeasance flared up. Canada noted that the Commission needed to stop authorising fishing from occurring at unacceptable levels, as this was detrimental to the stocks.[225] Alternatively, the EU noted that the primary issues that needed to be addressed was IUU activities and the effects that such activities have in undermining efficient management and conservation of stocks.[226] Similarly, Japan advocated for ICCAT to take action to eliminate IUU fishing activities, arguing there were still more than 100 large-scale tuna longliners exploiting tuna resources and disregarding international rules.[227] Despite the internal debate over the cause of exploitation, business as usual continued with ICCAT setting the TAC quota for east Atlantic and Mediterranean bluefin tuna at 32,000 tonnes for the period 2003–2006, still higher than SCRS had recommended.[228]

In 2003 the issue of IUU fishing was still ongoing. After a vigorous debate, it was decided that the Commission would identify each year the member states that had failed to comply with their obligations under the Convention, in particular by not taking measures or exercising effective control to ensure adherence with conservation and management policies by the vessels flying their flag.[229] However, this stand was undermined by the Commission merely *requesting* members and non-member states to rectify the act or omission so as to not undermine the effectiveness of the ICCAT conservation and management measures.[230]

In its 2006 assessment, the SCRS noted that reported catches were below quota in 2003 and 2004 but had been substantially higher in 2005. However, scientists believed that actual catches were in the order of 50,000 tonnes throughout the period and that actually, "it is apparent that the TAC . . . was not respected and was largely ineffective in controlling overall catch."[231] It therefore recommended that "the only scenarios which have potential to address the declines and initiate recovery are those which (in combination) close the Mediterranean to fishing during spawning season and decrease mortality on small fish through fully enforced increases in minimum size." However, in November 2006 ICCAT accepted an EU motion for the quota to 29,500 tonnes, reducing to 25,500 tonnes by 2010. This proposal was branded a 'recovery plan for bluefin' since it included new restrictions on fish sizes and banned spotter planes. The WWF saw the proposal as a "collapse plan," an assessment later supported by independent scientists. The SCRS evaluated the scheme in 2009 and stated that in its present form under the proposal, Atlantic bluefin stocks had a less

than 50 per cent chance of recovery by 2023 and that collapse of the population was possible.[232]

In July 2006, the WWF's authoritative report, *The Plunder of Bluefin Tuna in the Mediterranean and East Atlantic in 2004 and 2005*, clearly demonstrated that illegal, unregulated and unreported tuna fishing was rampant in the Mediterranean, and that the actual catch was 40 per cent higher than states' declared catch to ICCAT. The reports showed a pattern of deliberate misreporting and laundering of bluefin tuna catches, with unreported catches increasingly being processed at sea for eventual sale in Japan.[233]

The year 2006 was the first time that WWF and Greenpeace actively participated in the meetings, seeking to influence proceedings from within. It brought attention to the huge level of IUU fishing estimated by SCRS, with reach catches amounting to 50,000 tonnes, 56 per cent higher than the quota and more than three times the level advised as sustainable by scientists. It also alerted ICCAT that the fleets responsible for this belonged to prominent ICCAT Contracting Parties.[234] Greenpeace discussed the lack of control over the activities of tuna fishing fleets in the sea, witnessed by its two ships. The findings included the use of illegal spotter planes during the month of June, unregulated transshipments and illegal longline fishing during the month of June. Greenpeace stated that neither governments nor regional bodies had authority to enforce fisheries regulations in the region, under the existing rules. Greenpeace further stated that countries were failing to comply with their obligations and failing to provide data for scientists.[235] The WWF called for a TAC of around 15,000 tonnes as recommended by SCRS which would be approximately a third of the current take but their plea was ignored.[236]

The Chairman opened the 2007 ICCAT Meeting by stating that the average size of captured bluefin was decreasing and fishing effort for achieving the same amount caught was increasing by the years, demonstrating that the bluefin tuna stock was declining, which had been confirmed previously by SCRS on multiple occasions.[237] Japan noted that over-exploitation continued to be a problem. It outlined that it left more than 1,000 tonnes of unused quota due to the poor fishing seasons, which it had never experienced before. The issue of CITES action had not gone away and their Secretariat was watching what was occurring at ICCAT and could take action at their 2010 meeting.[238]

The US again alerted the Commission to the lack of comprehensive data being reported by significant number of ICCAT CPCs. The US delegation supported strong measures to address the lack of data compliance, including quota penalties for CPCs who are not meeting their obligations but these measures were not accepted.[239]

RFMO PERFORMANCE REVIEW

In 2007, it was agreed at the Joint Meeting of the Tuna RFMOs in 2007 that the five RFMOs should have performance reviews conducted in accordance with a common methodology and a common set of criteria, taking into account the specific

needs of each Commission. At the 27th session of the UN FAO Committee, Members accentuated the significance of conducting such performance reviews. The evaluation of performance was to be oriented towards an examination of the Commission's aims and the measures implemented to achieve such aims. A review of ICCAT performance would include an assessment of the text of the Convention, an assessment of the extent to which measures adopted achieve the Commission's objectives, and recommendations on how the Commission could be improved, which was long overdue.[240]

The SCRS reported that the bluefin catch in 2007 was approximately 61,000 tonnes, twice the permissible TAC and four times the estimated sustainable fishing level. The body recommended management strategies with a quota range between 8,500 tonnes and 15,000 tonnes. They further ominously stated, "the current management scheme will most probably lead to further reduction in spawning stock biomass with high risk of fisheries and stock collapse."[241]

A partial success that ICCAT can point to was the introduction of a documentation regime (Catch Documentation Scheme) in 2008 whereby all Atlantic bluefin caught and sold must be reported. However, severe sanctions for failing to follow the policy had been rarely imposed, tending to be only such punishments as slightly reduced state quotas. Purse seiners often put their catches into stores with no indication of the numbers caught which made compliance very difficult.[242] However, in 2008 ICCAT set quotas that were double the amount recommended by SCRS, leading to sharp criticism by the ENGOs.[243]

Both WWF and Greenpeace, trying to raise global awareness of the precarious plight of tuna, sought to pressure ICCAT through publishing studies, issuing recommendations and sending representatives to ICCAT meetings. In April 2008, the WWF report *Race for the Last Bluefin* highlighted that the bluefin tuna purse seine fleet alone had a capacity almost twice the set quota levels and more than three and a half times the SCRS recommended catch levels. Further, 25 new ships were currently under construction to hunt tuna, which would only compound the problem. The key issue was the price being paid for tuna, particularly to feed Japan's appetite for the fish, making the fish a tempting target for those seeking to get rich. However, tuna was proving more elusive to catch. In June 2008, the EU was forced to close the official end of season 15 days early while half the French fleet caught no tuna.[244]

SUSPENDING THE FISHERIES: A MORATORIUM?

In October 2008 the bulk of state delegates attending the World Conservation Congress (including key fishing state Spain and the key market Japan) supported a WWF motion to suspend the Atlantic tuna fishery until it could be properly managed and protected areas established in key spawning areas. It further requested the closing of the fishery during the May to July spawning period and for catch quotas to be maintained that accorded with scientific advice.[245] However, in November 2008, ICCAT again ignored the views expressed in

the motion and the advice of its own scientific body and endorsed a revised "recovery plan" with a 2009 TAC of 22,000 tonnes, well above MSY. The EU supported by Algeria, Egypt, Morocco, Syria and Tunisia and later joined by Japan, had 'watered down' the initial proposal for a TAC of 25,500 tonnes. A proposal by the WWF to implement a fishing moratorium was not even allowed on the meeting agenda.[246]

2008 INDEPENDENT PERFORMANCE REVIEW OF ICCAT

After 40 years, ICCAT carried out its first independent review of its performance. The report noted that a number of key fish stocks had been failed since they were well below MSY. However, the report took the view that the failure was not so much ICCAT, but rather the member states which had failed to properly implement the agreed-to rules and regulations. Members had consistently not provided timely or accurate information about their activities. The body was not perceived by the reviewers as being transparent in its decision-making and resource allocation and the problems the body faced were those of a lack of political will.[247]

The Performance Review outlined that the Convention needed to be "modernised"; a penalty system needed to be implemented; the bridge between science and management needed to be reinforced; and accurate data were essential for ICCAT to function. On a more positive note, the Review outlined that ICCAT had developed reasonably sound conservation and fisheries management practices, and the Commission's subsidiary bodies provided it with timely advice. The performance of the Secretariat was also considered efficient and effective and the SCRS's work was complimented, despite the difficulties they faced in relation to data availability and quality.[248]

The key message of the report, however, was that ICCAT members had poorly implemented and failed to comply with many agreed decisions, particularly regarding the conservation and management of eastern Atlantic and Mediterranean bluefin tuna. The management of those two stocks was found to be unacceptable and inconsistent with the objectives of the Convention. Ultimately, the Review Panel called on ICCAT to suspend (effectively put in place a moratorium) its eastern Atlantic and Mediterranean bluefin tuna fishery programmes until ICCAT members were ready to fully comply with the needed procedures.[249] Given that illegal fishing however, was twice the quota levels and four times the scientific recommendations, the report concluded, "It is difficult to describe this as responsible fisheries management."[250]

However, Greenpeace reported that rather than follow the Review's recommendations, lucrative investments were being made by many governments attending the 2008 Meeting in building up both fishing and farming capacity for tuna in the Mediterranean. An obvious consequence of this was that the eastern Atlantic bluefin tuna population was in the worse state ever recorded. The SCRS estimate of a catch of merely 61,000 tons of eastern bluefin tuna in the 2007 fishing season, gave credibility to Greenpeace's findings.[251]

FORTIETH ANNIVERSARY OF ICCAT

In October 2009, SCRS acknowledged that the estimated Mediterranean and east Atlantic bluefin tuna catch for 2008 (exclusive of IUU fishing) was 34,120 tonnes, well above quota. They argued that, "Even in the most optimistic evaluation . . . assuming recruitment will not decrease if Spawning Stock Biomass continues to decline, substantial overfishing was occurring and spawning biomass was well below levels needed to sustain Maximum Sustainable Yield."[252] The issue of exploited Mediterranean bluefin had become so ubiquitous, it made the cover of *TIME* magazine and media interest in the issue was peaking as global civil society paid more attention to the issue.[253]

The following month then US president Barack Obama's office wrote to ICCAT members arguing that, "over the past 40 years, ICCAT had overseen a 72 per cent decline in the adult population of the eastern Atlantic and Mediterranean stock of bluefin tuna." The US then called for decisive action at the November 2009 meeting in Brazil, in a letter maintaining that: "This includes ending overfishing by establishing management measures that set responsible science-based management measures that set responsible science-based quotas, strongly enforce these quotas and closures during spawning periods, and address illegal, unrecorded and unreported fishing."[254]

The attempt to have CITES intervene again, this time spearheaded by Monaco (see below), appears to have motivated ICCAT to attempt to grapple with its low status as an RFMO. The November 2009 Meeting was opened with the Commission Chair reminding delegates that the Convention entered into force 40 years ago, and that the Commission's credibility would be compromised if countries were not committed to implementing management and conservation measures. He went on to note that ICCAT needed to completely abide by the scientific advice given it, and sanctions and penalties should be applied in the case of non-compliance.[255]

In presenting the long-awaited *Report of the Working Group on the Future of ICCAT*, the Chair prioritised the need to urgently amend the Convention as being the precautionary approach, make ecosystem considerations, improve the contribution scheme, while strengthening the participation of non-Contracting parties, improve the decision-making process and offer assistance to developing states.[256]

In 2009 for the first time there was full observer coverage of all EU states.[257] Despite quotas being introduced in 1998, illegal fishing and the rising price paid by those wanting to end tuna, particularly in Japan, saw fishing fleets catch 60,000 tons annually, double the official quota.[258] ENGOs again called for a zero-catch quota (effectively a moratorium) to be introduced but the delegates rejected the notion.[259]

However, when it came to tuna numbers, the situation was not improving. As of 2009, the levels of bluefin tuna in the western Atlantic had decreased by 82 per cent from their levels in the 1960s.[260] The 2009 SCRS review could only state current plans were "a step in the right direction" but were "unlikely to fully fulfil the objective of the plan to rebuild the stock to the Maximum Sustainable

Yield level by 2023."[261] With a key study presented to the meeting showing that even a strictly enforced 8,000-tonne quota would have only a 50 per cent chance of achieving a recovery in eastern Atlantic bluefin tuna, ICCAT dropped its 2010 quota from 19,500 tonnes to 13,500 tonnes.[262] However in a blow to any hopes such a number would allow recovery, in December 2009, Europe announced it was spending €34.5 million of EU taxpayers' money into expanding and modernising its already oversize bluefin tuna fleets despite conceding that excess fishing capacity was a critical factor leading to the collapse of tuna fishing stocks.[263]

2010 CITES MEETING: A FINAL ROLL OF THE DICE

In October 2009, the Principality of Monaco had submitted a proposal to include Atlantic bluefin tuna on Appendix One. Its case was built on the steep decline in the stocks, the ever-burgeoning appetite for tuna and ICCAT setting TACs far in excess of scientific advice.[264] Many scientists supported the listing, with one arguing, "[w]hat's needed to save the stocks is a suspension of fishing activity and a suspension of international commercial trade," while another noted, such a "measure . . . will eliminate the main cause of overfishing: high sushi and sashimi market demand of such countries such as Japan or the United States."[265] Remarkably, the SCRS supported the proposal to an extent, arguing it could not support a category A listing, but thought a category C listing was appropriate.[266]

Listing the Atlantic bluefin would have meant a complete ban in the Atlantic and Mediterranean for at least two years.[267] Further, placing tuna on Appendix One would allow only those states that have bluefin tuna in their territorial waters to harvest them.[268]

The meeting took place in Doha in March 2010 where the US, France, Spain and the EU supported the listing. Opposing them was Japan, China and the bulk of LDCs.[269] It was alleged that Japan lobbied heavily poorer LDCs to vote their way and struck a deal with China that they would reciprocally oppose any proposed listing of sharks.[270] Both the WWF and the Pew Environment Group reported to the *New York Times* that they believed that Japan told African delegates that European bluefin tuna fleets would relocate to African waters to catch African yellowfin tuna if the motion passed. However, Japan denied such 'strong-arming' took place. African states however, did help Libya and Sudan force a vote.[271]

Both Japan and Libya argued that the issue should be dealt with by an RFMO such as ICCAT rather than under CITES.[272] Japan further claimed that such a listing would impose an unfair burden on coastal states and impede their sustainable use of their fishing stocks. Japan stated it would take a reservation if the proposal passed and showed what it thought of the issue by serving tuna sushi at the Japanese embassy hours before the vote.[273]

There was little discussion at the Meeting of the scientific merits of such a decision. Shortly into the debate, the delegate from Libya (which had allegedly long

been involved in illegal tuna taking), "screamed at other parties, called everyone liars, and suggested that politics had trumped science in FAOs recommendation for listing."[274] Libya condemned the proceedings as a farce and called for an immediate vote. Seventy states voted against the ban and only 53 supported it. Thus, without any substantial debate, the matter was closed.[275]

The key members of ICCAT, both producing and consuming states (Japan, the EU, the US, Norway and Canada) committed at the CITES meeting to adopt "sustainable, science-based fisheries management measures by ICCAT."[276] Revealing their true concern over the potential listing, the Director of the Fisheries Agency of Japan later stated, "Cites Appendix One is too inflexible . . . once a species is listed in a CITES Appendix, it will never be delisted or down-listed as the history of CITES clearly shows."[277] Despite supporting the proposal, the EU stated that even if tuna was placed on Appendix One, it would continue to catch its allowable quota.[278]

By 2010 the FAO estimated that 7 of the 23 commercial types of tuna were overfished or depleted.[279] An ICCAT Compliance Meeting in February 2010 stated compliance with the ICCAT catch documentation scheme was merely 43 per cent in 2009. Of the 19,844 tonnes of bluefin tuna reported by ICCAT states, only 8,614 tonnes had been officially included in the catch documentation.[280]

In November 2010, a WWF and Greenpeace analysis of the 2010 parties catch data showed widespread rule violation continuing, despite the newly implemented observer rules. Catches and transfers were often undocumented and misleading or contradictory documentation was provided. ICCAT observers stated they had to rely on estimates provided by ships' captains and divers. At the same time an eight-month investigation by the International Consortium of Investigative Journalists revealed that the black market in east Atlantic bluefin tuna was worth approximately $US4 billion between 1998 and 2007. To obtain that figure, journalists were confronted with "a wall of secrecy" and noted that state involvement in falsifying catch and farming data and the data from ICCAT's Bluefin Tuna Catch Documentation scheme, "is full of holes, rendering the data almost useless."[281]

2011 ONWARDS: A GLIMMER OF HOPE?

At the 2011 Meeting the Chairman of ICCAT, Fabio Hazin, acknowledged the increasing pressure on tuna resources in his opening address, however, he reiterated that ICCAT had made significant progress over the years. Hazin noted the modern concepts of fisheries management, the strict observance of scientific advice and the ecosystem approach had all become firmly entrenched in the Commission's work. Today the TAC he argued was below the level recommended by science and strict control mechanisms were in place. Hazin acknowledged that the challenges were not over nor was IUU fishing as an issue dealt with. But the Commission had now almost ten recommendations protecting seabirds, sea turtles and several shark species in place where just a few years before there were none.[282]

Canada noted that the 2010 adoption of a management plan for eastern Atlantic bluefin tuna based on scientific advice, as well as the increased focus on compliance to ensure members were meeting their obligations, were positive steps towards maintaining the integrity of the organisation in the eyes of the public. The Commission had also increased its efforts in data collection, and measures in line with an eco-systemic approach, which recognised scientific advice as the foundation for management decisions.

Japan noted that although compliance with conservation and management measures for bluefin tuna fisheries had improved, there were still cases of non-compliance to the Commission. Japan advocated for the introduction of an electronic Bluefin Tuna Catch Document system (eBCD) to replace the paper system, which it believed would improve compliance levels. Japan also stressed the need to expand the current traceability system from bluefin tuna to bigeye, yellowfin and skipjack. Since 2012 ICCAT members have been obliged to participate in a new port inspection scheme to ensure compliance with the set annual quotas. All member states must carry out inspections on all tuna fishing ships in their ports (including non-member vessels). Any infringement is dealt with under local laws but a report must be made to the ICCAT Secretariat.[283]

In welcome news, ICCAT finally acknowledged that the work undetaken by ENGOs was crucial in driving change within ICAAT by pressuring countries to act. Organisations such as Oceana, Pew, Birdlife International and Greenpeace were recognised individually as catalysts of transformation.[284] The strategies adopted by ENGOs were twofold. At every meeting, an ENGO would present details on how much tuna was being caught above ICCAT's quota. Secondly, ENGOs used the tactic of "naming and shaming" specific countries that violate ICCAT measures to encourage them to comply, with some success.[285]

In encouraging signs, eastern and western Atlantic bluefin tuna population were thought to have increased in the last few years but even the SCRS stated these numbers were "uncertain," as the true situation was still unclear.[286] However, between 2005 and 2011, records indicated that the eastern Atlantic bluefin's total catch was 62 per cent over quota and increased to 77 per cent over quota from 2008. This confirmed the presence of ongoing, large-scale illegal fishing in the Mediterranean Sea and eastern Atlantic despite stricter regulations and increased enforcement efforts by ICCAT.[287]

The 2013 meeting listed a number of areas to be considered, including broadening the scope of the Convention with regard to shark conservation and management, decision-making issues, voting rules/quorum and dispute settlement, as well as enabling non-party participation.[288] The EU Commissioner for Maritime Affairs and Fisheries stated that bluefin tuna was officially recovering and is likely to continue to recover from its 2010 almost doomed status. A slightly higher TAC was granted in 2012 for Atlantic bluefin tuna.[289] Given the strong scientific advice to the contrary (the SCRS had concluded that there was not enough certainty to support a substantial change in quota), the Ecology Action Centre called on ICCAT to maintain the current catch limit at 1,750

metric tons for western Atlantic bluefin tuna, and to maintain the eastern Atlantic bluefin quota at 13,400 tons for 2014 and 2015.[290]

The opening address for the 2014 Meeting urged all participants to keep on the path of utilising appropriate scientific advice. ICCAT had adopted a long-term rebuilding plan for avoiding a biological collapse of the stock. This plan was revised over the years and the fishing opportunities and fishing capacity of fleets were strictly reduced. The social impact of this plan was not negligible and it had required important sacrifices from the tuna fishing states.[291]

In a worrying sign, for that year, the TACs in the eastern and western Atlantic for 2015 and subsequent years were increased (30 per cent in the western TAC, applied to 2015 and 2016 and an increase of 60 per cent over 3 years was applied to the eastern TAC).[292] Once again, the EAC had advocated for the maintenance of current quotas for western and eastern Atlantic bluefin tuna at 1,750 and 13,400 tons respectively. It noted that the western stock remained at 55 per cent of the 1970s levels and only 5 years remained in the 20-year rebuilding plan. It also urged the Commission to remain committed to the March 2015 implementation of eBCD, as it had already been delayed, with risky loopholes in discussion.[293]

ICCAT further recommended that an Atlantic Ocean Tropical Tuna Tagging Program (AOTTP) be implemented for yellowfin, bigeye and skipjack tuna stocks.[294] The CPCs and Cooperating non-Contracting Parties, whose vessels had been actively fishing for bluefin tuna (in the eastern Atlantic and Mediterranean) would be required to implement a 15-Year Recovery Plan for bluefin tuna in the eastern Atlantic and Mediterranean starting in 2007 and continuing through 2022, with the aim of achieving BMSY (biomass that enables a fish stock to deliver the maximum yield) with at least 60 per cent probability.[295]

The Director-General of the Department of Fisheries and Aquaculture of Malta, opened the 2015 meeting by stating that it was "remarkable" to discuss the recovery of bluefin tuna when only five years ago the stock was on the brink of collapse.[296] Japan acknowledged the great contributions of the eBCD in eliminating IUU products from the market, however it outlined the limitations of the current paper-based system and its inability to address the ever-increasing workload of CPCs and the Secretariat.[297] The EU argued it was now time to finalise the work done on the electronic bluefin tuna catch document.[298]

The EAC again criticised the current paper-based system used by ICCAT to track catch as being 'outdated' and containing a number of loopholes for the trade of illegally caught bluefin which had been delayed multiple times. It argued that the full employment of eBCD was crucial for the effective reduction of loopholes for illegal activity and supporting the recovery of bluefin. The system was implemented from the 2017 fishing season.[299] Further, the EAC applauded the efforts that all shark species listed in Article 64 of the UNCLOS should be officially managed by ICCAT. EAC also noted that ICCAT was the first RFMO to ban shark finning, but loopholes still exist with the 5 per cent rule, which means illegal shark fins are still being landed.[300]

In 2016, since states were still not complying with the TAC for bigeye tuna, FADs were banned from 1 January to 28 February in certain areas, while the same limitation of FADs recommended in 2015 was applied in 2016.[301] A Joint ICCAT Scheme of Joint International Inspection in International Waters was created to apply to swordfish.[302]

REPORT OF THE SECOND INDEPENDENT PERFORMANCE REVIEW OF ICCAT

The Report of the Second Independent Performance Review of ICCAT by John Spencer, Jean-Jacques Maguire and Erik J. Molenaar in October 2016 stressed that ICCAT had improved in some key areas since the First Review. On the positive side, the body had now finally begun to address the issue of sharks; ICCAT now held a review of member states' compliance records annually; ENGOs were now welcome as observers within the body; quota allocations were now in place for most key stocks; ICCAT had improved its monitoring measures in the previous decade; and ICCAT had redressed the key criticism regarding eastern bluefin tuna, both in terms of the status and the management of the fishery.[303]

However, the authors noted that there were still a number of serious structural deficiencies that ICCAT had not yet resolved. ICCAT's need for consensus had seen many critical decisions deferred, thus the necessary reforms were still not occurring; the management of bigeye tuna and marlin had not been adequately addressed by the delegates; there appeared to be a reluctance to embed a precautionary approach into its decision-making and procedures; it still lacked at-sea monitoring of tuna vessels which enabled states to take more than the official quota without fear of consequences; and improved data availability, a perennial issue for decades, was still required to enable competent decision-making.[304] While the report was better than a decade ago, it pointed to an organisation that had a number of tough choices, which it had proved to date incapable of doing in the required timeframe, in order to properly implement its mission statement.

THE 2017 MEETING, MOROCCO

In 2017, the catch of major commercial tunas was 4.8 million tonnes, with bluefin tunas accounting for only 1 per cent of the global catch. Scientists reported that 65 per cent of stocks were at a healthy level of abundance, but 13 per cent were still overfished and 22 per cent were considered to be at an intermediate level.[305] Atlantic bigeye catches in 2017 were about 78,500 tonnes, a 2 per cent decrease from 2016,[306] whereas yellowfin catches were about 139,300 tonnes, an 8 per cent decrease from 2016.[307]

The 25th Regular meeting of ICCAT was held in Marrakech, Morocco, from 14–21 November 2017. Of the 52 Contracting Parties, 44 attended along with 4 cooperating non-Contracting Parties, Entities or Fishing Entities and observers

from 2 non-Contracting Parties, as well as 6 IOs, and 23 ENGOs.[308] The opening address for this meeting acknowledged that the international image of ICCAT was defined by how well the organisation manages bluefin tuna. ICCAT Chairman, Martin Tsamenyi, indicated that decisive action on bluefin tuna should concern all CPCs, even if they are not actively involved in its management. "We cannot afford to be described again as an international failure and shame as was the case previously."[309]

The US proposed a number of amendments, on which, although attracting broad support, no consensus was met to: "(1) require sharks be landed with their fins naturally attached; (2) mandate the use of circle hooks or finfish bait in shallow set fisheries to address sea turtle by-catch; (3) implement new observer health and safety standards in ICCAT's regional observer programs; and (4) create an at sea inspector exchange pilot program."[310]

The quotas for eastern and western bluefin stocks went up 52 per cent and 18 per cent. ICCAT delegates voted to raise the eastern quota to 36,000 tons and the western to 2,350 tons (highest in a decade) by 2020 despite the SCRS arguing for a quota of 28,000 tons in the eastern Atlantic.[311]

ENGOs had mixed feelings as to the outcomes. Problematically as always, the issue of how to deal with bluefin tuna was on the agenda which tended to crowd out other issues for discussion.[312] However, for the first time, ICCAT adopted a measure on Mediterranean albacore to prevent fishing death increases.[313]

As regards tropical (bigeye) tuna management, the lack of action was disappointing. Little was done to address overages in the bigeye and yellowfin tuna whose catch limits in 2016 were exceeded by 11 per cent and 16 per cent respectively.[314] In response to the overfished state of the Atlantic bigeye tuna population, eight countries proposed a landmark measure that could have led to capping the number of FADs in ICCAT waters and the number of large-scale, purse seine vessels that fish for tropical tuna until science-based advice is implemented. This measure was blocked.[315]

ICCAT instead agreed that adjustments to catch levels for bigeye tuna should be reduced to account for some of the 2016 TAC overharvest. Further, members agreed to a proposal to reduce discards of tropical tuna from purse seine fisheries.[316] ICCAT also agreed to a comprehensive review of the management of the tropical tuna fishery at its 2018 meeting with preparatory work occurring at an intersessional meeting of Panel 1 on 23–25 July 2018, in Bilbao, Spain.[317]

ICCAT also began the process of following up on the recommendations of its second independent performance review and looked to strengthen compliance in ICCAT fisheries.[318] However, member states agreed that any dispute settlement provisions would still be non-compulsory and binding. Parties would have to agree to the process, but any decision would be binding on the parties.[319] Korea reinforced the point, utilising FAO statistics, that overfishing and depletion of fishery stocks was still continuing worldwide. It soberly acknowledged that we may not find seafood on the table any longer if this trend continued for the next 30 years.[320]

THE 2018 SPECIAL MEETING, DUBROVNIK

At the 21st Special Meeting of ICAAT which took place in Dubrovnik, Croatia, the delegates agreed to move forward and adopt the amendments to the Convention which a Working Party had been crafting since 2013.[321] The mandate of the Working Party was to modernise the ICCAT Convention text and strengthen the Convention's mandate. The recommendations the group came up with include: to incorporate sharks within the scope of the Convention; to embed the principles of ecosystem-based management and the precautionary approach within the Convention; and to amend the Convention text to improve alignment with the relevant international treaties.[322] The delegates were urged to work on the amendments so they can be formally accepted at the 2019 Meeting but there is no guarantee at this point they will be accepted by the majority of member states. Delegates also agreed to create a register of ships presumed to have carried out IUU activities and port state measures to eliminate IUU fishing.[323]

The SCRS reported that Atlantic bluefin stock had improved compared to the numbers recorded in previous years. However, the TAC for 2020 will be increased to 36,000 tonnes which is 1.5 times higher than the allowable catch in 2017.[324] The delegates agreed to put in place a reviewed multi-annual management plan for eastern Atlantic and Mediterranean bluefin.[325] When it came to bigeye tuna the SCRS assessment showed that the species is still overfished and recommended new control measures be implemented. However, the delegates could not reach consensus and a way forward and no decision was reached, thus the current system was rolled over.[326]

CONCLUSION

Tuna fishing was pioneered by capital-rich countries such as Japan, the United States, Spain and France, due to the highly capital-intensive nature of the activity. These economic losses called for a political response through RFMOs, to protect their interests.[327] RFMOs like ICCAT were initially set up as a cartel to expedite the rational exploitation of tuna resources but their inability to stop rampant fishing risked the extinction of the species. The management of tuna by ICCAT has been described as an 'international disgrace', due to the severe decreases in biomass, the inefficient recovery and rebuilding plans and ongoing issues with management measures that have taken place under its watch.[328]

There are numerous reasons to account for ICCAT's failure in its supposed mission.[329] Firstly, for almost all of its 50 years of existence it has tended to the recommendations of its own scientists, establishing quota limits that exceed sustainable thresholds.[330] From its inception ICCAT never had independent scientists but rather was reliant on its member states to provide needed scientific expertise and much of the advice tended to reflect states' interests. Even when it did not, states were too willing to prioritise the political and economic demands of the industry over its sustainability objectives.[331]

Moreover, the inability of some CPCs to adhere to their national quotas and the existence of IUU fishing has constituted a major failure by ICCAT.[332] A former Chair of ICCAT admitted, "Even though scientific advice says you should stick to a specific catch number, in order to negotiate a deal they tend to nudge the number a little bit."[333] ICCAT has appeared powerless for much of its existence to enforce its will on members who could ignore recommendations at will. The constant striving for consensus decisions has also led to either 'hard decisions' being deferred or not taken at all. Another key problem has been a lack of accurate data. For decades ICCAT could not obtain either clear enough scientific data to help it make decisions, or it was hampered by its own members refusing to hand over catch and other information, in case the scale of their malfeasance was exposed. At the same time the body has been starved of funds which has reduced its ability to fund key programmes which could have ameliorated the costs to local communities no longer fishing.

ICCAT has implemented some schemes that have been relatively successful, such as a port inspection scheme and paper-based catch records (which have now been codified in electronic form). However, a detailed ICCAT Report collecting data from the EU, Japanese custom documents and US Department of Agriculture Foreign Agricultural Services revealed that six years following the original catch records initiative, 140 per cent more fish were entering the market than were being reported.[334] For decades, purse seiners, spotter aircraft and driftnets, were technically banned, however, states which used these ostensibly illegal methods, were not subject to any enforcement action. The issue of continued IUU fishing and ICAAT's refusal to deal with these issues in a meaningful way has meant that more tuna has been taken than records indicate, making effective conservationist programmes nigh on impossible to implement.

Thus, the problem of compliance and enforcement of these conservation and management measures is a matter of state willingness, and states have proved unwilling or unable to comply. Ultimately, ICCAT is at the mercy of its member countries, who often cannot or will not comply with its regulations.[335] ICCAT has no independent power to enforce its recommendations against member states, let alone non-member states. If more than one fourth but less than a majority of the member states object to a recommendation, it becomes effective for non-objecting states only. This created the problem of free-riders (non-members of the treaty who are free to fish in international waters within ICCAT's jurisdiction). A recent study by Japan outlined that fish catches by free-riders exceeded 80 per cent of ICCAT member catches.[336]

Compliance also requires the active participation of fishermen, which is both inherently costly and anathema to greater prodigality in the industry. As in a classic 'tragedy of the commons scenario', a fisher's strongest incentive is to pre-empt their rivals by capturing as many fish as possible, as fast as possible. As such, fishermen lack the incentive to conserve fish stocks or expend resources to improve future stocks.[337]

Scientists and states in the early 1990s and in 2010 were desperate to break the control ICCAT had on the issue of Atlantic tuna and resorted to seeking another

regime's intervention, that of CITES, to have the fish banned from international trade. Even ICCAT's own researchers advocated for the Atlantic bluefin to be included on the CITES Appendix One list of international trade bans.[338] After the third attempt CITES members returned the matter to ICCAT, and members like Japan were glad that their efforts to nullify such actions had been successful.[339] However that door is not closed, and could be utilised again if ICCAT continues to fail at its mandate.

If this occurs it may be because ENGOs give up on the body, and seek other forums to try to save tuna. For the first 30 years of ICAAT's existence, ENGOs were prevented from actively taking part in negotiations. This did not stop them from seeking to externally pressure ICCAT members through reports and publicity of the ongoing slaughter. However, once they were allowed to formally participate, strategies similar to those they utilised in the whaling regime were implemented, particularly within the period 2006–2011. ENGOs acquired greater influence and now have been accepted as 'partners' by the member states. Their policy of naming and shaming delinquent states has been reasonably successful and it is no coincidence that most of the environmental policy successes implemented by ICCAT have come about since ENGOs became involved.

ICCAT is not yet a failed environmental regime but it has veered very close to being one, with tuna stocks having gone down for four decades until stabilising, albeit at a historically very low level. However, the lessons do not appear to have been learned, with members calling for a greater TAC by 2020 despite the perilously low spawning rates. ICCAT has committed to improving its overarching Constitution and now seeks to embed concepts such as the precautionary approach and an ecosystem-based approach to fisheries management as well as including sharks (and the contentious issue of sharkfinning) which are not currently part of its remit.[340] This 'rethinking' of its mission and inclusion of more modern fisheries management techniques may well represent the last opportunity to demonstrate it is serious about its mission. Given its history of always putting the economic interests of fishing states first, ICCAT has yet to prove it can outgrow its beginning as a rational exploiter cartel and truly embrace a new role as a protector of Atlantic tuna.

ICCAT's track record over the last 50 years, its propensity to refuse to entertain the idea of a ban, rather continuing to put in place high TACs that do not give the species time to fully recover, and its clear refusal to consider a compulsory dispute settlement system even at this late stage, is clear evidence that Atlantic tuna will remain in perilous waters for the foreseeable future unless ICCAT choses to evolve.

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known as "principal market tunas" due to their economic value in the global markets. These include the albacore (Thunnus alalunga), bigeye tuna (Thunnus obesus), Atlantic bluefin (Thunnus thynnus thynnus), pacific bluefin tuna (T. orientalis), southern bluefin tuna (T. maccoyii), yellowfin tuna (T. albacares) and skipjack tuna (Katsuwonus pelamis). Victor Restrepo, Maria José Juan-Jordá, Bruce B. Collette, Flávia Lucena Frédou, Andrew Rosenberg, "Chapter 41: Tunas and Billfishes," United Nations, 2016, available at: https://www.un.org/Depts/los/global_reporting/WOA_RPROC/Chapter_41.pdf

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Chapter 12

External actors

The Sea Shepherd Conservation Society

INTRODUCTION

While many actors choose to work inside a regime to effect change there are a number of entities that choose to try to bring about change from without. One such example is the radical environmental group, the Sea Shepherd Conservation Society (SSCS), which since 1977 has gone about its self-appointed task of protecting the oceans and their inhabitants from human depredation.[1] Since 1986 the SSCS has been banned from being an observer at the IWC formal meetings due to their action in sinking half of Iceland's whaling fleet.[2] Denied an avenue to effect change within the IWC they chose to directly confront Japanese 'scientific whaling', in a bid to halt it, but also to call and keep global attention focused on the issue to force an end to the practice of whaling that they consider abhorrent.

The Sea Shepherd organisation has expanded from one ship and a small crew seeking to protest Canadian sealing to a worldwide organisation with multiple ships and the ability to carry out its mission globally. Its leader, Paul Watson, is greeted as an 'ecological rock-star' in many western democracies with his own television series *Whale Wars* on the Discovery Channel and celebrity supporters willing to donate to his cause. He is perceived by many of his followers as willing to do what other ecological groups are not prepared to do and commit militant direct acts that disrupt ongoing whaling and the exploitation of marine life.

However, in states where whaling or overfishing continues Watson and the group he leads are reviled as pirates or vigilantes and constantly threatened with legal action under both domestic and international law.[3] In response to such allegations Paul Watson and his members proudly wear such appellations, arguing that they have to enforce international wildlife law since no other global agency will act. The SSCS has argued for years that the current slaughter of whales by Japanese whalers under the rubric of 'scientific research'[4] is illegal under international laws such as the International Convention for the Regulation of

Whaling (ICRW) and the World Charter for Nature. In the absence of a world community unwilling or unable to end the killing, they believe it is incumbent upon them to act, they believe, by shining a media spotlight on their foes' actions, and by carrying out direct actions that make the cost of marine exploitation uneconomic.

The strategies and tactics employed by the Sea Shepherds against the up until recently annual Japanese whaling fleet were sensational, sometimes violent, and intended to inflict property damage and garner global publicity with the stated goal of ending global whaling in all forms and the exploitation of the ocean's resources. Over the decades the SSCS has been implicated in ramming whaling ships; sinking whaling vessels; utilising lasers to blind Japanese whalers; flinging butyric acid (rancid butter) at ships to disrupt on-ship whalemeat processing; fouling the propellers of ships; playing 'chicken' with and/or harassing ships; and boarding ships at sea.[5] Further, Watson and his organisation have proudly proclaimed responsibility for sinking ten "illegal" whaling ships.[6]

However, in recent years the SSCS have been forced to change tactics. Access by Japanese whalers to satellite imagery and sophisticated technology forced the group to abandon its annual Antarctic campaign to interfere with Japanese 'scientific whaling'. Then in December 2018 Japan announced it would no longer whale in international waters, only in domestic waters. Without its signature campaign, the SSCS now find themselves at a cross roads as to what kind of organisation they want to be and how effective they can be.

The first section of this chapter details the background of the group's totemic leader Paul Watson, and the childhood influences that led him to want to work to save oceanic creatures. It describes his oft-times fiery relationship with the Environmental Non-Governmental Organisation (ENGO) Greenpeace and Watson's rancorous exit from that organisation. The article then critically examines the formation of Earthforce, the stillborn antecedent group to the SSCS and the creation in 1977 of the SSCS. It goes on to critically analyse the group's ethos; its organisational structure; its strategy and tactics – its use of diplomacy, the global media and militant direct action to achieve its goals. Lastly in this section it examines the SSCS attitude to violence carried out in the service of its mission and its distinction between violence against humans and property damage that the group argues should not be considered a violent act.

The second part of the chapter provides a history of the various militant acts carried out by the SSCS since its inception. It focuses in particular on the up until 2017 annual confrontation between the SSCS and Japanese whalers in Antarctic waters. The section also critically examines the recent domestic state attempts to charge Watson and the SSCS for their actions focusing on an ongoing action brought by the Institute of Cetacean Research (ICR) and the action brought by Costa Rica which has forced Paul Watson to void bail and become a fugitive limited to living on the high seas for fear of being arrested. Paul Watson has continually claimed that his group's actions are permissible at international law. He has cited that his group is entitled to act due to a failure of the International Whaling Commission (IWC) to act on its own resolutions and

the World Charter for Nature. These claims will be critically evaluated to see if they stand up to scrutiny.

Lastly, in the conclusion, it further asks how effective have the SSCS been in their stated goals to end Japanese whaling and whether the methods are counter-productive to their stated goals?

BACKGROUND OF PAUL WATSON

Paul Watson claims that his attraction to the ocean began when he was six, when his family relocated to St. Andrews, a colonial resort town situated on Canada's east coast.[7] According to Watson he was 'an eco-warrior before puberty' and has related a number of incidences that have profoundly affected him and his relationship to the biosphere.[8] Watson has often told a story that he befriended a beaver (in some accounts it is an otter) near his domicile when he was a child.[9] In 1960, Watson became a member of the Kindness Club, founded by Aida Flemming in New Brunswick. After trappers killed and skinned one of his beaver friends, Watson set out (at the age of nine in some accounts) with his brothers and sisters, to confiscate and destroy leg-hold traps. He was also known to disrupt deer and duck hunters, and to prevent other boys from shooting at birds.[10] Watson maintains that his passion for saving animal life developed early.[11]

Watson spent much of his youth at a marine biology station, including in a volunteer position he held when he was 11 which: "helped set the course that led to my activist protests against nuclear testing in 1971 and, by extension, most of my other expeditions."[12] By 1970, Watson was working part-time for the Canadian Coast Guard, whilst writing for an underground newspaper, the *Georgia Straight*, and studying at Simon Fraser University.[13] Although he studied archaeology, linguistics and communications at Simon Fraser University, Watson never graduated.[14] His studies in media seem to have had a profound effect on him and he has become a master manipulator of the medium. According to Watson, "survival in a media culture meant developing the skills to understand and manipulate media to achieve strategic objectives." As such, Watson concluded that whaling as an activity for most people is, "purely academic unless high drama is introduced to make it newsworthy" and his reporting of his own actions indicates he lives by this credo.[15]

Needing money, Watson joined the Canadian Coast Guard in 1968 at the age of 18 and then worked as a Merchant Marine, and according to his biography has no educational qualifications past high school.[16] Over the next few years, he would occasionally accept positions as a 'merchant marine' gaining experience as a sailor on Norwegian and Swedish merchant vessels, and Mediterranean yachts.[17]

On the Sea Shepherds website Watson's epiphany that whales need to be protected sprang from an incident when as a member of a Greenpeace expedition to disrupt whaling in 1975 he came face to face with a dying sperm whale and thought he saw a flicker of comprehension in the dying whale's eyes. This

encounter changed him and he vowed to become the defender of marine life.[18] Recalling an event when he came 'eye to eye' with a whale, Watson remembers:

> His eye fell upon Fred and me, two tiny men in a little rubber raft, and he looked at us. It was a gaze, a gentle, knowing, forgiving gaze. Slowly, slowly, as if he did not want to disturb the water unduly, as if taking care that his great tail did not scrape us from our little perch, he settled into the quietly lapping waves. I had one more glimpse of that gazing eye, and then he was gone from our world.[19]

He goes on to say of the incident that it changed the course of his life because he believed that the whale understood what Watson was attempting to do.[20] Watson recalls: "I no longer try to understand what happened between that dying Sperm whale and me. I know only that I felt a commitment."[21]

However, Scarce, in his book on eco-activism tells a different story as Watson has also claimed that his bond with whales derives from a vision he had in an Oglala Sioux sweat lodge during an initiation ceremony subsequent to the Wounded Knee uprising in 1973 where Watson served the Indian cause as a medical aide. He maintains that a bison appeared to him and advised him to focus on preserving sea mammals, in particular whales.[22] Manes similarly records that the inspiration behind Watson's ongoing "ecological mission" is rooted in Watson's experience at Wounded Knee.[23]

Leaving Greenpeace

A defining moment in Watson's career was his relationship with the ENGO, Greenpeace. Watson claims that he was an original member of the Greenpeace non-governmental organisation but Greenpeace refers to him now merely as an 'influential early member'.[24] In 1969 Watson, then a part-time university student, joined other Canadian activists to protest US nuclear testing in Alaska. What is not in dispute is that when those members combined three years later with other activists to form Greenpeace Watson was 'a driving force'.[25]

The group's first confrontation was with a Soviet whaling fleet near of the coast of California on 27 June 1975.[26] In that first action Greenpeace activists discovered Soviet whalers harvesting sperm whales, however, it was Watson who stepped onto the carcass of a whale calf, determined to make his point.[27] The original plan was to use inflatable crafts to position themselves between the whalers and the animals. During the campaign (and while in a 'Zodiac'), an injured sperm whale approached the small dinghy and, without attacking, swam by. Both men in the dinghy (including Watson) were wrought with emotion. Said Watson about the encounter, "in an instant, my life was transformed and a purpose for my life was reverently established."[28]

In 1976, Paul Watson and Robert Hunter (then President of Greenpeace) prevented a sealer from the hunt by physically standing in his path. As a result, they were nearly run over.[29] In his experience in Labrador and with the seal hunters,

Watson explains that he refused to compromise, wanting to save as many seal pups and was willing to take any legal consequences that might befall.[30] Determined to do more, Watson says: "I threw myself between a sealer and his prey, and, when he shrugged and walked off, I followed him and did it again. I blocked another sealer nearby. I could see other orange-clad figures doing the same, and, to my surprise, I could hear myself swearing in Norwegian."[31] Camera footage of Watson's actions increased publicity and, subsequently, monetary donations for Greenpeace. After some debate, the group also became involved in protesting the annual seal hunt in Canada.[32]

The actual reasons why Watson left Greenpeace are contested. Scarce maintains that Watson's actions on the Greenpeace seal hunt campaign in 1977 in Newfoundland where he threatened sealers with their own clubs and threw clubs and seal pelts into the water saw him expelled from the ENGO. His actions were a crime under Canadian law, and threatened Greenpeace losing its tax-exempt status in the USA.[33] Greenpeace charged that the action carried out by Watson was 'too radical', some within the organisation argued that it went against the group's pacifist ethos. In the end, the ENGO determined that Watson's actions had breached Greenpeace policy and had potentially endangered the group's capability of raising funds and Watson was expelled from the organisation.[34]

Watson himself claims on his website rather that he resigned from Greenpeace because he felt that the organisation's original vision had been compromised and that there was a need for an organisation willing to use direct action methods to enforce maritime law with the aim of preserving marine species.[35] Watson further writes of the incident:

> It was an emotional parting. All of us had given too much of ourselves over too many years for there to be dispassionate goodbyes. Those in control at Greenpeace were going one way, others of us were going another.[36]

Paul Watson still does not agree with Greenpeace's methods or effectiveness in stopping ongoing marine-life exploitation. Watson has argued: "as far as I can see they have no intention of stopping illegal Japanese whaling . . . I don't think they will make any difference this year."[37] For Watson, Greenpeace, the group he helped found, was not radical enough for him and his agenda of saving marine mammals. He refers to his former friends as merely: "money-grubbing, publicity-grabbing hypocrites self-victimized by size and inertia . . . and regards Greenpeace scornfully as the Avon ladies of the environmental movement."[38]

Greenpeace on the other hand has denounced Watson's methods and use of violence as "morally wrong" and "counterproductive."[39] The acrimony between the two groups continues to this day. Watson has accused Greenpeace of telling British authorities that his organisation was 'an eco-terrorist group'. Greenpeace, however, has firmly denied this accusation, releasing a statement that declared: "no Greenpeace employee has intervened at any level with any authorities in relation to the registration of the Sea Shepherd vessels."[40]

CREATING THE SEA SHEPHERD CONSERVATION SOCIETY

In June 1977, Watson and several others including Al "Jet" Johnson, a disillusioned Greenpeace activist, established a short-lived organisation called "Earthforce" in Vancouver, Canada, in the hopes of creating a model ecological activist organisation.[41] Earthforce held to the tenet that a chorus of voices could gain global attention to their cause and achieve quantifiable results, an approach that Watson and the SSCS continue to this day with their focus on influencing the global media to highlight their cause. Watson envisaged that the group "could investigate crucial environmental problems, advise authorities in responsible positions, encourage some actions and oppose others, and in that way affect decisions about the basic environmental issues."[42] However, it ceased operations before it could carry out its strategy to stop the global ivory trade.[43]

After the failure to successfully launch Earthforce, Watson focused on creating an organisation as an alternative to Greenpeace: the Sea Shepherd Conservation Society. Many activists and volunteers within the organisation were former members of Greenpeace. They too had become disappointed with the more 'bureaucratic' path Greenpeace had chosen and the Sea Shepherds was founded with the express purpose of being 'devoted to aggressive but non-violent methods' of protection.[44] Watson founded the still ongoing SSCS in 1977 with the aim of protecting global marine life.[45]

Watson needed financial assistance in order to establish the Sea Shepherds. Grants from the Fund for Animals (New York) and the Royal Society for the Prevention of Cruelty to Animals (RSPCA, based in Britain) provided the initial funding for the Sea Shepherd Conservation Society.[46]

In 1977, Watson reportedly pleaded with Greenpeace to give him the *Ohana Kai*, which they were planning to "sell for scrap." He and another activist, Ross Thornwood, offered the organisation a dollar for the vessel and planned to use it to ram either the whaling ships the *Dalyni Vostok* or the *Sierra*. According to Watson, they: "called our plan Operation Asshole and the objective was to run the ex-U.S. Navy submarine chaser straight up the stern slipway of a whaler, jamming her in so tightly that she would incapacitate the target vessel."[47]

After discussion, Greenpeace concluded that the plan was too violent and refused to give Watson the ship. In response, Watson mailed out letters to other environmental organisations, hearing back only from Cleveland Amory (founder of the Fund for Animals in New York City). Watson and Amory met in 1978, with Watson telling him his plan to bring the battle to the whalers on the high seas. They found a 200-foot (60-m) British registered Yorkshire side trawler, the *Westella*.[48] On 5 December 1978, with the renaming of the *Westella* (now known as the *Sea Shepherd*), Watson's vessel became the, "first ship in history dedicated exclusively to the enforcement of international marine wildlife conservation law."[49]

Watson claims, "the name was my idea and I insisted on it as the most appropriate one we could think of."[50] Elsewhere though Paul Watson has expanded

on how the group was named, claiming that it stems from an incident in 1977, where he stopped a large sealing vessel by blocking its passage by standing on ice. A newspaper article run in the *Georgia Strait* newspaper had the headline, 'Shepherds of the Labrador Front' which inspired the naming of the vessel and the organisation.[51]

PHILOSOPHY OF THE SSCS

In Paul Watson's own words:

> I intend to change the world. I believe, with Margaret Mead, that any single person can make a difference if he allows his passion to be expressed through action. My passion is the living Earth, especially her oceans. I am a conservationist, a protector of species and ecological systems, and a defender of the rights of nature.[52]

Watson compares the killing of whales to the murder of a human and justifies his statements by claiming whales are smarter than mankind and that their ongoing killing is a tragedy comparable to the Holocaust.[53]

Watson points out that, for the most part, the modern environmental movement has been too passive and reactionary.[54] According to Watson:

> activities by environmentalists are for the most part a series of small, inexpensive skirmishes against a powerful, better equipped opposition. A direct face to face encounter will almost always result in failure because of the superior financial resources of the opposition. A prolonged face to face campaign on open ground will certainly result in failure. The way of the Earth Warrior is to rely on the covert attack, the surprise attack, and planned defense security.[55]

He argues that it is better for environmental activists to be proactive and carry out campaigns of direct action such as tree-spiking.[56] How Watson see his and his groups' *raison d'être* is encapsulated in Watson's declaration that: "right now we're in the early stages of World War III . . . we are the navy to Earth First!'s army." Watson declares his commitment to the cause by saying: "at the risk of sounding dramatic, my crew and I are prepared to die for these whales if need be."[57]

ORGANISATIONAL STRUCTURE

The Sea Shepherd Conservation Society is predominantly run by volunteers and through donations. The organisation has an annual budget of approximately US$2 million dollars. Watson is rather strict on how the group receives their funding and does so mainly by delivering paid lectures, asking for donations on the internet and soliciting large donors.[58] Watson himself is paid as of 2010, US$120,000 to head up the Sea Shepherds, with the overall organisation,

according to its tax filings, making US$9.8 million in the 2010 fiscal year.[59] It has sought charitable status in a number of jurisdictions it operates within and has been granted US charitable status but has been refused in some states such as Australia, despite traditionally being a supporter of its actions.[60]

The Sea Shepherd organisation's leader Paul Watson is the president of a tax-exempt charity headquartered in Washington State. The Japanese government tried to get the US government to revoke that status in 2009 without success. Annual charity documents supplied to the Washington State government indicate the organisation made most of its money (US$11.4 million) through received 'solicitations' and had assets of US$6.2 million in 2010. It also holds fundraisers to help fund its campaign in Australia; receives AU$635,000 from the Dutch national lottery and US$750,000 from the makers of the 'Whale Wars' documentary series which features the Sea Shepherd direct action campaigns. Eighty-four per cent of its income comes from individual donors and it has 30 people on its global payroll. Its ongoing charity status has seen it become the beneficiary of large donations from people such as Bob Barker (US$5 million) and Ady Gil (US$1 million).[61]

While the *Sea Shepherd* organisation does not spend money on fundraising, it often "receives donations through media attention and word of mouth."[62] Despite its radical tactics, the Sea Shepherd Conservation Society has attracted a large following of supporters, including some celebrities. For example, when Watson was arrested in 1983 for "interfering with Canada's seal hunt, his ten-thousand dollar bail was posted by actor Mike Farrell of the television series MASH, who not coincidentally is a spokesman for the animal rights group People for the Ethical Treatment of Animals."[63] Maxwell Gail (from the *Barney Miller* series) "did a commercial for the Sea Shepherds that aired on local stations in California."[64] Steve Wynn (Las Vegas casino owner) "once helped Watson buy a submarine."[65] Several celebrities have also provided donations, including: Pierce Brosnan, Martin Sheen, Christian Bale, John Paul Dejoria (CEO of Paul Mitchell hair products company) and Yvon Chouinard (founder of Patagonia).[66]

Large donations have enabled the Sea Shepherds to purchase the vessels they use to disrupt their opponents. Ady Gil, a co-owner of Hi Definition Inc. donated US$1 million to the group. The money was used to buy a "sleek, speedy and stealthy carbon-fiber trimaran," which was subsequently named after Gil.[67] After the disputed collision with a Japanese whaling ship that sank, a second activist ship, the *Bob Barker*, rescued crewmembers of the *Ady Gil.* This vessel was purchased following a $5 million donation from television game show host, Bob Barker.[68]

While many similar organisations use "democratic consensus" as a method in the decision-making process, Watson does not believe this is a good approach. He states, "this is not wise, but if this is the way accepted by the group, then it should always be consensus less one. There is a psychology of some individuals who will block a decision simply for the sense of power that it gives them. In fact, some of these individuals often seek out such groups for this purpose. Their

priorities lie in dealing with their own psychological problems and not with the issues at hand."[69]

His autocratic behaviour and chosen actions have led many people to disassociate themselves from him. According to a former member, his method of control is "anarchy run by God" and "he doesn't like people who disagree with him."[70] It is essential in Watson's view that leaders never give up their control to a bureaucracy. Furthermore, in Watson's opinion, "confrontations must be in the control of a defined leadership. When confrontation begins, the time for democratic discussion of strategy and tactics had ended. All decisions must then be entrusted to a recognized command."[71] Watson is a believer in the leadership approach of Captain James T. Kirk, who, when speaking to a crew member aboard the Starship *Enterprise*, maintained that: "When this ship becomes a democracy, you'll be the first to know," and Watson also runs the organisation and his ship as a dictatorship, with him firmly ensconced at the apex.[72]

STRATEGY AND TACTICS

Watson is a firm believer that his opponent's numbers, financial resources and technology can be defeated with superior strategy and tactics.[73] To achieve its goals the Sea Shepherds have a multi-prong strategy that ranges from diplomacy, economic and direct actions to a brilliant media strategy designed to quickly highlight the 'nefarious' operations of his opponents. The Sea Shepherds have been known to use diplomatic means to achieve their goals but have tended to prefer an economic damage approach to their opponents coupled with a global media campaign.[74] According to Paul Watson, the objective of the Sea Shepherds is to simply damage whaling vessels enough that they will be forced back to dock for repair though the SSCS has often committed far more damage than that, including the sinking of whaling ships.[75] As recently as January 2007 Watson argued that the group's activities would be confined to inflicting damage to any whaling vessel of sufficient magnitude to force it to comply with safety regulations and return to dock to be repaired rather than commit violence.[76] Watson maintained in late 2006 that through his (then) two ships (the *Farley Mowat* and the *Leviathan*, (the *Robert Hunter* accompanied the *Farley Mowat* to the Antarctic in 2007) his organisation could both keep up with Japanese whaling ships and possess the means and wherewithal to damage them.[77] The *Farley Mowat* was fitted with "a solid steel hydraulic ram with a bulldozer-strength blade."[78]

It has been noted that the organisation thrives on publicity (both positive and negative). Such claims were evidenced by the significant increase in the Sea Shepherds' profile since the filming of the documentary series *Whale Wars* began.[79] Watson has learnt to use the media to achieve his stated goals. He declares cynically that the "nature of mass media today is such that truth is irrelevant" and goes on to explain that, to the general public, the truth is simply what is written by the mass media.[80] When discussing the use of the media as a tactic, Watson explains, "in the realm of eco-warfare, the camera is much more powerful than the sword."[81]

Acting outside the law

According to Watson, there are times when it is essential to break the law in order to challenge its validity and the SSCS has certainly put that precept into practice on numerous occasions. One method Watson prefers is what he refers to as the 'Brer Rabbit' ploy, whereby if you think you have the political or moral advantage, be willing to let the authorities put you on trial to further your cause. He has successfully used this strategy several times, asking to be arrested and charged on many occasions.[82] Watson claims that many states are reluctant to charge him for his and the group's activities for fear it would bring to light their own unlawful activities and draw unnecessary global media attention.[83]

SEA SHEPHERDS AND ATTITUDES TO VIOLENCE

Initially Watson believed in the Greenpeace ethos of non-violence and non-militant direct action.[84] Watson argues that very few changes have occurred historically through nonviolent tactics. He further argues, "to remain nonviolent totally is to allow the perpetuation of violence against people, animals, and the environment."[85] Watson argues that little change has occurred by embracing a non-violent ethos.[86] Thus, over time and since leaving Greenpeace his views have evolved regarding violence, particularly against property.

According to Watson, he continues to search for an agreeable compromise between violent and non-violent tactics. He claims: "I have progressed in my thinking since 1975 to this: sometimes, to dramatise a point so that effective steps may follow, it is necessary to perform a violent act. But such violence must never be directed against a living thing. Against property, yes. But never against a life."[87] Watson emphasises that all of SSCS's actions have been undertaken without harm to any individual.[88] Further, the use of militant direct action methods by the Sea Shepherds against commercial whaling in the 1970s and 1980s also proved to bring "international attention to this new form of confrontational environmental protest" and its potential as an agent of change.[89]

In practice however, the Sea Shepherds appear to have an almost contradictory attitude to violence committed by the organisation. On the one hand the self-imposed, supposedly inflexible rules under which they operate maintains:

(1) Crewmembers cannot carry weapons.
(2) We cannot use explosives.
(3) Actions cannot be undertaken which will risk injury or death of our opposition.
(4) We accept complete responsibility for our actions.
(5) We accept legal and moral consequences for our actions.
(6) We never compromise on the lives of those we defend.[90]

Further, Watson has outlined the guidelines to successfully completing a covert action. According to him, his rules include, besides not getting caught, that

members should "not kill or injure any living thing."[91] Watson argues that what he does is rather a form of "aggressive nonviolence" whereby if property is used to 'break' the law it can be destroyed by his group.[92]

Lethal force against humans is not permitted by the SSCS and its members. Their policy is that action against opposition will be undertaken without firearms/explosives and without violence being directed 'against life'. However, the policy dictates that self-defence is permitted. The policy on property damage is also clear – any property being used unlawfully to take 'sentient life' will be destroyed.[93]

The Sea Shepherds have a rigid policy on the use of weapons. When the opposition is a government agency, weapons are not permitted on board at all. Rather, the SSCS believe that when fighting with a government, a camera can be a better weapon. However, if the opposition is a non-government organisation, the Sea Shepherds will carry weapons. Captain Paul Watson admits to having a "Confederate Navy Black powder revolver."[94] Further within the ship's armoury, the following weapons can be found: body armour, Kevlar helmets, flak jackets and gas masks. A shotgun and rifle are also carried on board. These weapons are all kept locked up and the only set of keys belongs to the captain.[95] Some argue that having the weapons on board results in a temptation to use them, to which Paul Watson argues that there has been no temptation and no incidents in which they have been used in over a decade.[96]

Watson takes great satisfaction in the claim that no one has ever been injured or killed during a campaign (on either side).[97] They claim that this is proof that the SSCS is "operated safely and efficiently."[98] However, they do not consider themselves a pacifist or anti-violent group and do not condemn the use of violence as a method of action.[99]

However, there have been incidents of violence against humans reported by Sea Shepherd members. In 1986, Sea Shepherd activists, using a line rifle, shot at Faroese police. A report by the police following the incident states that the attack "is considered to have endangered the lives of the police crew members seriously." It should also be noted that "'toads' ('rotating iron spikes, pointed and sharp at both ends') were used against rubber dinghies and petrol was poured on the dinghies (after which signal flares were also thrown)." While the Sea Shepherds claim they only retaliated once the police had fired upon them, "the report stresses that tear gas and gas cartridges from shotguns were the only weapons used by police."[100]

Further in 2010 it was alleged that a Maltese diver reportedly had his "arm ripped by a fishing hook during a clash with conservationists who were trying to free caged tuna being towed by two fishing vessels." The conflict occurred approximately 35 nautical miles north of Tripoli when activists with the Sea Shepherds "accosted the two vessels – a tug boat and a supply vessel – towing the cage with hundreds of tuna belonging to Maltese company Fish and Fish."[101] A second diver, who was also airlifted, was bruised as a result of the attack.[102]

However, there have been several conflicting versions of the event. The captain of the Sea Shepherds' *Steve Irwin*, "denied the accusations, insisting it was

the ship's crew that repelled a 'violent assault' by the fishermen."[103] Paul Watson reportedly told *The Times* that they "had no evidence of anyone being injured" and that the Sea Shepherd organisation had: "every reason to suspect that the tuna was caught illegally in the last couple of days when the fishing season is closed. We asked to inspect the cage but the fishermen were defensive and did not cooperate when we asked for information."[104] The Sea Shepherds though, have been more sanguine about causing property damage to achieve their goals and have not been shy about promoting their actions to a global audience.[105]

The SSCS has been growing in the last four decades from a small organisation to a multi-million dollar organisation with a flotilla of ships, dozens of staff, hundreds of volunteers and thousands of supporters worldwide. All are inspired by their autocratic leader and his vision of taking on who he perceives to be the enemies of Gaia. His willingness to directly confront Japanese whalers and illegal fisherman has seen him win global accolades from environmental activists, even from amongst members of his former ENGO, Greenpeace. Paul Watson has also proven himself to be a master media manipulator, ever willing to subvert the truth to achieve his goals. The SSCS's attitude towards violence remains problematic however. The willingness to use violence, even if limited to attacking property or self-defence, runs the risk that every operation could see a loss of life on both sides – a price Paul Watson says he would personally gladly pay to defend his beloved oceans.

THE SSCS RATIONALE FOR THEM TO END JAPANESE SCIENTIFIC WHALING

The SSCS argue that the claimed Japanese 'scientific research' programme (JARPA I, JARPA II, and NEWREP-A) that operated till 2019 where Japanese whalers caught hundreds of whales in Antarctic waters ostensibly for research, is merely a pretext for ongoing commercial whaling, which was banned in 1982. Consequently, they allege, if the IWC member states will not act, they will, as they are empowered to do so under international law.[106] Watson argues: "our intention is to stop the criminal whaling. We are not a protest organization. We are here to enforce international conservation law. We don't have banners. We intervene."[107]

Problematically, current maritime international law as regards whaling is complex, engendered by decades-old political compromises and a lack of foreseeability on the part of the IWC negotiators. Thus, both whaling states and the SSCS have sought to pick and choose which laws to follow that suits them.[108] Further, both groups claim to have the legal right to their actions. The Japanese whalers cited that under the IWC exemption for research activities their whale hunt is legitimate while the SSCS demur, arguing that the UN World Charter for Nature (9 November 1982) gave them the authority to enforce that document by any means.[109]

The Charter's mandate was to provide: "appropriate measures at the national and international levels . . . to protect nature and promote international co-operation in this field."[110] Problematically for the SSCS case, the World Charter

is merely a non-binding resolution and is not considered a formal source of international law.[111] Section 21 of the World Charter states in part that: "individuals, [and] groups [shall] . . . [s]afeguard and conserve nature in areas beyond national jurisdiction[.]" which would potentially include endangered whale species in Antarctica. Section 24 states that: "acting individually . . . each person shall strive to ensure that the objectives and requirements of the [Charter for Nature] are met."[112] The SSCS citing these provisions argue that they are legally entitled to: "act on behalf of and enforce international conservation laws" up to and including ramming whaling vessels since the Japanese are in fact commercially whaling.[113] In an interview, Watson argued that if his actions were illegal under the World Charter why has he not been arrested and charged for his actions?[114]

The SSCS claims to protection under the World Charter are extremely dubious. Even if it is accepted that Japan is whaling illegally, this does not provide legal cover for the type of actions they have engaged in, e.g. ramming vessels. Further, the World Charter was deliberately created to be non-binding and was crafted to foster state protection of the environment by setting forward moral principles as to how states should act, not to legally allow private groups to engage in vigilante or piratical acts.[115]

Article VIII of the *International Convention for the Regulation of Whaling* (ICRW) 1946 states in part that:

> any Contracting Government may grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research . . . and the killing, taking and treating of whales in accordance with the provisions of this Article shall be exempt from the operation of this Convention.[116]

Since the global moratorium came into effect in 1986, only Japan, Norway, and Iceland have issued scientific permits.[117] Under Article VIII, the Japanese government created the Japan Whale Research Programme under Special Permit in the Antarctic (JARPA I) in 1987, the JARPA II programme which was struck down by the ICJ in 2014 and replaced with NEWREP-A.[118]

While Japan must submit scientific permit proposals for scrutiny by the other IWC members, the IWCR permits any state to award itself a scientific permit despite objections by other members as to its methodology.[119] Japan could thus set its own quotas for how many and the type of whales to be hunted in the name of scientific research since the whaling moratorium only outlawed commercial whaling.[120] While many IWC members believed that Japan was acting beyond the scope of Article VIII, the IWCR does not allow them to take any action greater than enacting symbolic resolutions asking Japan to comply with the spirit of the Convention or engage in non-lethal research methods.[121]

According to Paul Watson and the SSCS the Japanese scientific research programme was 'bogus research' which had to be stopped.[122] Since the IWC member states will not, or cannot, act to stop scientific whaling which the SSCS regard as a

travesty, the SSCS believed they have little choice but to militantly act to prevent ongoing whaling.[123] However, in a blow to the SSCS argument that scientific whaling is illegitimate, the United States Court of Appeals Ninth Circuit decreed that the US allowed scientific whaling pursuant to the Whaling Convention Act and the Marine Mammal Protection Act, and they determined that the whalers' activities were consistent with US Congressional policy as regards the marine ecosystem.[124]

The SSCS made a moral argument that they could act as the IWC's enforcer but they cannot make a legal case. The IWC would not cede its authority to regulate scientific and commercial whaling to the group, even assuming that the Convention it operates under would allowed such an outcome, which it did not.

THE FIRST ACTION AGAINST WHALING: RAMMING THE PIRATE WHALING SHIP THE *SIERRA*

Major actions undertaken by the SSCS fall into several broad categories: spoiling the whaling byproduct via various means; ramming ships at sea; sinking ships in harbour; harassing ships at sea via a variety of tactics and boarding vessels while at sea. For the Sea Shepherds and, in particular Paul Watson, their defining moment and the event that truly announced them to the world was their decision to tackle pirate whaling ships directly and violently by targeting the most notorious ship of its kind: the *Sierra*.[125]

Watson convinced Cleveland Amory, the President of the Fund for Animals in 1978 to provide the money (US$120,000 to buy the ship that eventually was named the *Sea Shepherd*).[126] In July 1979 Watson put to sea in the 206-foot *Sea Shepherd*—a converted trawler with a reinforced concrete bow—determined to deal with the *Sierra* and morally avenge, as he saw it, the deaths brought about by the ship and its crew.[127] But there was also a calculating aspect to the targeting of that particular ship. As Watson stated afterwards: "I knew, we would get maximum world attention when I rammed the *Sierra* with the *Sea Shepherd*."[128]

In July 1979, Watson tracked down the *Sierra* off the coast of Portugal.[129] The *Sea Shepherd*, under the guidance of Peter Woof, first positioned the ship across the *Sierra*'s bow, striking the ship a glancing blow to warn its sailors it was about to be rammed.[130] Scarce argues that Watson's "strict code of non-violence prevented him from smashing into his antagonist then and there . . . risking the lives of the *Sierra*'s crew and his own"[131] since in calm waters a competent skipper can control any ramming.[132] However, Watson is quoted by Darby as warning the *Sierra* prior to ramming the ship as stating: "Sierra, Sierra, Goddamn you, you whale-killing son of a bitch, your career is going to end today."[133]

According to Watson [once they had pursued and rediscovered the *Sierra*]:

> We made straight for the *Sierra*. My intention was to try to crash our bow into her bow in such a way that the harpoon gun would be cut away. I did not want to hit too hard . . . I did not want to hurt anyone – not so much

> because I had tender feelings toward the forty-two men aboard the *Sierra*, but because I oppose causing injury to any living thing and because their injuries might provide an excuse for a backlash that could undermine whatever good will our dramatic and dangerous aggression might produce.[134]

However, Watson has told another version of the same event that paints a darker picture of how far he was willing to go. He has stated that after ramming the vessel twice, the *Sea Shepherd* came around to hit the *Sierra* again. According to Watson: "we had jabbed, we had hooked, and now would come the knockout blow. If possible, I would cut her in half this time."[135] They did not succeed in that goal but did tear a six-foot hole in the ship and stove in 45 feet of the hull, crippling the ship.[136] Despite being heavily damaged however, the *Sierra* successfully escaped.[137] The *Sea Shepherd* attempted to make for Spanish territorial waters to avoid Portuguese retribution but was overhauled and apprehended by a Portuguese destroyer.[138]

As a result of the collisions, the *Sierra* was badly damaged and would require approximately US$75,000 for repairs. All three SSCS crewmen were arrested and Portuguese authorities, pending the outcome of the case, confiscated the Sea Shepherd vessel.[139] After being captured, the *Sea Shepherd* was docked at Leixoes, since the authorities were uncertain how to proceed. A Liberian company, Ultra-Marine Shipping, filed suit against Paul Watson and the Portuguese police impounded the ship and seized its crew's passports.[140]

Following the ramming of the *Sierra*, according to Watson:

> The authorities really didn't know what to do about us. It was obvious that a crime had been committed, but technically the *Sierra* did not exist, because trading whale meat to the Japanese was illegal and therefore the whalemeat that had regularly been offloaded at Portuguese docks and reloaded onto Japanese refer ships did not officially exist either. This meant, of course, that the *Sea Shepherd* could not have actually rammed a vessel that did not exist.[141]

The three activists eventually escaped Portugal: "with Jerry Doran swimming the river to Spain, Peter Woof cycling out over the back mountain roads and Paul Watson flying out with fake papers." A court hearing in Portugal never occurred. According to the SSCS the *Sierra* Whaling Company allegedly: "passed $60,000 in bribes to the judges and without due process . . . the *Sea Shepherd* was given to the whalers."[142] Watson and the SSCS was eventually served with a demand to pay $750,000 in fines and damages for the return of his ship.[143] Fearful that the ship would be converted into a whaling vessel, Watson suggested burning it. A crew member responded with, "no, much too messy. We should scuttle her." Thus, on 31 December, three members of SSCS including Watson made their way on board to the engine room, disconnected the bolts on the sea valve and sank their own ship.[144]

On 6 February 1980 a bomb destroyed the newly-refitted *Sierra* in Lisbon's port with an anonymous caller to the press offices of United Press International

stating "the *Sierra* will kill no more whales! We did it for the *Sea Shepherd*."[145] According to Rowell, following his encounter with the *Sierra*, Watson: "got a taste for the immediate, undeniable results of direct 'enforcement'."[146] Following the ramming of the *Sierra*, Watson was asked to do various media interviews in the United States. Regarding such interviews, Watson declared: "there isn't much point in ramming a whaler if you can't tell the world that you did so. In a media culture, a thing just doesn't happen unless the media covers it. We need to send a message loud and clear that whaling isn't going to be tolerated any longer."[147]

Actions following the sinking of the *Sierra*

Following the *Sierra* incident, the Sea Shepherds were involved in a range of further actions. In 1981 Watson secretly entered Siberia and successfully obtained documented evidence that a "food processing facility was converting illegally harvested whale meat into feed for animals at a fur farm."[148] In 1982 the organisation dropped "paint filled light bulbs" onto a Soviet vessel from a low flying plane.[149] Following the light bulb incident in 1982, Watson was arrested and charged with violating several sections of the Canadian Aeronautics Act. As the opposing crew could not be subpoenaed for court, Watson was the only witness to the incident and was released.[150]

However, the group's focus remained the preventing of whaling ships carrying out their operations. In 1981, Sea Shepherd agents allegedly sank the *Isba I* and *Isba II*, both ships used for whaling, in the Spanish harbour of Viga.[151] Watson later called a press conference to announce that the group had been involved in the sinkings, virtually daring the Spanish authorities to act on the information. At the same conference, Watson further announced a US$25,000 reward for the sinking of any Taiwanese whaling vessel.[152] Following the announcement of the monetary reward and shortly after the IWC meeting, the Taiwanese announced that they were shutting down the operations of the five illegal whalers in their nation.[153] According to Watson in his book *Tora! Tora! Tora!*:

> The last of the Atlantic pirate whalers, the *Astrid* was shut down after I sent an agent to the Spanish Canary Islands with a reward offer of $25,000 US to any person who would sink her. The owners saw the writing on the wall and voluntarily retired the whaler . . .[154]

1986 Iceland action against whaling ships

One of the most famous actions mounted by the Sea Shepherds was a daring raid at the heart of one of the remaining whaling powers: Iceland.[155] In 1986 the Sea Shepherds claimed responsibility for the sinking of two whaling ships and the destruction of a whaling station in Reykjavik, Iceland.[156] Paul Watson justified these actions, in a letter written about the raid on Reykjavik by arguing that the killing of whales is both a crime and a violation of international law.[157]

Although the vessels were eventually successfully recovered they were effectively scrap metal. It was determined it would be more cost effective to purchase new ships for the fleet than attempt to fix the two vessels sunk by the Sea Shepherds.[158] Very few previous campaigns had been so successful in drawing the international attention of the global media to ongoing whaling.[159] Following this incident, some Icelandic government officials referred to the Sea Shepherds as terrorists for their actions.[160] In 1988, Paul Watson attempted to put even more pressure on the Icelandic government over the issue when he tried to surrender to Icelandic officials claiming responsibility for the sabotage. However, once he realised he was facing several years in prison over the criminal matter he retracted his statement. Since there was no further incriminating evidence against Watson he was ordered to leave Iceland and declared *persona non grata* within the jurisdiction.[161]

Manes however argues that although Iceland threatened to extradite Watson over the sabotage, once he was in the country, focusing global attention on continued Icelandic whaling, they wanted nothing to do with the matter.[162] The support of the locals in carrying out this action caused many Icelanders to reflect on the nation's continued whaling activities, and many concluded that whaling was morally wrong and Iceland should discontinue such activities.[163]

In 1992 the SSCS were implicated in an attempt to sink the *Nybraena* in the Loften Islands, Norway but were ultimately unsuccessful, with the ship functional but water damaged.[164] Watson was arrested and convicted for attempting to sink a Norwegian ship and spent 80 days in jail.[165] In 1993, a similar attempt was made to sink the *Senet (Gressvik)* but again was unsuccessful, with that ship again only suffering water damage.[166]

2002 Costa Rica campaign against shark-finning

In 2002 an SSCS vessel came across an illegal shark-finning operation, run by the Costa Rican ship the *Varadero*.[167] As a Costa Rican vessel, it had no permit to fish outside Costa Rica or within Guatemala.[168] The Sea Shepherds reportedly contacted Guatemalan authorities, which asked them to escort the vessel to port for arrest.[169] The *Sharkwater* DVD, filmed by a documentary crew aboard the SSCS vessel, shows Sea Shepherd personnel asking the crew of the *Varadero* to release the lines but they are ignored.[170] The Sea Shepherd vessel then positions itself to sink their line and stop the *Varadero* from continuing to haul in sharks (resulting in a T-collision).[171] The *Varadero* refuses to stop and attempts to escape.[172] The Sea Shepherds chase the *Varadero* with water cannons with the aim of flooding or stalling the ship's engines.[173] The *Varadero* is then rammed by the Sea Shepherd ship and finally agrees to follow them back to port.[174]

In a telephone interview about the incident, Captain Hammarstedt of the SSCS said the group took control of the boat, the *Varadero*, at the urging of the Guatemalan authorities but that "the tables turned," with the Guatemalans dispatching a gunboat to arrest Captain Watson. Why the Guatemalan authorities took this action is still unclear. The Sea Shepherd vessel took flight, sailing to the Costa Rican port of Punto Arenas. The Sea Shepherds state that the Costa Rican

authorities charged Captain Watson with violating navigational regulations. The Sea Shepherds say that the charges were eventually dropped but later reinstated by another prosecutor, with an arrest warrant issued in October 2011.

However, other reports, including the *Sharkwater* documentary,[175] maintains that subsequent to these events, the *Varadero* crew accused Watson of ramming their vessel and Watson was charged with attempted murder for his actions. The charges were initially dismissed when a video of the incident, which was captured by the documentary crew, was shown to the prosecutor.[176] However, in Costa Rica a defendant can be jailed for up to a year pending an official investigation so Freeman recounts that even when the Sea Shepherds were granted permission to leave they were pursued, leading to the bizarre event of them tossing a copy of the documents authorising their ship's release in a bottle, to a Costa Rican patrol boat.[177]

In the *Sharkwater* video another version of events is told. Back on their vessel, Watson and Stewart are contacted by their lawyer who informs them that the Coast Guard is on the way to indefinitely detain them. As a result, the Sea Shepherds pull anchor and run for international waters. Soon after, the Coast Guard is shown chasing them with machine guns, threatening to shoot if they refuse to stop. The Sea Shepherds decide to string barbed wire around the edges of the ship to prevent being boarded. In the end, the Sea Shepherds outrun the Coast Guard to the safety of international waters.[178] While perceived as a relatively minor incident in a long-running campaign, this action was to have far-reaching consequences for Paul Watson and the SSCS in 2012 when the Costa Rican authorities re-opened the matter.[179]

Due to the legal action, Watson was placed on INTERPOL's 'Blue Watch' list. INTERPOL had: "issued a so-called blue notice, asking national police forces to pass on information about Mr. Watson's whereabouts and activities." However, it is important to note that at that time INTERPOL had yet to issue a notice "requesting his arrest."[180] Watson reportedly said:

> it's a blue notice which means it's not an arrest warrant, it's just so they can keep tabs on me. But they needn't have wasted their time, they could have just followed our website . . .[181]

On the 2 March 2012, INTERPOL declared it would not publish a Red Notice sought by Costa Rica to arrest Paul Watson over the 2002 incident since it was not satisfied that the request to do so was in compliance with its constitution and rules.[182]

THE SEA SHEPHERDS VS. JAPANESE ANTARCTIC SCIENTIFIC WHALING

For the last two decades, the main aim of the Sea Shepherd organisation was ending Japanese whaling that continues under the rubric of 'scientific research' in Antarctic waters. The SSCS believed that ending Japanese whaling would sound

the death knell for the global whaling industry, given the Japanese industries' long involvement in whaling. The conflict between the Japanese whalers and the SSCS was on a number of occasions extremely aggressive.[183] The Japanese government claimed that the Sea Shepherd group had continually threatened the lives of whalers with their methods of protest.[184] Watson claimed that the Japanese government was desperate to stop the Sea Shepherds because of the strain the activist campaign had on their domestic whaling industry.[185] This section details some of the more serious incidents that have occurred between the two combatants, including the boarding of vessels by SSCS activists and the ramming of vessels by SSCS and Japanese vessels, putting lives at risk and, in one case, an SSCS ship sinking.

The tactic of boarding Japanese whaling vessels

In the 2008/09 whaling season two men, Australian Benjamin Potts and British citizen Giles Lane, boarded the *Yishin Maru No. 2* whaling vessel and ended up tied to the radar mast.[186] The men were urged on by Watson whilst knowing they could potentially be shot for boarding the ship, or arrested and jailed. Watson worked hard as shown in the *Whale Wars* documentary to convince crewmembers to do so to the disgust of several.[187] The aim appeared to be to create a media controversy over Japan's treatment of the boarders. The men were eventually released into the custody of the Australian Customs vessel *Oceanic Viking*.[188]

The Ady Gil sinking

In the 2009/10 whaling season the Japanese whaling vessel *Shonan Maru 2* cut the high-tech US$2 million *Ady Gil* in two, paralysing her. The *Shonan Maru 2* was at the time providing security for the whaling vessels. According to Paul Watson, the *Ady Gil* was near Commonwealth Bay (south of Hobart) when it was, without warning, rammed by the security vessel.[189] The captain of the *Ady Gil*, Pete Bethune, claims that the Japanese whaler (approximately 1,000 tonnes) approached the *Ady Gil* (approximately 18 tonnes) from about 75 metres away and whilst most of its crew were on deck.[190] Bethune was adamant that his vessel was idling, communicating with activists aboard the *Bob Barker* when the impact occurred. Bethune thought the Japanese vessel was simply going to use a water cannon as a deterrent, but instead the *Ady Gil* was rammed.[191] A crewman aboard the *Ady Gil* received minor injuries (2 broken ribs) as a result of the collision.[192]

Pete Bethune accused the crew of the *Shonan Maru 2* of "attempted murder," claiming that the Japanese vessel intentionally collided with the activist vessel.[193] Paul Watson alleged that the act was deliberate and "sheared the bow right off."[194] As a result of the collision between the Sea Shepherds vessel (*Ady Gil*) and a Japanese whaling ship (*Shonan Maru 2*), the *Ady Gil* sank as it was being towed. The force of the initial collision destroyed the bow of the activist vessel. Paul Watson claims that despite being responsible for the collision and subsequent sinking, the Japanese whaling vessels ignored distress calls and did

not act to aid the *Ady Gil* or its crew as it was sinking. Watson was outspoken when asked if he thought the whaling vessels should have offered assistance and stated that his society's commitment to the whales would not decrease, declaring "we have a real whale war on our hands."[195]

Not surprisingly, the Japanese Fisheries Agency told a different story, blaming the collision on the Sea Shepherds, arguing the ship's crew had tried to ward off the *Ady Gil* with a water cannon initially but the ship employed reducing speed manoeuvres, going from idling to full steam ahead tactics which brought about the collision.[196] Japanese video of the collision between the *Ady Gil* and the *Shonan Maru 2* shows a 'frothy wake' coming from the activist vessel, though evidence from the video is inconclusive regarding whether or not it was moving at the time of the crash.[197] The video evidence shows the *Ady Gil* "stalking" the vessel and dragging ropes from the rear of the ship. The Institute of Cetacean Research went on to accuse the *Ady Gil* of coming within "collision distance" of the Japanese vessel and using the ropes to "entangle . . . the rudder and propeller."[198] Further, the video reportedly shows the *Ady Gil* increasing speed and deliberately entering the path of the *Shonan Maru 2*.[199]

Boarding of the *Shonan Maru 2* and Captain Bethune's citizen's arrest

Then the situation escalated further when Pete Bethune, the New Zealand captain of the sunken *Ady Gil* boarded a Japanese security ship on 15 February 2010 in order to effect a citizen's arrest on the captain for attempted murder of himself and his crew.[200] It has been reported that Bethune was able to climb aboard without the crew becoming aware of his presence.[201] At 8 am, Pete Bethune approached the crew of the Japanese vessel, *Shonan Maru 2*. The Sea Shepherds filmed the exchange via helicopter. Paul Watson called this boarding a "mission impossible" and gave Bethune only a 50/50 chance of being successful. Watson points out that Bethune had to "dodge nets and spikes on the outside of the vessel." Bethune reportedly planned to stay aboard the *Shonan Maru 2* until the captain agreed to his list of demands.[202] Once aboard, Bethune reportedly knocked on the door of the wheelhouse and "handed over a letter in Japanese saying 'I am here to arrest you'."[203] Not surprisingly, he was detained and then arrested by the Japanese Coast Guard for trespass when it docked in Japan.[204]

The Institute for Cetacean Research confirmed that Pete Bethune had boarded the *Shonan Maru 2* and they had, in the past, threatened to arrest and charge protesters who board Japanese vessels.[205] The Japanese Fisheries Minister Hirotaka Akamatsu declared, "As it is outrageously illegal behaviour, we want to deal with it strictly."[206] The ICR has said that Bethune used a knife to cut away defensive nets in order to successfully board the Japanese vessel and that the crew treated him for a slight injury (cut) once he was aboard.[207] Pete Bethune was taken into custody and taken back to Japan to face charges.[208]

He was then handed to Tokyo's prosecutors, to decide whether to charge him for illegally boarding the *Shonan Maru 2*. The Sea Shepherds, in order to

highlight the case, compared Bethune's imprisonment to that of a "prisoner of war," stating he was the "first New Zealander POW taken by Japan since World War II."[209]

Bethune initially faced up to three years' imprisonment or a fine of 100,000 Yen if convicted in a Japanese court of law.[210] Bethune was convicted of the following charges: "trespassing, vandalism and possession of a knife." He pleaded guilty to all but the assault charge. Although he was sentenced to two years' imprisonment, the sentence was suspended for five years.[211] During his closing statement on 10 June, Bethune tearfully "apologized for the trouble and said he never intended to hurt anyone" by his actions.[212] He was also ordered to leave the country and return to New Zealand.[213]

In another ratcheting up of the pressure, Japanese officials announced that the founder and leader of the Sea Shepherds, Paul Watson, had been placed on an INTERPOL wanted list in late June 2010, for "allegedly ordering Bethune's actions as part of the group's disruption of Japanese whaling in the Atlantic."[214]

Third boarding

As Paul Watson tells the story: while in Fremantle, Australia he was approached by three people from Forest Rescue Australia, Geoffrey Tuxworth, Simon Peterffy and Glen Pendlebury, who offered to board the *Shonan Maru 2* (the same ship Pete Bethune had boarded previously) which had tailed the *Steve Irwin* to Fremantle Port. Watson states he advised them that the Australian government might not support them and they ran the risk of being taken prisoner but the men wanted to do something since the Australian government was failing to act.[215]

The three men were brought out by boat to the Sea Shepherd ship approximately 16 miles off the coast near Bunbury, Western Australia. Watson points out that he knew this was inside Australia's contiguous zone (where Australia exercises nautical dominion, including who enters and leaves Australia's territorial waters). Watson reasoned that within the zone, Japan had no authority to remove Australian citizens without the express permission of the Australian government.[216]

The activists disembarked from the *Steve Irwin* via rubber dinghies and circled 12 miles back and around the *Shonan Maru 2* guided in by the *Steve Irwin* crew with satellite navigation phones. To confound the Japanese ship, the *Steve Irwin* had posted on the Sea Shepherd website (aware the Japanese monitored the site) that the ship had engine trouble necessitating repairs. When the *Steve Irwin* stopped, so did the *Shonan Maru 2*. The three men in attempting to board would have to defeat large spikes, razor wire and armed Japanese Coast Guard officers. However, they had studied photos of the defences and believed they could do so. Initially there was a problem in that one boarding vessel engine failed but Watson ordered the mission to be completed using the Delta boat. The three men successfully boarded the Japanese ship after the Delta used its bow to create a space between two spikes and the three men climbed through the hole in the razor wire.[217]

However, the Sea Shepherds' strategy initially backfired when the Australian Attorney-General Nicola Roxon publicly noted that the three men had been detained by the Japanese whalers whilst in international waters.[218] The Japanese whalers alleged that when the boarding took place, their vessel was 44 kilometres offshore (outside the 24-mile contiguous zone). The Sea Shepherds rejected that claim, arguing that their GPS device showed the incident took place 16.2 miles off the beach at 32° 57" 48" South and 115° 20' 24" East.[219] The Australian government then stated that it would bear the cost of bringing back the three boarders to the Sea Shepherd organisation that Paul Watson refused to countenance.[220]

The Sea Shepherds argued that the three men were being abducted from Australian territorial waters as the *Shonan Maru 2* headed toward Antarctica.[221] On 10 January it was announced that the three boarders would be released, with the Australian government sending a ship to rendezvous with the Japanese whaling vessel to take custody of the men. Paul Watson maintained that the operation had been a great success since it focused global media attention on Japanese whaling and got the global community and its leaders talking about the issue of whaling.[222] On 13 January it was announced that the three men were transferred to the Australian vessel *ACV Ocean Protector* and brought back to Australia three days later.[223]

PAUL WATSON ARRESTED

Paul Watson was arrested in Frankfurt, Germany on 13 May 2012 on an outstanding warrant from Costa Rica while on a speaking tour. The arrest warrant was over the confrontation in 2002 in Costa Rica when Sea Shepherd activists confronted Costa Rican fisherman over the practice of shark-finning.[224] Costa Rican authorities alleged that the Sea Shepherd vessel *Farley Mowat* committed attempted murder by ramming a fishing boat, the *Varadero 1*. The SSCS maintain the incident merely involved an alleged violation of ship's traffic laws.[225]

The statute of limitations on the case against Paul Watson was due to expire in June 2013. Costa Rican prosecutors first filed charges in 2002 against Paul Watson for allegedly endangering the lives of eight fishermen and for attempting to cause a shipwreck. Watson did not attend a trip there on 26 June 2006, and he was declared a fugitive by the Costa Rican courts.[226] Sea Shepherd spokesman Mr Hammarstedt said that an arrest warrant against Paul Watson had lapsed before it was reactivated in October 2011.[227]

However, the global media was reporting that the Costa Rican government wished to charge Paul Watson with attempted murder over the alleged incident.[228] A higher Regional Court in Frankfurt directed that the alleged incident would have been a crime under German law and that the statute of limitations for this alleged crime had not yet passed and therefore ordered Watson into custody until the extradition process was determined.[229] The Prosecutor in the matter alleged that the charge in the matter before the court was one of "putting a ship's crew in danger" not attempted murder.[230] On 18 May 2012 Paul Watson was granted

bail of EUR250,000 while the Costa Rican extradition request was considered by the courts. Further, the Court decided he was not to leave Germany and must adhere to further conditions on his freedom.[231]

In a phone interview with the AFP Watson told them that he was under house arrest and had to report to the police twice a day.[232] Watson argued in the interview that this was an attempt by his enemies to "get him out of the way" and "shut down our operations." Watson maintained he was more than willing to "serve as a symbol of resistance to the destruction of our oceans from inside a prison cell."[233] Watson alleged that this was a conspiracy by the Costa Rican shark fin mafia.[234] Watson claimed in an interview with Fairfax media that he felt fear for his life if he was extradited.[235] Further, he used this perceived threat to argue to the German authorities that he should not be extradited to Costa Rica.[236] However, the Costa Rican President, Laura Chincilla, maintained that Costa Rica had a completely independent judiciary and that Paul Watson would receive a fair trial.[237]

Watson also found the timing of the extradition order suspicious. He claimed that the extradition order was enacted in October 2011 at the same time the Japanese were suing him in a Seattle court.[238] Watson in the same interview expressed concern that the Japanese government was putting pressure on the German government to carry out the extradition. He argued: "It may be more than coincidental that the extradition order was put out in October 2011 at around the same time that the Japanese brought civil charges against us – and lost – in a Seattle court."[239] Watson claims that it is abnormal that an extradition order would be asked for "a relatively minor offence, where no one was injured and no property damaged."[240] He also has noted that: "Germany does not have an extradition treaty with Costa Rica but insists they can extradite to Costa Rica if they decide to so."[241] The SSCS have publicly doubted that Paul Watson would get a fair trial and urged their supporters to write to German officials protesting their actions.[242]

The Sea Shepherds' spokesman, Peter Hammarstedt, stated that a General Public Prosecutor to the German Higher Regional Court had formally requested a preliminary extradition arrest warrant against Paul Watson based on the Costa Rica warrant and request for extradition. However, and unusually, the spokesman claimed the Public Prosecutor stated that the German Ministries of Justice and Foreign Affairs have the power to proceedings on political grounds, if they wish. The Sea Shepherds were waiting on a decision from the closed court hearing but if extradition was allowed, Costa Rica would have 90 days to file papers to complete the process. Failure to do so would see Watson freed.[243]

PAUL WATSON SKIPS BAIL

On 26 July, it was reported that Watson's lawyer told the Frankfurt court that Watson had fled Germany for an "unknown destination."[244] The catalyst for his flight appears to be Japan requesting Germany to arrest Watson. According to the SSCS German lawyer Oliver Wallasch, the Japanese Embassy had requested

on 19 July 2012 to extradite Watson to Japan.[245] Lamya Essemlali, the president of the SSCS in France, stated that Japan had been trying to extradite Watson and further, Japan had entered into an agreement with Costa Rica to work together against "terrorism."[246] Paul Watson went on to claim in a letter to supporters that Germany and Japan were conspiring against him.[247]

Japan subsequently admitted that it had sought the arrest and extradition of Paul Watson, essentially confirming the details supplied by Watson's German lawyer. The Japanese Coast Guard requested that Watson be detained by the German authorities with the aim of extraditing him to Japan.[248] Watson accuses Japan of seeking revenge for past acts by him and his organisation. He said in a message to his followers that: "I am very disappointed with the German government. For me it is obvious that the German government conspired with Japan and Costa Rica to detain me so that I could be handed over to the Japanese."[249]

An INTERPOL Red Notice was activated which requested all 190 member states to consider enforcing the warrant issued by Costa Rica for Watson's arrest to detain or arrest him so he could be extradited to Costa Rica. However, a Red Notice is framed as a request since INTERPOL does not have the authority to issue an arrest warrant nor can INTERPOL demand that a state arrest anyone.[250] As Watson's lawyer, Oliver Wallasch has pointed out, such a Red Notice merely means that police in a state that Watson is visiting should be aware that he is wanted in Costa Rica. However, it is their call if they wish to act on this local arrest warrant and detain Watson for extradition.[251]

A Facebook posting by Watson alleges that: "the German court has withdrawn their arrest warrant for me citing failure from Costa Rica to cooperate in answering their questions concerning my case. I guess the Costa Ricans failed to get their instructions from Japan in time. I am no longer wanted in Germany."[252] Watson argues this is because the Costa Rica government had failed to meet a "February 27 deadline set by the German court to explain why there was a warrant for his arrest."[253] Watson has argued however that he is still "on an Interpol red list usually reserved for 'serial killers and war criminals'."[254]

The SSCS reported that on 12 March 2019 the Criminal Appeals Court of the Second Judicial Circuit of San Jose decided to drop all charges against Paul Watson over the 2002 shark-finning incident. They allege that the Costa Rican government is interested in again working with the SSCS on a range of issues.[255]

INJUNCTION LEVIED ON PAUL WATSON AND THE SSCS

Initially, in February 2012, the Japanese Institute of Cetacean Research (ICR) lost a preliminary injunction they brought against Sea Shepherds US to prevent them interfering with the Japanese whale hunt.[256] However, in a blow to the SSCS, a US Court of Appeals for the Ninth Circuit in Washington State rendered a decision that overturned the prior ruling in the group's favour by US District Judge Richard Jones and issued a preliminary injunction against the group.[257] The injunction enjoined the SSCS from physically confronting any vessel or any

person on any vessel engaged by the plaintiffs, the ICR, in the Southern Ocean, and must not navigate in a manner that is likely to endanger the safe operation of any such vessel. It also mandates that the defendants shall not approach the plaintiffs any closer than 500 yards when defendants are navigating on the open sea. The preliminary injunction stated that:

> Defendants Sea Shepherd Conservation Society and Paul Watson, and any party acting in concert with them (collectively "defendants"), are enjoined from physically attacking any vessel engaged by Plaintiffs the Institute of Cetacean Research, Kyodo Senpaku Kaisha, Ltd., Tomoyuki Ogawa or Toshiyuki Miura in the Southern Ocean or any person on any such vessel (collectively "plaintiffs"), or from navigating in a manner that is likely to endanger the safe navigation of any such vessel. In no event shall defendants approach plaintiffs any closer than 500 yards when defendants are navigating on the open sea . . .[258]

The injunction was to remain in place until the court issued an opinion on the merits of the appeal filed by the ICR.[259] The SSCS publicly vowed that the injunction would not deter them from their mission since it only is operational to Sea Shepherd Conservation Society US and its founder, Paul Watson not to other states which host Sea Shepherd groups which are separate legal entities.[260] However, it did clear the way for Japan to bring more legal actions against the group.[261] Watson publicly stated since he was personally named in the injunction he believed he had to step down as leader of the SSCS in order to avoid criminal charges for any of his actions.[262] Paul Watson, though Canadian born, holds dual Canadian-US citizenship and stated he would respect the court's decision and not violate the temporary injunction.[263] However, following the continuation of attacks detailed in the next section, after the preliminary injunction was granted, in December 2014 the Ninth Circuit found that SSCS, Paul Watson and SSCS board members were in civil contempt of its injunction. ICR and Kyodo Senpaku (KS) were granted by the court a payment from SSCS to them of US$2.55 million.[264]

On 3 August 2016 the ICR and KS announced that they had filed a stipulated motion for entry of a permanent injunction to resolve the safety at sea case against the SSCS and Paul Watson. ICR, KS, SSCS and Paul Watson successfully resolved the dispute through mediated negotiations held earlier that month. According to the terms of the permanent injunction which formally concluded the legal action:

> Paul Watson and persons acting in concert with them are permanently enjoined from physically attacking the research vessels and crew and from navigating in a manner that is likely to endanger their safe navigation; the enjoined parties cannot approach the research vessels any closer than 500 yards on the open sea; and SSCS cannot provide funds to facilitate attacks by other Sea Shepherd entities.[265]

OPERATION ZERO TOLERANCE

Due to the Appeal Court's decision Watson decided to resign as president of the SSCS in both the United States and Australia, and as executive director in the US.[266] Watson stated on the SSCS website: "I will hold no paid position with Sea Shepherd anywhere. Sea Shepherd is registered and operates as a non-profit organization in any nation."[267] To fill the leadership hole left by the absence of Watson, Bob Brown, former Australian Green Party leader, agreed to join the SSCS Board of Directors.[268] Thus the Australian chapter of SSCS would lead the campaign against Japanese whalers that season.[269] While Watson would remain aboard one of the SS vessels, he would not be captaining that season. Rather Bob Brown would lead the campaign.[270] Watson was aboard the flotilla as an observer, and as an advisor despite the injunction, but rejected the claim that the leadership restructure was merely a cosmetic change.[271] Further, and potentially infringing on the injunction issued by the Washington court, Peter Hammarstedt (captain of the *Bob Barker*) stated: "it is expected Captain Watson would appear in command of one of the vessels when the action begins."[272]

On the 5 November, the SSCS flotilla left Australia to commence *Operation Zero Tolerance*, its ninth Antarctic Whale Defense Campaign."[273] For the 2012/13 whaling season Japan's ICR had "set itself a quota of 850 minke and 50 fin whales to be culled."[274] However the SSCS intended to pursue a new strategy for this campaign. As Captain Hammerstedt explained, the SSCS wanted to take the fight up to Japan itself by targeting the whaling vessels in the North-Pacific rather than waiting for the whaling fleet to enter Antarctic waters.[275] As Watson stated: "it's time to bring intervention north and show Japan we intend to ensure there are no whales killed. We have never been stronger, and the Japanese have never been weaker, so we need to take advantage of that."[276]

The SSCS flotilla secured an early tactical advantage by locating the Japanese whaling fleet before a single whale was killed.[277] By the end of January the SSCS ships had succeeded in locating the Japanese whaling fleet and hindering their operations so that no whales had been taken.[278] The first major incident of the campaign was in early February when the SSCS ship the *Sam Simon* discovered off the coast of Albany, Australia the refuelling tanker for the Japanese whaling fleet, the Panamanian registered and Korean-owned vessel *Sun Laurel*.[279] The SSCS ship *Steve Irwin* met up with the *Sam Simon* with a plan to use the ships to block whaling ships from refuelling.[280] The SSCS claim the tactic was a success, leaving the Japanese whaling ships in complete disarray and leaving the whaling ship the *Yushin Maru* potentially unable to get to safety in the event of a sudden emergency due to a lack of fuel.[281]

On 15 February 2013, the *Bob Barker* caught up with the *Nisshin Maru* and the *Yushin Maru No. 2*.[282] A female minke whale was killed and eventually brought aboard the *Nisshin Maru* for processing despite a tense five-hour blockade initiated by the *Bob Barker*.[283] The Captain of that vessel claimed that the *Yushin Maru No. 2* attempted to block the SSCS ship: "by dangerously crisscrossing the bow of the *Bob Barker*, coming as close as 600 yards and threatening

to deploy prop fouling devices," forcing him to heave-to to avoid ramming the Japanese vessel.[284]

The SSCS also alleged that their ships, the *Bob Barker* and the *Steve Irwin*, were rammed by the Japanese whaling fleet's massive factory vessel, the *Nisshin Maru*.[285] The vessel was attempting to obtain fuel from the *Sun Laurel* when it hit the *Bob Barker* in the stern, effectively disabling it and pushing it into the side of the tanker as well as hitting the *Steve Irwin* a number of times.[286] Watson alleged that: "the Japanese boat deliberately rammed the Sea Shepherd boats to try to move them aside and get to the re-fuelling tanker."[287] However, the crew of the *Bob Barker* eventually got the situation under control and was able to continue with its mission.[288]

According to the SSCS, they for the third time blocked refuelling to the whaling fleet.[289] However, doing so again led to dangerous clashes, with both the SSCS and the whalers accusing each other of ramming their ships.[290] According to Paul Watson, the *Nisshin Maru* deliberately rammed the *Bob Barker*. However, Japan's ICR accused "several Sea Shepherd boats of slamming into the *Nisshin Maru* as the vessel attempted to refuel with her supply tanker the *Sun Laurel*."[291] The Japanese whaling ship eventually was forced to quit trying to refuel after allegedly being hit five times by SSCS vessels determined to stop it refuelling.[292]

Both sides released video of the incident purporting to show their version of events.[293] The Japanese released a media statement saying that: "the sabotage is not only malicious but inconceivably obstructive actions. Thus, it threatens safety of our research ships and lives of crews on them and is therefore completely unacceptable."[294] The Japanese government stated that it was mulling over filing a third claim in a US court for the SSCS actions, alleging they constituted an insult to the courts authority.[295]

According to SSCS Australia, for the 2012/13 whaling season Japan only managed to kill no more than 103 whales, possibly the lowest catch in the history of Japanese Antarctic whaling expeditions.[296] The SSCS successes can be attributed to a number of factors: they pre-empted the Japanese whaling fleet arriving in Antarctic waters; used smaller, more nimble boats to prevent whalers getting to their target; they tried to prevent the harpoon ship from meeting up with the factory ship and they targeted the refuelling ship to, in effect, starve the fleet of vital fuel.[297]

Paul Watson: international fugitive?

However, the successful campaign came at a price. At the end of the campaign Watson was cautious about coming ashore in Australia as he had traditionally done, since he feared the possibility of being arrested by the Australian Federal Police on the outstanding INTERPOL warrant. Australian National University law academic Don Rothwell argued that Japan could request that the Federal Police act, and since Watson was currently subject to an INTERPOL Red Notice he faced being arrested if Japan requested his extradition.[298] However the Australian Environment Minister Tony Burke stated that the Australian government had no plans to arrest Watson if he came ashore.[299] Current leader of the expedition Bob

Brown stated, "a key job in his new role as a Sea Shepherd Australia director was to ensure that Mr. Watson could come ashore safely, and warned an arrest would bring an uproar."[300]

The situation was heightened when it appeared that NZ officials were searching for Watson who evaded them by switching ships at sea, and he was not on board when the ship docked in NZ. Watson professed that he was "pretty shocked" that the NZ authorities were willing to acquiesce to the Japanese on this issue.[301] According to Makoto Ito (the spokesman for the company that owns Japan's whaling fleet), he hoped Paul Watson would be: "arrested and brought to justice this year" since Watson posed a serious threat to whaling crews.[302]

Subsequent campaigns

From 2013–2017 the SSCS continued to annually harry Japanese whalers in Antarctic waters. In the 2013–2014 campaign (Operation Relentless) they located and harassed the *Nisshin Maru* four times and obtained video footage of whalers cutting up minke whales. When Japan resumed whaling in the 2016–17 season after a hiatus following the ICJ decision, the SSCS, under Operation Nemesis, took action, with two ships, the *Steve Irwin* and the *Ocean Warrior* sailing to the Southern Ocean to interfere with Japanese whaling vessels.[303] However, the SSCS were unsuccessful in preventing the Japanese whalers from obtaining their self-declared quotas (in 2017 they killed over 300 minke whales from a quota of 333 and they killed 333 whales in the 2016 season).[304]

ENDING THE HUNT?

In 2017 the SSCS announced that due to military tracking hardware gifted to the Japanese whaling fleet, they would no longer attempt to interdict the ships. Peter Hammarstedt, an SSCS captain stated: "they have put such resources into this year's whaling that we cannot hope to find their fleet and stop them. It is simply a matter of us not wasting our own resources. We have other battles to fight."[305] In Watson's words: "Essentially, they can see exactly where we are, but we still only have a rough idea of their position."[306] Thus, Hammarstedt noted that "[i]t is simply a lot more difficult to find the whaling fleet in a much larger area of sea."[307] The SSCS viewed the situation as being the result of "the vast subsidy provided by the Japanese government for their whalers."[308] As Watson put it, should we spend our limited resources on another Antarctic campaign with little chance of success given the technological edge Japanese ships now possess or regroup and employ a different strategy and tactics?[309]

CONCLUSION: ARE THE SSCS METHODS COUNTERPRODUCTIVE?

An open question is, how effective have the SSCS methods proven to be? The SSCS has, from its inception, been a top-down group led by a charismatic leader

in Paul Watson. Watson has always understood that a violent direct action strategy married to a global media campaign could be effective in countering ongoing marine devastation. This insight has seen the SSCS grow from a small group with one ship and limited financial support to a global entity with multiple ships carrying out simultaneous campaigns supported by a multi-million dollar budget and a cadre of willing volunteers.

Its strategy of direct action also evolved over time depending on the circumstances confronting the organisation. While the group is willing to adopt non-violent methods where deemed appropriate, including working with states, they are more famous for their use of violence against property to achieve their goals. Over the decades they have continued to ram vessels, hurl butyric acid at vessels, foul ships' propellers and allow SSCS personnel to risk their lives boarding whaling vessels, amongst other methods. The only tactic they have forsworn over time is that of sinking vessels using high explosives. For Paul Watson, tactics such as boarding vessels and fouling porpellers need to be adopted since the solutions offered by ENGOs such as Greenpeace are ineffective. Watson maintains that Greenpeace's approach of merely being witness cannot stop ongoing Japanese whaling.[310] Greenpeace continues to denounce the SSCS approach of violent direct action as "morally wrong" and "counterproductive" to the cause of ending whaling.[311]

While the SSCS have been accused of injuring humans by their actions, SSCS disputes this and – with the notable exception of Peter Bethune's assault conviction in Japan[312] – no court has ever convicted Sea Shepherd members of violent crimes against humans. However, the very nature of their activities, despite their ostensible 'good' intentions, creates a real risk of human injuries or fatalities on both sides. If they continue with such tactics, it is almost inevitable someone will be hurt or killed. This would risk the support the organisation has engendered. This is the paradox at the heart of violent direct action: environmentalists will often cheer a group willing to use such tactics against environmental despoilers but tend to draw the line at human death or injury. The SSCS thus have to walk a fine line, as their actions risk seeing them branded potentially as 'terrorists'.

On the one hand it can be observed that, until the last Antarctic whaling season, the organisation's harassment of Japanese whaling vessels had significantly reduced the whales caught and put the ongoing Japanese scientific whaling programme under the microscope.[313] However, its violent direct action strategies and tactics did little to achieve its ultimate goal of ending global whaling beyond shining a spotlight on ongoing whaling. Many IWC member states perceive violent strategies as counterproductive, seeing it as highly unlikely to change long-held positions, particularly from whaling nations, at the IWC and a negotiated end to non-commercial whaling.

The SSCS argue that they are enforcing IWC rules but member states have publicly disavowed their use of violent direct action.[314] Paul Watson has been banned from attending IWC meetings and airing his views before the members since 1986 after his actions in Iceland, and his efforts to influence the IWC from outside the formal structures appear to have been for naught. Other conservationists and

ENGOs believe the organisation's approach has denied sympathy to anti-whaling nations, undercutting their arguments to end whaling.[315] Dr. Sidney Holt, one of the architects of the 1986 commercial whaling moratorium, argues the SSCS actions are counterproductive and insists that "[a]lmost everything [Watson] has been doing has had blowback for those who want to see an end to whaling. In too many cases, playing piracy on the ocean, and creating danger for other ships, is simply not liked."[316]

In December 2018 Japan's Yoshihide Suga, the chief cabinet secretary, declared in a *note verbale* that Japan would leave the IWC as of 30 June 2019 and resume commercial whaling within its own waters.[317] It further announced it would stop its annual hunts in Antarctic waters.[318] While ostensibly this appears to be a victory for the SSCS in its campaign to end whaling, a closer parsing of the reasons for this decision do not reveal any impact by the SSCS. Japan was already using military-grade technology and satellite imagery to avoid the SSCS to the point where the SSCS had abandoned the annual mission to interfere with Antarctic whaling. Now that Japan will only whale in domestic water, attempting to interfere with the Japanese whale hunt will undoubtedly bring about a swift legal response if members are within Japanese territorial waters.

For an organisation that prides itself on its cutting-edge media strategy, the withdrawal has further implications for how it is perceived and its effectiveness both as a brand and as an entity that achieves its goals. On the one hand the withdrawal could be perceived as acknowledging defeat, in that their decades-long strategy of violent direct action did not achieve their long-term goals of ending whaling. The annual attempt to interdict the Japanese whaling ships in Antarctic waters was iconic of SSCS, both in imagery and in practice. It is the campaign for which they are most famous and that fame is directly attributable to their headline grabbing brand of direct action. Their withdrawal could well impact on their public standing, ability to attract volunteers, fundraising capabilities and their media operations.

On the other hand, the statement acknowledging they will no longer go to Antarctica to protest the whale hunt acknowledges the reality that the SSCS has grown bigger than one campaign.[319] There are currently a multitude of different maritime issues the SSCS are involved in, from preventing dolphin hunts, to interdicting whaling in other parts of the globe, to seeking to end tuna exploitation. The methods they adopt to achieve their goals have also changed. With the end of Japanese scientific whaling in open waters, the SSCS continues actions against those it considers to be despoiling the oceans. It was involved in collecting 34 tons of marine debris off Cocos Island and continues to publicise the deaths to dolphins by modern fishing practices, in this case off the coast of France.[320]

SSCS still use violent direct action if they believe it is warranted as a tactic but they are willing to work with other actors, including governments if that is deemed a superior method. Further, it should be acknowledged that of those groups commonly branded as 'ecoterrorists' by their detractors (including the Animal Liberation Front and the Earth Liberation Front), the SSCS is the only entity still functioning effectively. The SSCS have been counted out before. Time

will tell if the organisation has begun to run aground or whether it is maturing and adopting more diverse tactics to achieve its goal of influencing the global marine debate.

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Chapter 13

The future of international environmental law

INTRODUCTION

In the first few decades of modern international environmental law there was an exponential growth in multilateral environmental agreements married to a plethora of tools, techniques and practices.[1] While the first three decades of modern IEL (dated from the Stockholm Conference) saw an explosion in new area-specific legal instruments, the last few decades can be considered more of a consolidation and attempted improvement of existing law. IEL agreements have increasingly incorporated detailed procedural and substantive requirements which, given they generally start life as framework agreements, has seen them develop over time in often taxing negotiations, with more detailed obligations and reduction requirements on member states, e.g. the Montreal Protocol and its subsequent amendments.[2]

However, since the 2002 World Summit on Sustainable Development it seems that IEL has lost momentum in key areas and we are not seeing the development of new international environmental regimes. States appear to have wearied of making new commitments at mega-summits, preferring to focus on better implementing existing commitments.[3] Further, the majority of global environmental problems are incredibly difficult to resolve and arguably, except in the case of ozone and Antarctica, international law has been unable to resolve these issues in a timely and appropriate manner.[4]

This chapter is both a look at the current state of play of IEL in its relatively short life and a look ahead at not only prospective problems but also some potential solutions to ongoing ecological damage. Part I asks whether the current system of sovereign states is suited to resolving global environmental problems and explores how this has opened up the field to non-state actors to make an impact which is seeing a broadening past the traditional Westphalian construct of the state system. The chapter considers the current state of play of various supranational environmental options such as an International Court of the Environment and an International Environmental Organisation. It scrutinises

the 'critical countries' approach which some commentators argue should replace the cumbersome mega-conferences which recently have failed to deliver on their promise. It critically examines the move by some IOs to merge environmental regimes and asks whether that is the way forward for IEL. The section also investigates the UN's 2018 Global Pact for the Environment which seeks to create and embed a 'third generation' of environmental rights within IEL. In Part II, the chapter highlights new global environmental problems that are beginning to manifest: plastic pollution in the atmosphere, food chain and oceans; the depletion of phytoplankton; the implications of the opening up of the Arctic to travel and possible mineral exploitation; and the environmental displacement of humans due to ecological problems.

PART I

THE PROBLEM OF STATE SOVEREIGNTY

States are still the main actor within global environmental regimes when it comes to "authoritative choice" in that they are still the principle actor with the power to effect change.[5]

However, one critical question to be asked is whether the current system of sovereign states is up to the task of protecting the global environment. Is it a concept that improves environmental outcomes or has its reification actually hindered global environmental protection? As per Camilleri and Falk, "sovereignty is a legal, political and theoretical construct," which is only useful if it can explain situations which are occurring. Current iterations of state sovereignty are meaningless against transboundary or global ecological problems which are no respecter of human boundaries unless states agree to cooperate.[6]

The ever-steady and in some cases increasing deterioration of the planet's biosphere is evidence that states find it extremely difficult to cooperate to resolve these 'wicked problems' unless the stakes are urgent and civilisation-ending, e.g. ozone protection. Issues like anthropogenic climate change with its long lead times and inability to be easily resolved (unlike the cessation of CFCs and HFCs) illustrate how states are ill-equipped to handle such complex, ubiquitous problems without a 'silver bullet' solution proffering itself.

The current international legal system and its regime structure ostensibly dedicated to protecting the environment is oft-times slow to react, ungainly in execution, costly, lacking coordination and plagued by uncertainty as to how to act. The regime structure system is usually epitomised by lengthy negotiating delays, weak substantive obligations, inadequate monitoring, funding that never materialises and a system of sanctions that are rarely enacted, and if imposed, are rarely of sufficient weight to deter violators of their pledged commitments.

This inability of states to effectively tackle global environmental problems has brought about a paradigm shift that is consequently opening up whole new vistas of opportunities for non-state actors. While states remain the key actors they are also "increasingly accountable to domestic and transnational constituencies,

thus shifting the locus of enforcement from state toward international institutions and NGOs."[7] A critical examination of their actions allows for an understanding of the key role played by other non-state actors within global environmental regimes. IOs also have played vital roles in creating environmental regimes, for example, UNCTAD helped establish the tropical timber regime.

However, we need to be mindful of Young's admonition to not treat ENGOs as an unalloyed good and states as the enemy.[8] The situation is more complex than a Manichean representation of good and bad actors. States have been both powerful advocates for environmental change (the US with ozone and whaling; Australia and France in the case of Antarctica) as well as powerful blockers (US in the case of climate change; Japan in the case of whaling).

SUPRANATIONAL ENVIRONMENTAL INSTITUTIONS

Within the IEL sphere, the goal is often to obtain compliance before the harm occurs. In the absence of a centralised system of governance, a greater emphasis on monitoring and strengthening reporting is required and here scientists, IOs and ENGOs can play a much greater role.[9] When compliance is not forthcoming the issue becomes one of enforcing the regime's decisions. Enforcement is generally defined as "the compelling of obedience to law."[10] This is highly problematic given the current state sovereignty system. The nature of IEL means that traditional enforcement mechanisms are not applicable at this level, particularly as there is a lack of a fully developed judiciary and executive.[11]

In particular, the judiciary function of IEL conventions are currently mostly exceedingly weak as there are few formal mechanisms for the implementation of treaty obligations. The ICJ has only marginal enforcement capacity given that states have to consent to being adjudicated before the court.[12] For example, 17 conventions including CITES, the Basel Convention on Hazardous Waste, and the shining example of IEL, the Montreal Protocol, all include trade sanction powers that have been rarely actioned or brought before the WTO World Trade Court.

Enforcement in practice at the international level has sometimes occurred as a result of shaming the perpetrators into modifying their behaviour (most states wish to be perceived as good global citizens) with mixed results when it collides with strategic state self-interest. Enforcement can be achieved at the domestic level[13] by political oversight of domestic political parties and here ENGOs can play a useful part in highlighting issues and participating in the electoral process, e.g. the cases of Antarctica and ozone depletion.[14] States are often loath to utilise enforcement against other states, fearing it could jeopardise relationships.[15] Thus, traditional enforcement mechanisms are not applicable, leading to calls by some for a fully developed judiciary and executive body to deal with global environmental problems.[16]

The vexed problems of how to ensure compliance and if need be enforcement, has seen some commentators call for the introduction of supranational institutions to help solve these seemingly intractable problems: an International Court of the Environment and an International Environmental Organisation.

An International Court of the Environment

Taking this into account, a number of politicians and scholars have called for the creation of a new International Court of the Environment to supplant the International Court of Justice's (ICJ) role in the sphere. For traditionalists, the ICJ (because of its role in the settlement of disputes and the elaboration of international law,) is the body best suited to protect global environmental areas. Its capacity to formulate rules of international environmental law through the handing down of advisory opinions (its rulings are not binding), is particularly important. The Hague Declaration in 1989 called for new powers for the ICJ to be able to impose its jurisdiction over the implementation of UN environmental treaties. Although nearly 40 nations eventually signed the Declaration, its impact was negligible, since key states such as China and the US refused to sign, ensuring that the ICJ is still limited in its ambit.[17]

Judge Postiglione (Judge, Corte Suprema di Cassazione, Rome, Italy) is a proponent of the opposite view, namely, that it is necessary to establish a special and separate International Court of the Environment to adjudicate on global environmental matters.[18] The creation of an ICE, as Judge Postiglione sees it, is needed for many reasons, arguing that: "The environment, with its changing resources, becomes a dangerous source of conflict. Thus, it is important to have new legal State liability rules and consequently, compulsory and efficient conflict regulation procedures supported by a permanent, international authority."[19] He asks that the UN not 'mediate' but 'judge' in the name of the whole of humanity, at least in the most serious of cases.[20]

Opponents, led by academics such as Jeffrey Dunoff, point out that international courts do not possess compulsory jurisdiction. Jurisdiction only exists by the consent of the disputing parties. Historically, nations will not consent to third-party adjudication, seeing it as a limitation upon their sovereignty.[21]

An international environmental organisation

If the current state structure does not always deliver good environmental outcomes, could supranational authorities provide the solution? The idea to create a supranational Environment Organisation dates back to the 1970s and dissatisfaction with the limitations of UNEP.[22] Over time there has been a plethora of suggestions as to what form a new organisation could potentially take.[23] These include a Global Environment Organisation (GEO) that would only be concerned with global environmental issues, a World Environment Organisation (WEO) which would ensure the incorporation of local issues along with a global perspective, and the establishment of a super-UNEP.[24]

The creation of a model WEO or United Nations Environmental Organisation (UNEO) has been the idea that has gained the most traction.[25] The WEO proposal was first developed by Lawrence David Levien, who suggested modelling the organisation on the International Labour Organisation, acting as

a counter-weight to the World Trade Organisation (WTO) and emphasising environmental concerns, particularly when it comes to encouraging more sustainable international trade.[26]

WEO advocates have been challenged by critics who argue no clear organising principle for a clear design for the WEO has been expounded nor have proponents demonstrated how a new institution would be more successful than the current existing institutions.[27]

Further, the creation of a WEO, it is alleged, would discredit the work of UNEP and provide a distraction to more pressing issues of international environmental governance. The argument goes that UNEP was not provided with adequate resources – in capital and staff – for the task it was required to do: it has had to coordinate other UN agencies in an atmosphere of suspicion while national governments did not provide UNEP with power to act. Critics argue that given the limited resources that UNEP has had access to, it has overall been a surprising success in many areas such as treaty building and provision of national environmental law templates.[28]

The main problem as Dunoff notes is that states are unlikely to cede authority to such organisations, absent an urgent need to do so. This has so far proved to be the case with the idea of a World Environment Court. Ironically for the creation of such bodies, any crisis serious enough to warrant the creation of such entities would also be sufficient to create state cooperation to resolve the issue which makes it even less likely for states to agree to create them, since the problem can most likely be solved via state support mechanisms such as treaty negotiations or created IOs.

Although there has been significant debate and academic discussion inside and outside the UN system about the need for such an entity, and many suggestions as to what form such an organisation would take, there has been no call to action over the last few decades to create such a body.[29] The consensus appears to currently be that states should properly utilise the presently existing mechanisms for greater cooperation and ensure that resources are more adequately applied, instead of duplicating environmental bodies.[30] However, given that many environmental regimes are trending backwards (biodiversity, tuna, tropical timber) primarily due to a lack of compliance and enforcement, perhaps the time has come to revisit the idea of supranational environmental bodies.

THE "CRITICAL COUNTRY" APPROACH

In 2012 the Managing Global Order Project, a joint initiative of the Center for International Cooperation, the Brookings Institution and Stanford University's Center on International Security and Cooperation published an assessment of "What Makes International Agreements Work."[31] Among the factors noted was whether "inter-state negotiations [should] be *inclusive* (i.e. involving all states, as in UN talks on climate change) or involve an *exclusive* club (i.e. a G20-type forum)?"[32] In reviewing the history of the climate regime in particular, commentators have noted a concern that the inclusive approach has become "fatally

cumbersome because it requires the impossible: consensus decision-making by 194 parties on every line of a complex and lengthy treaty."[33] Instead, as has been suggested, "[t]he key may be to create a new body with a small number of vital states to effect cooperation which others can slipstream behind."[34]

This approach reflects what we will refer to as a "critical country" method to addressing IEL issues. Rather than initially pursuing an inclusive agreement among all countries irrespective of their potential impact on the preferred solution, negotiations would take place among the countries with the greatest capacity to affect the outcome – positively or negatively. An effective agreement among such parties would, in itself, materially advance the desired solution. In addition, mechanisms could be in place to allow the agreement to be extended to other parties over time.

There are important factual arguments for the "critical country" approach. Many current environmental issues are simply not materially impacted by the full membership of the UN. For example, the top ten greenhouse gas emitters account for nearly 75 per cent of global emissions.[35] The top five emitting countries currently account for more than 65 per cent of ozone depleting substances.[36] The top 12 emitters of mercury account for more than 65 per cent of global emissions.[37] Similar concentrations could be found for critical habitat, wetlands, etc. The Yale Environmental Performance Index (EPI) ranks countries on 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality,[38] and this ranking clearly identifies which countries are most relevant to which issues.

The concentrated distribution of states relating to many of our environmental problems coincides with the fact that the difficulty of negotiating MEAs increases with the number of negotiating, and then ratifying, parties. As described by US Special Envoy for Climate Change Todd Stern and William Antholis of the Miller Center:

> [IEL] negotiations typically involve over 150 nations, often grouped into competing negotiating blocs, which must negotiate internally as well as among themselves. Environmental issues rarely motivate top-level decision-makers, so negotiations are conducted by bureaucrats empowered to make technical level decisions, but not political compromises. Moreover, substantial UN bureaucracies often grow up around the issues, further slowing the pace of progress. When political energy is finally brought to bear by ministers, arriving with too little time left in a session, the results are too often continued stalemate or modest compromise. And that doesn't count the difficulties of getting a signed treaty ratified, or ensuring the implementation of a treaty once it has entered into force. This is no way to run a planet.[39]

The World Resources Institute makes a similar point:

> International negotiating processes must accommodate the differing views of as many as 190 governments. As a result, they are often excruciatingly slow, often with a decade passing between the time the international community

> begins to mobilize and the time a final treaty is signed. Even then, the treaty does not immediately enter into force, since it can take years to be ratified by some minimum number of countries. The negotiations for the UN Law of the Sea, one of the primary treaties dealing with management of coastal and deep sea waters, spanned a period of 9 years before its signing in 1982, and required another 12 to muster the ratifications it required to enter into force (United Nations 2003). This delay between identifying a problem and acting on it is particularly troublesome because environmental problems can amplify quickly, calling for rapid response.[40]

The direct participants in negotiations express similar concerns. In a response reflecting frustration with the UN's current inclusive approach, Brazil's delegate to the UNFCCC COP in Copenhagen pointed out: "There are 20 countries that produce almost 95 percent of global greenhouse gas emissions, . . . These are the countries that should be talking about greenhouse gas reductions."[41] And, renowned internationalist Dr. Moises Naim has written: "let's forget about trying to get the planet's nearly 200 countries to agree. We need to abandon that fool's errand in favor of a new idea: minilateralism."[42] Naim describes the "minilateralist" approach to international issues as "bring[ing] to the table the smallest possible number of countries needed to have the largest possible impact on solving a particular problem. Think of this as minilateralism's magic number."[43] For climate change, Naim suggests that the "magic number" is the 20 countries that account for 75 per cent of the world's greenhouse gas emissions,[44] although this number should perhaps also include the countries with the largest sinks.

The concept of minilateral negotiations among the "magic number" of countwith the largest potential impact on the IEL issue under consideration is not new. In 2001 Worldwatch Institute advocated creation of an "E-9" as an organizing structure for mobilizing the most environmentally critical countries around IEL issues. The proposed "E-9" would be a coalition of developed and developing countries with a dominant level of consequence for IEL issues by virtue of their population, GDP, greenhouse gas and other emissions and collective biodiversity. Thus, the "E-9" countries are those with a disproportionate ability and responsibility to design and effect IEL outcomes. Worldwatch Institute argues that these countries should be organized along the lines of the G-8 to meet regularly and consider the range of pressing IEL problems and opportunities and to promote sustainable development. While Worldwatch anticipates that the "E-9" negotiations would still confront the central questions currently consuming larger UN negotiations, they posit that this smaller number of consequential parties would have a better chance of achieving North-South consensus and of negotiating solutions with an enhanced chance of success. Worldwatch does not propose that the E-9 would supplant broader international institutions but would rather lead the effort of shaping options and moving nimbly in urgent circumstances. Its initiatives would serve as models and catalysts for compatible efforts by the broader international community. In addition, the "E-9's" less formalized structure could

make it more conducive to collaboration with civil society, and more able to incorporate elements of the broader governance ecosystem. Worldwatch cites climate change as a particularly appropriate case for an "E-9" approach, given the large proportion of the world's consumption of fossil fuels accounted for by the leading economies. A shift by these economies to low-global-warming-potential measures would have a significant impact on global emissions and would also spur innovation and models for other countries to utilize.[45]

Counter-arguments against the concept

Two arguments have been levelled against the "critical country" or "mini-lateralist" approach: that it is counter to ideals of legitimacy and inclusion,[46] and that universality is needed to prevent "leakage" as detrimental activity moves from countries included within the agreement to countries outside the agreement.[47] Neither of these arguments should preclude a "critical country" approach in appropriate circumstances. With respect to the former, the lack of progress on issues with potential to dramatically impact the ecosystem may justify greater emphasis on finding an approach that works. Moreover, broader participation may be accommodated in the process of identifying and nominating the critical countries and the "magic number" needed to address specific issues. It's important to note here that, depending on the nature of the issue, critical countries will likely change from issue to issue, and will often include participants from both developed and developing countries. The UN might fill an important role through a process to identify critical countries for an emerging issue and supporting their negotiations. For example, Eckersley suggests the creation of a "climate council" within the UNFCCC process that would reach consensus on the most contentious and critical issues and propose them to the COP for adoption.[48]

Of course, an interesting question would arise on whether the "climate council" countries could proceed to a separate agreement if the COP failed to adopt their proposals. The *Montreal Protocol on Substances that Delete the Ozone Layer*, widely considered to be the most successful global MEA, entered into force in 1989 with ratifications by only 29 nations and the European Community, which group accounted for an estimated 83 per cent of the global consumption of CFCs and halons.[49] The Montreal Protocol now has 197 parties.[50]

With respect to the issue of "leakage," clearly it would be disadvantageous to allow environmentally damaging activity to continue in non-signatory countries. However, assuming the "magic number" included the countries whose activities accounted for the vast majority of the impact, it may not be realistic to assume sufficient "leakage" to create a material impact would occur. Moreover, mechanisms such as those suggested by 2018 Nobel Prizewinner William D. Nordhaus could be utilised to reduce the leakage risk. Professor Nordhaus proposed that agreements among "clubs" of countries with a significant potential impact on an IEL issue could be stabilised through tariffs on non-participants who violated the clubs' substantive rules.[51] It's also important to note that the high level of

economic activity within the "clubs" may spur innovation that would create new economic models, creating incentives to follow those models voluntarily.[52]

Irrespective of what form the "clubs" or "councils" take, it appears evident that critical environmental issues are not best addressed through a system that prioritises inclusive consensus participation beyond the parties with an ability to materially impact the issue. While measures can and should be taken to ensure fairness and transparency, the future of IEL may need to enhance decision making by the "critical countries" whose actions on important issues can make a difference.

SHIFTING FROM WESTPHALIAN DOMINANCE TO PARTICIPATION IN THE IEL GOVERNANCE ECOSYSTEM

A second important development for IEL will be a more profound incorporation and recognition of the complete IEL governance ecosystem, with the UN acting increasingly as an observer of and participant in ecosystem activity rather than as a Westphalian-based exclusive or dominant player. Many commentators have noted that the international system is evolving from the Westphalian model driven exclusively by sovereign states towards a "complex rugby scrum of nation-states, intergovernmental organizations, regional compacts, nongovernmental organizations, and informal regimes and networks."[53]

This evolution has accelerated in the face of failures of nation-state governance, such as the failure to achieve consensus among major greenhouse gas emitters under the Kyoto Protocol and the Paris Decision and Agreement. The IEL "governance ecosystem" now includes global non-state actors, supported by global personnel, resources, communications and other systems, that take direct global action on environmental issues and actors rather than attempting to influence the Westphalian system.

While the formal international system is relatively weak in terms of structure, decision-making processes, and monitoring and enforcement mechanisms, other components of the "governance ecosystem" are strong. By some estimates, approximately 53 per cent of the scientists and engineers working in the United States work for private industry,[54] indicating that they have the intellectual resources to address critical IEL issues.[55] In 2016, 26 per cent of professionally managed assets, or US$22.89 trillion, were devoted to "responsible investing" incentivising strong environmental performance,[56] and in 2017 93 per cent of the world's 250 largest companies reported on their own sustainability performance.[57]

With respect to ENGOs, there are now more than 560 accredited by UNEP,[58] and more than 26,000 registered in the US in 2005, with revenues over US$8 bn.[59] Other non-state actors, such as states, municipalities and universities, have also mobilised and united for global action through organisations such as "We Are Still In,"[60] which supports action on climate change. According to former New York City Mayor Michael Bloomberg, this group "represents a bigger economy than any nation outside the U.S. and China."[61]

In contrast to the general sparseness of the formal IEL system, the participants in the "rugby scrum" of the IEL governance ecosystem command a stunning global infrastructure for generating results. This includes global financial and intellectual resources, global communications systems, global command and governance structures, and both personal and contractual global networks. UN General Secretary Ban Ki-Moon made this point with respect to TNCs in his preface to the 2010 UNCTAD World Investment Report, stating

> As enterprises with formidable knowledge, cutting-edge technology, and global reach, TNCs are necessarily among the primary actors in the global effort to reduce greenhouse gas emissions and shift towards a low-carbon economy. The Report stresses that with the right policy initiatives, incentives and regulatory framework, TNCs can and must contribute significantly to both mitigation and adaptation.[62]

The infrastructure of the wider IEL governance ecosystem has proven itself more than capable of identifying critical objectives through detailed scientific analysis, designing programmes for achieving those objectives, monitoring compliance with those programmes and deploying positive and negative consequences respecting programme compliance. These efforts may be complementary to formal IEL initiatives, or wholly independent.

The case study of climate change

This can be shown in the case of climate change. The formal IEL, UN-based system has generated an operative legal product, the *United Nations Framework Convention on Climate Change* (UNFCCC), which entered into force on 21 March 1994.[63] The UNFCCC is nearly universal, with 197 Parties (196 states and 1 regional economic integration organisation).[64] It establishes an overall "Objective" "to achieve . . . stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system,"[65] and imposes requirements on the Parties to measure and manage their greenhouse gas emissions. However, the UNFCCC COP's effort to establish more concrete reduction targets through the Kyoto Protocol was not ratified by the world's then-largest greenhouse gas emitter, the United States, leaving only the more general prescriptions of the UNFCCC in place for a critical portion of the world's GHG emissions.[66] In addition, the UNFCCC COP's 2015 Paris Decision and Agreement, has likewise been rejected by US President Trump.[67]

Despite the frailty of the UNFCCC process, civil society has developed private law platforms and protocols for TNCs to inventory,[68] report upon and reduce their greenhouse gas emissions – all the essential indicia of a regulatory regime. Rather than governmental sanctions, the most significant of these platforms, CDP, relies on voluntary support from institutional investors owning trillions of dollars of stocks to convince companies to report to CDP on their GHG inventories and

efforts to reduce their footprints.[69] Moreover, the CDP platform allows companies to demand compliance up and down their supply chains, magnifying its impact.[70] By 2016 70 per cent of the companies in the S&P 500, and 77 per cent of the industrials in the S&P 500, reported their global greenhouse gas inventories to CDP,[71] and 63 per cent of the Fortune 100 had set and publicly announced greenhouse gas reduction targets.[72] Concomitant with the reporting platform there emerged an industry of voluntary third-party verification of public GHG reports, such that by 2015, two-thirds of the S&P 500 companies reporting to CDP had voluntary third-party verification of at least part of their greenhouse gas emissions.[73]

Perhaps because they were reporting already due to shareholder or supply chain pressures, or other motivations, TNCs on their own initiative began to institute greenhouse gas control programmes. One 2004 business survey found that 92 per cent of the survey respondents were reviewing their GHG emissions profiles, 90 per cent were evaluating opportunities to reduce, avoid, offset, or sequester or offset GHG emissions, and 72 per cent were reporting GHG emissions to the public.[74] And, TNCs reported publicly on these programmes. In 2005, over 85 per cent of the G250 addressed climate change in their corporate social responsibility reports and 67 per cent measured and reported on their GHG emissions.[75] This level of corporate activity generated increased attention from shareholders and analysts. The number of shareholder proposals directed towards climate change tripled between 2000–2001 and 2004–2005, and nearly doubled again by 2007.[76] As TNCs began to disclose more about their greenhouse gas programmes, this got the attention of governmental agencies charged with ensuring that corporate disclosures are accurate, and the OECD noted in 2010 the increased regulatory scrutiny of corporate claims such as "carbon neutral" and "low carbon."[77]

A further implication of this broad attention to climate change was increased demand for greenhouse gas-reducing products and services, and a related incentive for TNCs to seek to capture a portion of the growing energy efficiency market[78] and the increasing value of carbon credits being traded on voluntary markets if emission reductions could be verified.[79] And, from the early years of the twenty-first century, the threat of private litigation relating to climate-related damages, or of inefficient "command and control" regulation, further incentivised TNCs to proactively manage their carbon footprints.[80]

The broader climate governance ecosystem, therefore, has generated more, and stronger, results than the UNFCCC process. IEL must do a better job of capturing and helping to direct the tremendous energy, creativity and effective implementation of the ENGO, TNC, academic, sub-national and other communities within the broader governance ecosystem. The UN has realised this, evidenced, for example, in its formal recognition of civil society roles in deploying the Sustainable Development Goals.[81] Extension of this approach, however, will require an increased recognition by the UN and its members that they are a critical, but not the sole or determinative participant in the global IEL ecosystem.

The United Nations Conference on Trade and Development has proposed such an approach. Recognising that "TNCs are both major carbon emitters

and low-carbon investment and technology providers [and] . . . are therefore inevitably part of both the problem and the solution to climate change,"[82] UNCTAD proposed a "Global Partnership for Low-Carbon Investment" with critical roles for several governance ecosystem participants. In this Partnership, local and national governments would develop appropriate policy frameworks. International financial institutions would develop outward investment promotion programmes, investment guarantees and credit risk guarantees. TNCs would form linkages with domestic firms for technology development. International bodies would enhance international investment agreements to facilitate green investment. TNC greenhouse gas reporting practices, many of which rely on ENGO programmes, would be evaluated and harmonised along with stock listing requirements to improve transparency and to extend reporting throughout supply chains, and a technical assistance centre would be established to facilitate information exchange among all the stakeholders.[83]

Environmental management systems

The EU has also looked to the broader environmental governance ecosystem in pursuing its policy agenda. One of the most significant contributions to global environmental governance by the nongovernmental sector is the environmental management system. Environmental management systems provide a proven, systematic approach to identifying, evaluating and managing environmental risk in any organisation. A "closed loop" governance system can be created by standardising a management system approach, and then providing for third-party audits and certification to the standard. The most significant of such standards is the 14000 environmental management system series promulgated by the International Organization for Standardization (ISO). ISO is an NGO founded in 1946 and based in Geneva, Switzerland, with 162 member National Standards Bodies. Currently there are more than 300,000 organisations certified to the ISO 14000 series environmental management system standard worldwide.[84] Numerous other organisations rely on the ISO 14000 standards to design their internal management systems without always seeking third-party certification.[85] Certification is granted by licensed firms and must be periodically re-assessed.[86]

This internal TNC choice may be externally influenced where customers encourage or require third-party certification.[87] Importantly, ISO 14001 requires programmes for identification and adherence to "legal and other" requirements, which includes both laws and regulations, and also NGO or other codes to which a certified entity voluntarily subscribes.[88] ISO certification therefore creates an important enforcement mechanism for these other laws and codes.

ISO 14001 is a prime example of how the global environmental governance ecosystem, including NGOs, ENGOs, TNCs and other stakeholders, has produced meaningful private law with global impact, relying on the deployment capabilities of TNCs, NGO certification, customer requirements and other non-public mechanisms. Public law bodies have borrowed this success by directly incorporating ISO 14001 into public standards. For example, the EU has incorporated ISO 14001

as the environmental management system requirement in its Eco-Management and Audit Scheme (EMAS) regulation.[89] Parties that satisfy EMAS are entitled to a host of regulatory benefits.[90]

These examples show UNCTAD and the EU acting as observant participants in the governance ecosystem rather than IEL monopolists. By incorporating TNC climate disclosure practices (many of which are influenced or co-developed by ENGOs), shareholder analysis and technology partnerships, UNCTAD appropriates those elements' development, and mutually reinforcing mechanisms such as transparency and shareholder and customer demands. And the suggested standardisation of those practices promises to improve them and make them more useful to their TNC, NGO and market stakeholders. Similarly, the EU's incorporation of ISO 14001 into its EMAS regulation also appropriates the years of stakeholder development of the ISO standard, and the robust network of customer and shareholder demands and transparency measures that drive and sustain ISO certification. It also appropriates the stringent private audit and recertification processes that ensure continuous improvement.

Future international environmental law making should adopt a similar observant, participatory stance. The challenges of IEL are too great, the non-public governance ecosystem is too strong, and the formal IEL governance infrastructure is, frankly, too feeble to make a different choice. The IEL governance ecosystem developed, in part, out of frustration with the limitations of the Westphalian international law bureaucracy. If this bureaucracy can now embrace its role as a participant in this ecosystem, it can leverage the tremendous strengths that the ecosystem has organically produced.

A UNIFIED FIELD THEORY?: INTEGRATING REGIMES

International law and its subset IEL have been fragmented since their foundation. Such an approach has the benefit of allowing, if political will is prevalent, a rapid deployment of legal resources into new legal fields.[91] The international environmental law regime system is not entirely broken but it can be significantly improved. Some areas, such as ozone depletion, have benefitted significantly from the UN-based IEL programme. And the UNFCCC COP24 in Katowice showed that even within the struggling climate regime some progress can be made. The critical nature of IEL problems, however, and the spottiness of IEL successes, raises the question of whether particular regimes are up to the task or if modifications are warranted to bring about improved environmental outcomes.

In response to regime flaws, there is also a movement by both academics and IOs calling for more work to be done in more tightly integrating the various international environmental regimes. Traditionally, as we have observed, global environmental problems have been dealt with generally within issue-specific regimes. However, it is becoming more and more apparent that these 'wicked problems' can rarely be resolved in isolation. For decades academics have highlighted the synergistic possibilities between regimes such as the ozone and climate regimes;[92] biological diversity and climate change;[93] and the oceans regime and biological diversity.[94]

There is also a push to more closely integrate disparate legal areas such as merging human rights methodologies with environmental approaches.[95]

Such approaches are now being adopted by various IOs as the next logical step to deal with their specific issue. For example, delegates at the 2018 CBD negotiations were adamant that cooperation between biodiversity instruments and the Rio conventions was an imperative to moving forward.[96] Even failing regimes like that of tropical timber has had the ITTC acknowledge that to reach its own sustainability timber goals relating to endangered species, it needs to integrate its programmes with the CITES management programmes, e.g. the CITES Tree Species Programme.[97] And, the International Whaling Commission is seeking to more closely integrate its operations within a post 2020 Global Biodiversity Framework in conjunction with the CBD Secretariat to not only foster synergies between the two organsations but also jointly develop measurable targets.[98]

A Global Pact for the Environment

States have also begun to heed the call and have started tentatively working together to engender what has been described as the "third generation of fundamental environmental rights."[99] In May 2018 the UNGA in resolution 72/277: "Towards a Global Pact for the Environment" established an *ad hoc* open-ended working group (OEWG) to identify and assess potential flaws in IEL. The goal was to make recommendations for a new international instrument convening of an intergovernmental conference to adopt the instrument, during the first half of 2019.[100]

The origins of such a proposition reside within the 2015 report by the Environmental Commission of Le Club des Juristes (CDJ), entitled *Increasing the Effectiveness of International Environmental Law: Duties of States, Rights of Individuals*. The CDJ report argued for the creation of a "Global Pact for the Environment" to serve as a binding, universal "umbrella text" to help lay the foundation for a third iteration of key global environmental rights. The instrument, based off the UNs human rights instruments, would embody within it the environmental principles developed in the Rio Declaration on Environment and Development, the Earth Charter, the World Charter for Nature, and other key documents that have informed IEL development in the last few decades. A Group of IEL Experts from some 40 countries, led by members of the IUCN Academy of Environmental Law and the IUCN World Commission on Environmental Law were tasked in 2017 with developing a draft Pact.[101]

The first substantive session of the Ad Hoc Open-ended Working Group towards a Global Pact for the Environment was attended by 288 delegates comprising state, IOs and civil society, and occurred on Monday, 14 January 2019 at the United Nations Office in Nairobi, Kenya. Initially, hopes to develop a robust legal instrument was not high given the complexity of the task and the little time, diplomatically speaking, delegates had been offered to peruse the draft Pact. Three factions were discerned as to how to proceed. As one delegate noted,

> There are three camps: those who think there are no gaps; those who agree with gaps as identified in the UNSG's report, but who don't agree with how they are formulated; and those who say there are gaps, but not the ones in the UNSG's report.[102]

Those advocating the "no gaps" view argued that fragmentation in IEL is inevitable and indeed desirable given that different MEAs are required to address divergent needs. Thus, any gaps are the result of deliberate design by their creator states. Other actors argued for a global, all encompassing, document to address urgent environmental decline. Other stakeholders were concerned that any global pact would weaken current MEAs and the coordinating role played by UNEP. It was clear given the conflicting and occasional hostile views of states such as Russia that a legally binding document was not possible at this time. Critics argued that any new pact needed to defer and account for the embedded politics of the multilateral environmental law system. Differing proposals were advanced including a political 'compact' seen as less threatening to entrenched interests such as the Global Compact for Migration.

One proponent noted that while ostensibly the meeting was about the "gaps" in IEL, negotiations would be more fruitful if they revolved around a compact or the creation of "principles" or "pillars." Such an approach would better respect national sovereignty issue and existing MEAs, and enable domestic courts to better implement environmental law principles with greater lucidity, consistency, and efficacy. While the Meeting adjourned without a successful conclusion the Co-Chairs called for advocates for a pact to make submissions for the need for such an instrument to be considered by delegates at future meetings.[103] While not much progress has been seen yet, the mere fact such machinery exists to inspire such debates is an encouraging sign.

PART II

A NEW GENERATION OF ENVIRONMENTAL PROBLEMS

In this section, we seek to both identify and outline some of the key environmental issues IEL will need to come to grips with in the coming years. As environmental problems continue to exist begetting further issues, or new environmental problems manifest themselves, IEL will need to be nimble to deal with a new generation of 'wicked problems' that will test global societies' ability to respond. Issues to be examined here include the problem of plastic pollution befouling the oceans, the food chain and the atmosphere; the issue of phytoplankton depletion and its implication for the oceans and all life on the planet; the thinning ice in the Arctic region which will potentially lead to a race to exploit the mineral and biological wealth of the area; and the issue of anthropogenic climate change 'displacement' where people are forced to leave their habitat either temporarily or permanently due to anthropogenic climate change or environmental degradation such as desertification.

PLASTIC POLLUTION

In the twentieth century plastics[104] became ubiquitous globally. They were marketed as the miracle product, lightweight, cheap and available in a myriad of forms for countless uses. The first form of plastic material, Bakelite, was created by Belgian chemist Leo Baekeland in 1907.[105] However, it was not until after WWII that mass production of plastic (both durable and disposable) to meet the ever-growing consumption needs of a bulging global populace came into its own.[106]

But such ready acceptance into global society has come at a price that is only now beginning to be recognised. Plastics clog our waterways and oceans, foul the land and are even to be found in micro-form in the air we breathe. The world has sought to move away from the over-reliance on this product by introducing alternatives but the need to deal with plastic pollution has been stymied by ineffective legal and regulatory mechanisms at both the domestic and global level.

A study published in 2017 highlighted that between 1950 (the start of the mass production of plastic items) and 2015 a total amount of 7,500 million metric tonnes (MT) of virgin plastics have been produced of which only 30 per cent of this total amount is still currently utilised with the rest ending up discarded into the biosphere.[107] In 2016, 335 MTs of plastic material was produced worldwide (up from 322 MTs in 2015).[108] To compound the problem, 50 per cent of that material is single use, disposable plastic, e.g. packaging and disposable consumer items.[109] With the ever-increasing growth of human population and concomitant consumption, these figures will only rise in magnitude without an alteration in legal, regulatory and personal approaches.

The issues of microplastic and nanoplastic pollution have recently made headlines around the world as scientists have begun to understand their impact on the global environment. Microplastics can be distinguished as being primary or secondary products.[110] Primary microplastics are manufactured plastics of microscopic size, for example, exfoliating particles, industrial pellets or nurdles – feedstock for manufactured plastic products.[111] Secondary microplastics are fragments or fibres of macro plastics caused by the breakdown of larger plastic products[112] gradually due to photodegradation.[113] Currently, these secondary microplastics are the predominant type of plastic pollution.[114]

Nanoplastics have also become an emerging environmental concern, due to industrial developments being combined with the further degradation of microplastics.[115] Problematically, plastic nanoparticles are more likely to accumulate in the body at the intracellular level which negatively affects the cellular processes of living organisms.[116] As has been noted, plastic is a problem, "that gets bigger, the smaller it becomes."[117]

Atmospheric plastic pollution

While the majority of plastic pollution is a domestic issue, scientists have confirmed that microplastics have become an extra-territorial problem. Recently for the first time, plastics have been detected in the atmosphere, heightening

fears over the omnipresence of plastics in the global ecosystem. There are two main types of airborne microplastic that have been identified. Synthetic fibres are directly or indirectly released as the clothing wears or during the washing and drying process. Globally, approximately 60 million metric tons of synthetic, plastic textile fibres were created in 2016. The other main source results from the chopping or grinding of synthetic material, e.g. car tyres, that result in fine microscopic particles being released.[118] Both types of pollution have been observed in atmospheric fallouts, as well as indoor and outdoor environments across the planet.[119]

Plastics in the food chain

Plastic waste has now infiltrated the human food chain, potentially posing serious health risks.[120] Microplastics, including microfibres, are being ingested by a variety of living organisms, including fish that mistake the plastic for its food source, for example, plankton.[121] Microplastics have been reported in seafood,[122] sugar,[123] beer,[124] and salt.[125] When consumed, this waste can potentially cause physical damage in living beings leading to cellular necrosis, inflammation and lacerations of tissues in the gastrointestinal tract.[126] Microplastics can also increase the toxic load in organisms ingesting it. The chemical structure of plastic particles allows them to absorb hazardous chemicals, such as Persistent Organic Pollutants (POPs), onto their surfaces.[127] Plastic pollution also has been found to affect terrestrial ecosystems too.[128] In fact, microplastic contamination on land is estimated to be between 4 and 23 times larger than oceanic waste[129] and agricultural soils could potentially store more microplastics than oceanic basins.[130]

Oceanic plastic pollution

In 2010, it was estimated between 4.8 and 12.7 million tonnes of plastic waste found its way into the ocean[131] and it is predicted that this number could increase by a factor of ten by 2025.[132] It is currently the most visible manifestation of the problem with photos of 'plastic islands' of waste in the Pacific Ocean appearing.[133] Macroplastics are the most obvious form of marine pollution and have the most visible impact both because of their size and because they degrade over time into microplastics. Floating plastic macro-debris represents a navigation hazard in that it can entangle propellers or block water intakes.[134] The global tourism industry has also been significantly affected by marine litter (as well as being a major contributor to the problem). Regular beach cleanups are required to maintain attractive beaches for tourists (as tourists tend to avoid beaches polluted by plastic trash)[135] generating immense economic costs.[136] The global fishing industry has seen damage to fishing vessels and equipment (such as additional costs associated with plastic litter removal from fishing nets)[137] and contamination of catches by plastic debris.[138] One study showed that in the 21 economies of the Asia-Pacific rim region, marine debris-related damage could potentially cost US$1.26 bn per annum in 2008.[139]

The accumulation of plastic debris has also seen macroplastics discovered on the seafloor that potentially could degrade benthic habitats and impact organisms living on the seafloor, for example, coral reefs and seagrass.[140] The annual damage caused by plastics to marine ecosystems has been estimated to be approximately $US13 billion.[141] Moreover, plastic trash damages and kills wildlife, including marine mammals and birds at unprecedented levels.[142]

Global response to date

The UN Environmental Assembly (UNEA) made global plastic and microplastic waste the subject matter of two resolutions in 2014[143] and 2016.[144] The UNEA understands that the problem of plastic waste is a "rapidly increasing serious issue of global concern that needs an urgent global response."[145] Planetary plastic waste was also one of the core subjects of the Third UNEA Meeting in Nairobi in December 2017. The UNEA Report on marine plastic litter and microplastics, which was prepared for that meeting, proposed two solutions to global plastic pollution.

First, to attempt to resolve the issue under the existing framework of international, regional and sub-regional environmental instruments. For example, the factors affecting microplastics behaviour and transport in the atmosphere are similar to those of fine particulate matter.[146] The *Convention on Long-range Transboundary Air Pollution* (CLRTAP) could have its scope expanded as its Gothenberg Protocol (*Protocol to Abate Acidification, Eutrophication and Ground-level Ozone*) was expanded to cover fine particulate matter (PM 2.5) in 2012. However, the report highlighted that the system is fragmented and filled with major gaps. To overcome these flaws the report noted that a high level of coordination and scope expansion would be required to reduce the gaps in these disparate instruments.[147]

Second, the international community could adopt a new international legally binding instrument that would regulate the global plastics industry. Such an approach would see a cohesive and robust approach to the issue by "targeting urgent and significant global curtailment in the leakage of plastic waste into the environment."[148] A novel instrument could complement existing conventions and provide global certainty to the global plastics industry, as in the case of ODS and the global chemical industry.[149]

However, hope that the international community would adopt the second approach failed when the delegates to the Third UNEA Meeting could only agree to a non-binding resolution.[150] The UN *Resolution on Marine Litter and Microplastics* merely seeks, by 2025, to, "prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."[151] This maps onto *Sustainable Development Goal* 14 and its target 14.1, which seeks, by 2025, to, "prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."[152]

The UN Resolution did not introduce any hard targets, reflecting the current stance of global society that while the problem is complex and acute, further inquiry

is needed before a new international environmental treaty can be countenanced. At this stage, states, particularly the US, China and India who allegedly were most vociferous in speaking against binding targets, are more comfortable with voluntary action at the domestic level.[153]

The Ocean Plastics Charter

In June 2018, in the absence of a global binding instrument on plastic pollution, five members of G-7 plus the European Union signed the *Ocean Plastics Charter* in Charlevoix, Canada.[154] The Charter calls for 100 per cent of all plastics to be recyclable and all manufactured plastics goods to have at least 50 per cent recycled content by 2030.[155] However, two key producers of plastic, the US and Japan, have yet to sign the Charter.

The call for a new international instrument dealing with marine plastic pollution is becoming more frequent, and is clearly on the UN's agenda. The Ad Hoc Open-ended Expert Group on Marine Litter and Microplastic was established in 2017 after the third UN Environment Assembly. The Expert Group has been created to identify the range of appropriate national, regional and international responses including the possibility of creating a new global mechanism to curb the plastic pollution.[156]

PHYTOPLANKTON

In the last decade, the issue of phytoplankton protection[157] has been raised by scientists as requiring urgent global attention and action. In many ways phytoplankton is essential to life on this planet, given its key role in both oxygen generation and as a food source for marine species.[158] The term's etymology derives from the Greek 'phyto' for plant and 'plankton' to drift but they are actually microscopic marine algae.[159] Phytoplankton's ecological niche is as the foundation of the marine life cycle as they are the food source for zooplankton, the direct or indirect food source of all marine life.[160] The species also generates, scientists estimate, between 50 and 70 per cent of all oxygen as well as acting as a carbon sink.[161]

Recently, scientists have been begun to be concerned that phytoplankton is under threat from anthropogenic climate change and concomitant issues of ocean warming and acidification. Coupled with exploitative fishing practices, ever-increasing marine pollution and the introduction of invasive alien species the species is at risk of extinction with potentially dire consequences for the marine ecosystem which many species, including humans, rely on to exist.[162] The first warning shot was fired in an article in *Nature* which pointed out that estimates were that phytoplankton had declined 40 per cent since 1950.[163] This paper acted to galvanise scientific concern over this important species and while a rebuttal paper was published shortly after,[164] many marine biologists remain concerned over the loss of such a species.

While the science is not yet determined as to how big the potential percentage loss of the species is,[165] it is clear that the species is being badly affected by

anthropogenic action and, given the potential ecological catastrophe for marine life if the species is severely degraded or rendered extinct, it is clear that global society needs to act. There are a number of ways the international community could choose to respond. Decision-makers could seek to remedy the issue under the UNCLOS regime framework. The Convention, which has a mandate to protect and preserve the marine environment (Part XII) under Articles 61–68, is tasked with conserving and managing marine living resources. Alternatively, the *Convention on Biological Diversity* does have an ambit over marine biodiversity and marine genetic resources. However, this would require UNCLOS member states to cede their mandate in the area since Article 22(2) of the CBD states: "Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea."[166]

A species-specific convention and associated instruments creation process could be undertaken by the global community that focuses on the issue of phytoplankton loss exclusively. This could be the preferred option since such an approach is more likely to garner publicity for the serious nature of the issue but functionally a protocol under UNCLOS would be the easiest approach, given the nature of the organisation and the marine biologic epistemic communities that have developed under their auspices over the last few decades which will be needed to identify both the nature of the problem and potential scientific solutions. Whichever method is adopted, given the potential level of threat to the planet's biosphere of not acting in a timely fashion (on a par with the loss of the ozone layer), a precautionary approach to the problem would dictate a rapid response from global society.

THE ARCTIC REGIME

Since the dawn of the twenty-first century, the Arctic region has become increasingly significant to an increasing number of state and non-state actors that previously had little interest in the area, due to its increasing availability as a shipping route and its potential mineral and biotic resources.[167] The Artic territory is the northernmost part of the planet. While the exact definition of the area is in dispute it is generally considered to be the geographic area above the Arctic circle (66 degrees 32' N). It is home to approximately four million people and touches the northern territories of the USA, Canada, Russia, Denmark, Norway, Sweden, Finland and Iceland. The region has 21,000 known species and is home to unique species such as the polar bear and Arctic fox.[168] As in Antarctica, the region has for decades been a site of global scientific, artistic and educational cooperation between both states and other global civil society actors.[169]

Throughout the Cold War, the Arctic was divided between the two superpowers. The US was joined by its NATO allies (Canada, Denmark, Iceland and Norway), with the USSR on the opposing side.[170] The Arctic has therefore often been a battleground between global and regional forces.[171] The states that occupy

the Arctic region are not a unified group, but rather a collection of states that are bound only by climatic and environmental features.[172] The Arctic is however, not completely dissimilar from other regional areas throughout the globe that face increasingly complex interdependence issues which prevent multilateral cooperation and facilitate regional crises.[173]

Accessing the area and its potential resources

For centuries' the Arctic was covered in ice for the majority of the year, so states bordering on the Arctic did not actively assert their claims over the region immediately following the establishment of UNCLOS. Over time, Arctic states did begin exploring their maritime claims and subsequent borders with other states. These claims did however come with some challenges, as was seen in the Beaufort Sea, on the US and Canadian maritime border, with the competing claims to the area still ongoing today.[174]

Problematically, anthropogenic climate change is thawing the Arctic tundra and lowering the volume of sea ice.[175] Ice melting in the Arctic has implications for resource access, as fish stocks and natural resources which were previously inaccessible due to the ice are now able to be accessed and exploited.[176] The loss of the ice has had a substantial impact upon the native fauna in the Arctic, for example, the polar bear was listed as a threatened species in 2008 by the US Department of the Interior. Arctic flora is now under threat from competing species which have begun to populate the Arctic and sub-Arctic due to the warming temperatures. Further, the indigenous people of the continents that border on the Arctic are having their traditional lifestyle and culture irreducibly altered. These people will potentially need to be resettled elsewhere as the melting of the ice is likely to significantly reduce their access to wildlife for hunting which their way of life relies on.[177]

The reduced ice pack is further opening up the region to competing territorial land and sea claims to oil, gas and valuable minerals such as nickel. It is also opening up new shipping routes and could lead to greater eco-tourism of the area with a potentially deleterious impact on the relatively fragile ecosystem.[178] Researchers have determined that that there is a significant amount of the globe's undiscovered oil and gas reserves within the Arctic Ocean.[179] An American geological survey estimated that there is 90 billion barrels of oil in the Arctic circle that has the potential to be recovered, emphasising the richness of the region.[180] These hydrocarbon resources are not only plentiful but are in a region that has, to date, no ongoing political conflicts.[181] The extraction of these resources has significant consequential impacts for the Arctic environment.[182]

The thinning ice is also opening up new shipping routes and potentially greater cruise ship eco-tourism of the area.[183] This has led to a concomitant surge of economic activity in the region, which has led ENGOs to become increasingly concerned about the consequential ecological effects of such activities on the fragile environment as shipping companies become increasingly aware of the benefits of using the Arctic for intercontinental and coastal commerce.[184]

Managing the regime

Since the beginnings of the twentieth century, state actors interested in the region have pushed for five central principles that have underpinned their efforts in the Arctic.[185] These include "sustainable development of resources of the region, enhanced benefit to the local northern residents from such efforts, broad participation in decision-making processes affecting Arctic affairs and, finally, the importance of cooperation rather than conflict as the means for realising these objectives."[186] As with Antarctica, the region has often privileged scientific cooperation, even between states that were traditionally rivals. For example, in 1990, the International Arctic Science Committee was established by a group of Western and Soviet scientists who collaborated in an attempt to improve the compatibility of data compiled with regard to the Arctic Ocean.[187] Since the late 1980s, the five Nordic states, along with Canada, Russia and the US, have sought to establish cooperative action with regard to the Arctic.[188] This has been seen through the adoption of the 1991 Arctic Environmental Protection Strategy and the creation of the 1996 Arctic Council.[189]

Despite the 1973 agreement regarding the conservation of polar bears – which was considered ground-breaking – there has not been a history of regional or multilateral collaboration by states with regard to the Arctic zone. The establishment of the *Geneva Convention on the Law of the Sea* in 1958 and the *United Nations Convention on the Law of the Sea* in 1982 provided states with legitimacy to the maritime zones that extended to offshore land masses. These Conventions meant that part of the Arctic Ocean could be classified as national territory through the 200 nautical mile exclusive economic zone or a continental shelf, which could extend 350 natural miles.[190]

The management of the Artic has historically been left to the states whose territories border on the Arctic circle or extend north of the circle.[191] As these states have often not disputed their neighbours' claims, there was previously little incentive to establish multilateral cooperation to overcome regional issues.[192] There is an institutional body, the Arctic Council comprising the eight Arctic states, which traditionally has focused on issues related to the environment, social issues and emergency response protocols. It is open to observers from other states and global civil society actors. Uniquely among such bodies, it allows for the permanent inclusion of indigenous people's groups and currently six groups are integrated into the regime.[193]

Observer status to the Council proceedings is split into permanent and *ad hoc* observers. After the five Asian states and Italy were admitted in 1996, the Council became more cautious in admitting new members as they were concerned about a larger number of observers interfering with the business that was discussed by the Council. For example, France was admitted to other organisations concerning the Arctic, such as the International Arctic Social Science Association and the Circumpolar Conservation Union, but not as an observer to the Arctic Council.[194] ENGOs such as Pew have also been allowed as *ad hoc* observers and have proven effective in getting their ecological priorities considered

by the Council, which has generally been receptive of bodies espousing a 'caring' ethic for the region.[195]

Indigenous organisations representing the indigenous peoples of the region have been permanent participants on the Arctic Council going back decades.[196] Originally, they were accorded 'observer' status until in 1992 Walter Slipchenko, a civil servant and diplomat, argued that, given their centuries-old connection to the region, indigenous people needed to be provided with greater status than the mere observer status that other non-state members were granted. Thus, they were granted the position of 'Permanent Participant' which would ensure access and participation for all discussions that occurred, at every level, of negotiations. To support this designation, an Indigenous People's Secretariat was established.[197]

The Arctic Council has moved from its initial establishment as a high-level consultative forum designed to facilitate cooperation in the region and promote peace, to become an emerging regional organisation which can assist member states in managing collective actions in the region. The Council regularly deals with balancing the interests of the eight Arctic states and non-Arctic states who often have differing or conflicting interests. These clashing interests are encapsulated as being between states who are seeking greater environmental protection of the Arctic Ocean and those states which are pushing for a greater human presence and economic activity in the region.[198]

The Council and related institutions have traditionally adopted a soft-law approach to governing rather than seeking to impose concrete requirements on member states. They have tended to focus on building a body of scientific knowledge to better enhance their capacity to monitor the Arctic.[199] While its proclamations, given its soft-law approach, have generally been non-binding in nature, this changed in 2011 when the binding *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* was agreed to by the member states.[200] Its governance structure is considered by many observers to be fragile, given the piecemeal institutional arrangements currently operating. The adoption of a more robust treaty regime modelled on the Antarctic Treaty structure has been advocated by some observers but to date, the idea has failed to gain traction.[201]

Powerful members of the Arctic eight, such as the US, Russia and Canada, have proved unwilling to relinquish their own national interests in the area. These states have been evincing a growing interest in laying claim to the Arctic seafloor in the hope of being able to extract hydrocarbons. In 2007, Russian submarines installed their nation's flag on the Lomonosov Ridge at the North Pole, leading to a high degree of international concern.[202] In response to this, Canada's Minister for Foreign Affairs claimed, "[t]his isn't the 15th century. You can't go around the world and just plant flags to claim territory."[203]

The Ilulissat Declaration

Following Russia's claim to parts of the Arctic seafloor, a meeting in May 2008 in Greenland sought to emphasise the obligation of the members of the Arctic 5

(Canada, Russia, Denmark, Norway and the US),[204] to be responsible and cooperative actors within the region. The Meeting produced what has come to be known as the 'Ilulissat Declaration'.[205] The Declaration claimed that,

> the law of the seas provides for important rights and obligations concerning the delineation of the outer limbs of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research and other uses of the seas.[206]

The Declaration claimed that due to the sovereign rights afforded to each member of the Arctic 5 they were in a unique position to ensure that the possibilities and subsequent challenges within the Arctic were addressed properly. The Declaration sought to reinforce the legal frameworks concerning the Arctic in response to overlapping claims, which was to be implemented domestically in each of the five states. The statement concluded by emphasising that there was no need for a further international regime to govern the Arctic, provided that states complied with the already existing law.[207]

The Declaration was perceived by the international community as stating that the Arctic 5 states had arrogated to themselves jurisdiction over territorial waters and sovereign rights over exclusive economic zones and outer continental shelves in the region. However, Iceland, Finland and Sweden and indigenous groups were unhappy that they were not invited to participate in the meeting that composed the Declaration. The Declaration is considered by these stakeholders and many others to be highly problematic in its assertion of rights to the region, particularly with regard to the opening up of the Northwest Passage and Northern Sea Route, which open up new, faster shipping routes.[208]

Non-Arctic state interest

Recently, states with territorial claims to the region are being joined by non-claimant nations such as China and India in seeking to gain benefits from the purported resource wealth.[209]

Non-Arctic states are taking an interest in the ocean region's affairs, such as carrying out high-profile research programmes in the area. They have also started to become involved in the development of Arctic policies relating to commercial fishing and shipping which is permitted under the terms of UNCLOS.[210] There is concern from such states that there is a developing 'race for resources' in the region and if they are not involved they risk being prevented from exploiting the newly available wealth of the region managed properly.[211] Further, industrial actors with an interest in natural resources or shipping in the Arctic are concerned that there might be restraints placed on their activities due to climate change effects which, if carried out, could potentially inflame inter-state tensions.[212]

After the 2013 Arctic Council meeting, it was announced that there would be new members admitted to the Council as observers. These included China, India, Italy, Japan, Singapore and South Korea. The admission of five new Asian states

illustrated a shift in membership from states purely impacted geographically by the Arctic, to including the larger international community. These new entrants to the Council had to endorse the Arctic Council as the chief intergovernmental body for issues regarding the Arctic, such as economic progression and environmental stewardship, while acknowledging sovereign and indigenous claims to the region by the eight Arctic states. States were also able to make claims to become actively involved in the region.[213]

An Arctic treaty?

There has been discussion, particularly amongst academic observers, as to whether an Arctic treaty, based on the Antarctic Treaty model, could and should be implemented.[214] The Antarctic Treaty System has provided for the peaceful management of the Antarctic for over 50 years. As we have seen in the Antarctic regime chapter the ATS success has been predicated on incorporating three key elements: 'freezing' competing sovereign claims in Antarctica; promoting scientific research; and prioritising the protection of the Antarctic environment including the surrounding Southern Ocean. The ATS stakeholders have therefore been able to address problems such as illegal unregulated and unreported fishing throughout the Southern Ocean and the issue of mining the region amicably.[215]

Thus, the ATS model could potentially resolve some of the key issues surrounding the newly accessible Arctic area. Firstly, as with Antarctica, pre-existing sovereign claims would be respected. This would help defuse current tensions due to competing sovereign claims to areas such as the Hans Island in the Davis Straight or the access to the seabed beneath the North Pole. Secondly, a resource management and implementation mechanism to deal with competing territorial claims to access to resources would need to be created.[216]

The issue of mining the region will also need to be dealt with at some point. While mining is generally permitted in the Arctic, various questions must be considered by multilateral bodies and organisations that seek to manage the Arctic, such as:

> how Arctic communities and ecosystems are taken into account in the permit conditions; how indigenous and local rights are protected from the adverse impacts of mining; how worker safety is ensured in the operation of the mine; and who will reap the benefits and who will pay the costs resulting from the mining operations?[217]

ENGOs are already gearing up to mount a campaign to prevent such exploitation from occurring. In Kiruna, Sweden, in May 2013 the Arctic Council faced protests from environmental activists such as Greenpeace demanding a declared end from the Council to mineral-based exploitation in the Arctic. These protests were also supported by remote communities, e.g. the Swedish Sami, that were concerned over the potential impact of mineral mining on their way of life.[218]

If mining does proceed, potentially the CRAMRA text could be used as a template to ensure equitable access to mineral resources and shipping routes. As with the ATS, environmental protection and scientific research principles could be embedded in an Arctic treaty. It would also have to provide a voice for the indigenous peoples of the region by giving their representative groups a say in the management of the regime. Any agreement would also have to account for non-Arctic states gaining access to the region's resources but also would have to constrain their behaviour if necessary. Any such treaty would allow the various existing frameworks established by the Arctic Council to be incorporated under one single, new umbrella regime.[219]

Over the next few years, protecting the environmental resources of the Arctic region, in the face of the stated desire by many states to exploit the region more fully, will prove a difficult and complex task for policy makers and the broader global community. Future cooperation on the Arctic ocean will need to face new and ongoing challenges in regard to the opportunities – economic in particular – found within the Arctic and increasing interest from non-Arctic states and actors.[220] In observing basic principles, the multilateral action can expect future growth and development, and therefore ensure positive results of collaborative action.[221]

ENVIRONMENTAL DISPLACEMENT

Throughout history, environmental degradation, including drought, desertification, environmental contamination and other impairments, has contributed to human displacement.[222] In 1985 UNEP researcher Essam El-Hinnawi identified "those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life" as "environmental refugees."[223] With the increased recognition of the environmental impact of climate change in the 1990s, the global community has increasingly recognised the potential for displacement of human populations whose homes have become unviable – either for a period of time or indefinitely – due to environmental degradation.[224] Because it is difficult to parse climate-specific impacts from the broader environmental conditions that climate change exacerbates, it is useful to consider climate-induced migration within the broader context of environmentally induced migration.[225] Thus, "[t]he relevant distinction is not the character of the disaster, but rather whether it triggers displacement, understood as the (primarily) forced movement of persons as opposed to (primarily) voluntary migration."[226]

The speed of environmental displacement

Environmental displacement can be triggered either by "fast onset" events, such as floods or hurricanes, or "slow onset" phenomena such as desertification, sea-level rise or drought, and their related impacts on food resources.[227]

Other natural disasters potentially triggering migration include earthquakes, landslides, salt water intrusion, glacial melting, glacial lake outburst floods, and melting permafrost.[228] The specific type of environmental issue may determine whether displacement is permanent, as with desertification, or temporary, as in the case of a tsunami or other disaster, after which displaced persons may return home.[229]

As explained by Rina Kuusipalo of the World Bank, the linkages between environmental phenomena and displacement

> are delineated by former UN Representative on the Human Rights of Internally Displaced Persons, Walter Kälin, as: (1) intensified sudden-onset natural disasters, e.g., storms; (2) slow-onset effects on livelihoods, e.g., chronic drought; (3) regions becoming uninhabitable or incapable of supporting livelihoods, e.g., submerging island states; (4) regions designated environmental high-risk zones; and (5) conflict stemming from resource-scarcity fueled by climate change. Climatic displacement caused in these ways usually transforms from temporary to permanent displacement due to the exacerbated frequency or intensity of a climatic event (e.g., declining agriculture due to temperature extremes) or the irreversibility of the climatic event (e.g., sea-level submersion).[230]

The human consequences of environmental migration can be stark, as in the Sahel in the 1970s and 1980s, which suffered a drought that "left roughly 80 million people in a semi-starving state. Of these 80 million, roughly 7 million individuals migrated to other nations in order to obtain food relief."[231]

The potential for increase in environmental displacement has been recognised by the international community both within and outside of the UNFCCC system, including by the IPCC in 2014.[232] A comprehensive study in 2019 by international economists and statisticians evaluated asylum applications from 157 countries and concluded that "climatic conditions, by affecting drought severity and the likelihood of armed conflict, played a significant role as an explanatory factor for asylum seeking in the period 2011–2015."[233] The United Nations High Commission on Refugees (UNHCR) has reported that there are 59.5 million people situated in "climate change hotspots" around the world who "face the risk of secondary or repeated displacement due to natural hazards and the effects of climate change,"[234] and that between 2008 and 2015 more than 203.4 million people were displaced by natural disasters. UNHCR expects that number will increase in the future.[235] And, the Nansen Initiative on Disaster-Induced Cross Border Displacement (Nansen Initiative), a state-led initiative to address environmental displacement, has identified at least 50 countries that in recent decades have received or refrained from returning people in the aftermath of disasters.[236] The impact of environmentally induced displacement will fall disproportionately on developing countries least capable of responding in a way that would mitigate the desire or need to migrate.[237]

Political instability

A significant aspect of environmental migration is its potential impact on national security. Professor Norman Myers of Oxford has warned the Organization for Security and Cooperation in Europe that environmental migration "generates myriad problems of political, social and economic sorts. As such, it could readily become a cause of turmoil and confrontation, leading to conflict and violence," particularly if access to resources becomes an issue.[238] Similarly, in its 2014 Climate Change Adaptation Plan, the US Department of Defense found that

> [t]he impacts of climate change may cause instability in other countries by impairing access to food and water, damaging infrastructure, spreading disease, uprooting and displacing large numbers of people, compelling mass migration, interrupting commercial activity, or restricting electricity availability. These developments could undermine already-fragile governments that are unable to respond effectively or challenge currently stable governments, as well as increasing competition and tension between countries vying for limited resources. These gaps in governance can create an avenue for extremist ideologies and conditions that foster terrorism.[239]

At the same time that these risks are created, security forces may be increasingly stretched thin as they are deployed to support in-country disaster relief.[240] The challenge may be heightened in cases where environmental disasters have impaired home countries' and migrants' access to identification and other documentation utilised to enhance security.[241]

A secondary humanitarian challenge is the populations who lack the resources to leave areas with a seriously degraded environment, and are therefore "trapped." The number of individuals who cannot migrate from degraded areas has been projected to potentially be in the tens of millions by the middle of the twenty-first century. In addition to suffering from a degraded landscape, these "trapped" populations suffer from the departure of the skills and resources of those who were able to migrate away.[242]

Environmental displacement in the context of global displacement

The environmental migrant issue must be looked at within the context of overall global human displacement, which the UNHCR claims reflects "the highest levels of displacement on record. This involves an unprecedented 68.5 million displaced, including more than 25 million refugees, with nearly one person forcibly displaced every two seconds."[243] The crisis of environmental displacement appears likely to get worse, but it will remain a growing component of a larger crisis placing "unprecedented" strains on our global refugee infrastructure.

Although displaced persons impacted by environmental degradation are occasionally termed "environmental refugees" or "climate refugees," this nomenclature has proven problematic because they generally do not fit within the international legal definition of "refugees."[244] Under the *Convention and Protocol Relating to the Status of Refugees* (Refugee Convention), refugees are individuals with a "well-founded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group or political opinion."[245] It is difficult to conceptualise environmental refugees as fearing persecution due to their beliefs or membership in a particular group.[246] Moreover, movement in pursuit of refugee status is often triggered by a complex set of economic, security, environmental and other factors. While environmental phenomena may factor into this complex set, it may not be accurate to define individuals as "environmental refugees" if other factors also contributed to the displacement.[247] The Nansen Initiative recognises that "disaster displacement occurs *in the context* of disasters, including the impacts of climate change, rather than being exclusively caused by a disaster."[248] Some individual states, however, do provide specific protections for refugees impacted by environmental disasters under national law.[249]

While the "refugee" status of persons displaced by environmental degradation is unsettled, the international community has attempted to reach agreement on treatment of these persons in a wide variety of forums.[250] Within the UNFCCC system, environmental displacement has been discussed since the 1990s.[251] The UNHCR established a Task Force on Climate Change in 2008 to address environmental displacement and thereafter increased participation in UNFCCC activities.[252] UNFCCC COP16 in 2011 adopted the Cancun Adaptation Framework, which invited parties to provide "[m]easures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels"[253]

In 2012 the governments of Switzerland and Norway launched the Nansen Initiative, a state-led process to build consensus on how to address the gap in international law for people forced to flee the impacts of disasters. In 2015 109 government delegations endorsed the *Nansen Agenda for the Protection of Cross Border Displaced Persons in the Context of Disasters and Climate Change* (Nansen Initiative Protection Agenda).[254] While this level of support is impressive, the Nansen Initiative proposed only somewhat anodyne measures, including gathering more information, increasing humanitarian responses for displaced persons and increasing resiliency in the displaced persons' home countries.[255]

Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts

The 2013 UNFCCC COP19 in Warsaw established the *Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts* (WIM).[256] Action Area 6 of the WIM's 2014 Executive Committee Plan had the objective to "enhance the understanding of and expertise on how the

impacts of climate change are affecting patterns of migration, displacement and human mobility."[257] The 2015 COP 21 decision in Paris requested the WIM to establish a Task Force, "to develop recommendations for integrated approaches to avert, minimise and address displacement related to the adverse impacts of climate change."[258] The WIM Task Force on Displacement (TFD) was established in 2017, and in 2018 published a report addressing UN institutional frameworks and mandates relevant to the TFD's objectives.[259] This Report found that, while a vast array of UN organisations both inside and outside of the UNFCCC were discussing or taking action on environmentally related displacement, the UN's efforts were hampered by a lack of leadership primacy to allow for coordination and prioritisation of these efforts.[260]

United Nations approach

This challenge parallels that in other substantial IEL issues, in that their breadth exceeds mandates of individual UN programmes.[261] The UN has sought to coordinate its environmental displacement efforts through such measures as the *System Strategic Approach on Climate Change Action*.[262] This Strategic Approach of the UN Chief Executives Board for Coordination deploys mechanisms to allow the UN to "deliver[] as one" on Impact Areas through its diverse programmes.[263] Under its Impact Area of "Nexus of climate change, sustainable development, peace and security, human rights and humanitarian issues" the Strategic Approach includes coordinating across the UN and with non-UN parties on understanding of and response to disaster displacement.[264] Some argue, however, that given the shortcomings of the Refugee Convention, existing mechanisms are insufficient and a new convention specifically protecting environmental refugees is needed.[265] What is clear is that the scope of the environmental displacement crisis suggests that the international community will continue to struggle to provide coordinated assistance in this area.[266]

CONCLUSION

International environmental law is at another inflection point. For the first 40 years it grew to encompass hundreds of regimes with thousands of instruments, all dedicated to improving the global environment. However, it is clear that in many cases, IEL is failing in its mission to protect the planet's ecosystem.

It appears that we are in a period of consolidation as we seek to improve the robustness of the regimes we have built. It is clear that many regimes lack proper enforcement and compliance procedures and remain closed to non-state actors. The template for action is well known to achieve optimal environmental outcomes. Regimes like ozone and Antarctica demonstrate a 'best practice' approach that can be implemented in all other global environmental regimes. It must also be noted that the system of discrete global environmental regimes has, in the vast majority of cases, failed.

The era of the large multi-state IEL conferences, with thousands of non-state actors, appears to have run its course. Rather, as we have suggested, optimal results may be achieved with critical states coming together and leading the way. While this may encourage a 'democracy deficit' as non-key states are excluded, it is clear that the current system overwhelms the decision-making process, all too often leading to 'lowest common denominator' outcomes and paralysis.

It is time to try a new approach of merging environmental regimes, and absorbing private regimes, where there are intersections, particularly around scope, enforcement and compliance. It is heartening to see the many IOs (IWC, Secretariat to the CBD) which have taken on board this task as the future direction of their mission statements but we are only at the early stages. Much work needs to be done quickly if we are to arrest problematic environmental metrics such as accelerating global biodiversity loss.

Given the nature of the global environmental problems facing humanity it is imperative that decision-makers, international environmental lawyers and academics go beyond traditional approaches and tools and draw from experts in multiple fields to resolve these problems.[267] Particularly, given the nature of the problems faced, they need to work closely with area-specific scientists and process experts to give decision-makers viable, timely alternatives to resolve these issues.[268] The role played by ENGOs in monitoring state behaviour will also be critical.

Decision-makers in global forums are rarely enamoured of theory, let alone questions of jurisprudence: they seek mechanisms that are effective. If they perceive a regime can resolve an issue, they rarely are concerned about questions around the erosion of their state sovereignty. The issue for IEL theorists is to design regimes that marry real world political and ecological needs together.[269]

As we have noted, there are still new 'wicked environmental problems' emerging through ignorance or as a byproduct of our way of life that will have to be dealt with. These include issues such as plastic pollution, phytoplankton loss, the opening up of the Arctic for travel and potential mineral exploitation and the vexed question of how to deal with potentially hundreds of millions of environmentally displaced people. The solutions to these issues, indeed to all global environmental problems, are questions of political will. As Thomas Carthers acidly observed, "The primary obstacles to [rule of law] reform are not technical or financial, but political and human."[270] This is never more so the case than with respect to the global environment. The roadmap to follow is fairly clear – as a race we just need to continue faster on the journey.

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