

Competition and Cooperation on Environmental Issues in Asia and the Pacific

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I. Introduction

Why and how do we see the complex interplay of competition and cooperation on environmental issues in Asia and the Pacific? The Asia-Pacific region has been the growth center of the global economy, and the center of the great acceleration in the destruction of the natural environment. Therefore, it is important to understand how competition can be transformed into cooperation. The introductory section overviews the evolution of competition and cooperation in environmental issues and a framework of analysis. The following sections analyze the cases of climate change, biodiversity, and whaling. The concluding section draws some policy implications.

1. Competition and Cooperation in Multilateral Environmental Agreements

Environmental issues can be roughly grouped into four categories: atmosphere, geosphere, biosphere, and hydrosphere. This article will compare three environmental issues: climate change, biodiversity, and whaling, respectively, as atmosphere, biosphere on the geosphere, and biosphere under the hydrosphere. Environmental destruction is conceptualized as the tragedy of the commons within and across the territorial states, and there are international agreements addressing environmental issues beyond the territorial airspace, land, and waters. Competition and cooperation for the main multilateral

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environmental agreements (MEAs) have been developed with the five UN environmental conferences as thresholds: the UN Conference on the Human Environment (UNCHE) in 1972, the UN Environmental Programme (UNEP)'s Nairobi conference in 1982, the UN Conference on Environment and Development (UNCED) in 1992, the World Summit on Sustainable Development (WSSD) in 2002, and the UN Conference on Sustainable Development (Rio+20) in 2012.

Transboundary environmental problems were the main agenda at the UNCHE. The Convention on Long-Range Transboundary Air Pollution was adopted by the Atlantic countries in 1979, but no equivalent agreement was arranged in the Asia-Pacific region. MEAs on transboundary migratory species, the Ramsar Convention of 1971 and the Bonn Convention of 1979, were also adopted. The US took the lead in forming the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) of 1973, and in adopting a 10-year moratorium on commercial whaling, although the International Whaling Committee (IWC) rejected it in 1972.

The year 1982 saw the increased role of developing countries in multilateral environmental diplomacy. The session of a special character of the UNEP Governing Council was held in Nairobi, where the first UN organization was headquartered in Africa. The World Charter for Nature was also adopted by the UN General Assembly by the initiative of the developing world. In the worldization process of environmental problems, the US and Canada took a mixed attitude. The US initially opposed regulating the ozone-depleting substances but shifted to advancing the Vienna Convention for the Protection of the Ozone Layer of 1985, and the Montreal Protocol of 1987. On the other hand, the US did not sign the 1983 UN Convention on the Law of the Sea and the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. The moratorium on commercial whaling was adopted by the IWC in 1982, but Canada withdrew from the IWC.

Environmental issues have been globalized since the UNCED. While the UN Convention on Climate Change (UNFCCC) and the UN Convention on

Biological Diversity (CBD) were adopted in 1992, a global forest treaty was not adopted and the adoption of the UN Convention to Combat Desertification was delayed until 1994. The US did not sign the CBD in 1992 but signed it in 1993, although it has not been submitted for ratification by the US Senate. The US signed the Kyoto Protocol of 1997, but the US Senate did not ratify it.

After the WSSD, climate negotiations got off track. While the EU and Australia bound themselves to the second commitment period of the Kyoto Protocol, Canada withdrew from it and Japan committed to the Cancun Agreements instead. Japan hosted the Nagoya conference on biodiversity in 2010 when the Nagoya Protocol on Access and Benefit Sharing (ABS) and the Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety were adopted.

The Rio+20 conference provided a new momentum with the adoption of the Sustainable Development Goals, and the Paris Agreement on climate change in 2015 with the cooperation of China and the United States. US President Obama became the promoter for the Minamata Convention on Mercury as well as the Paris Agreement. However, US President Trump declared in 2017 the US withdrawal from the Paris Agreement. Australia submitted to the International Court of Justice (ICJ) a complaint against Japan's scientific whaling, and, in 2014, the ICJ held that Japan should cease all whaling. Japan withdrew from the IWC in 2019.

2. Explaining Competition and Cooperation

Why can the complex interplay of competition and cooperation as such be seen in the Asia-Pacific? Barkdull and Harris (2009) summarize the existing approaches to the study of environmental foreign policy with a matrix of the three basic causal variables (power, interests, and ideas) and the three levels of analysis (society, state, and international system). The three causal variables in the international system are emphasized differently by realism, liberalism, and constructivism. This article hypothesizes that cooperation in forming MEAs can be seen when a sufficient combination of all the three main variables exist at the

system level, whereas competition occurs when at least one necessary variable of a key state and/or society is missing.

The active environmental leadership by the US during the 1970s has faded since the 1980s, in accordance with the relative decline of its hegemonic power. The power transition from the US to China is also to be noted. However, the US still exerts an influence in some MEAs, and therefore a careful understanding of changing contexts will be needed across different environmental issues.

The key players include countries outside the region, especially the EU, which is often regarded as an environmental leader. The United Kingdom's participation in the EU customs union triggered the loss of the preferential trading status of the Commonwealth members, including Canada, Australia, New Zealand, Singapore, and Malaysia, and their shift to the regionalism of Asia and the Pacific. Intensified economic integration of North America also triggered interregional dialogue, as shown in the Asia-Europe Meeting. Thus, Asia-Pacific dynamism is closely related to the EU presence and interests.

Ideas include both norms and scientific knowledge. Since the UNCHE, a series of environmental norms and principles have been recognized, especially related to the three dimensions of sustainable development. As symbolized in the official name of the UNCHE, the conference emphasized the human (social) and environmental dimensions. The emphasis of the Nairobi conference was placed on the environment because it was the UNEP conference. In response to the request from developing countries, the Rio Summit focused on both the environment and development. By the WSSD, the three dimensions—economic, social, and environmental—of sustainable development were widely recognized. The Rio+20 conference reemphasized the environmental and economic dimensions, as shown in the slogan of “green economy.” There was also the recognition of another pillar of the “institutional framework for sustainable development”. Epistemic community theory notes that the unification of scientific and policy communities is the fourth pillar. In a similar way, this article looks at the gap between the two conceptual frameworks: the “limit to growth” model that identifies sustainability as the overlapping of the three

pillars, and the “prosperity within limitations” model that seeks prosperity within the planetary boundaries scientifically identified (Steffen et al., 2015).

II. Climate Change

1. Competition and Cooperation in the UNFCCC

When the UNFCCC and the Kyoto Protocol were negotiated, some key negotiation groups were formed. The Alliance of Small Island States (AOSIS), formed by states threatened by sea-level rise, called for a highly ambitious target for mitigation. The Organization of Petroleum Exporting Countries and China, however, argued that the protocol negotiations were premature and only a small number of developing countries expressed support for the AOSIS proposal. Among the developed countries, the EU, in particular, Germany, took a proactive position and submitted a proposal that included reporting commitments of developing countries and emission-limiting commitments for some advanced developing countries. However, G-77 and China rejected the German proposal. Thus, the principle of common but differentiated responsibility implied for the initial responsibility for developing countries to be exempted. A group of non-EU developed countries, namely, Japan, the US, Switzerland, Canada, Australia, Norway, and New Zealand, was reluctant to strengthen the UNFCCC regime.

A compromise in the Kyoto Protocol negotiation resulted on the cap-and-trade approach. The legally binding cap was set for developed countries to reduce their emission of the greenhouse gases (GHGs) by at least 5% below 1990 levels during the first commitment period 2008–12. Differentiated caps were set, ranging from an 8% decrease to a 10% increase. Flexibility in the Kyoto mechanism included emission-trading, joint implementation, and clean development mechanism (CDM), the last of which was conducted within the territories of developing countries. Projects for CDM were concentrated in China.

A negotiation process for a binding agreement for the period from 2013, that was to be finalized in 2009 in Copenhagen, failed. However, the Cancun Agreements reached in 2010 consisted of the two tracks for a second

commitment period of the Kyoto Protocol and the long-term mitigation framework with the pledge to reduce and review their nationally appropriate mitigation actions. Canada denounced the Kyoto Protocol and Japan, New Zealand, and Russia did not agree to set up their emission reduction targets in the second commitment period, arguing that it did not work because the US and China did not agree to it. The EU and Australia remained to stay for the second commitment period 2013–20, and agreed to make further emission cuts by 20% and 0.5%, respectively.

The Paris Agreement for the period after 2021 was also structured as a pledge and review approach to hold the increase in the global average temperature to well below 2°C above pre-industrial levels through nationally determined contributions (NDCs). These NDCs themselves are not legally binding, and yet the global stock take process every 5 years is legally binding. Global stock take also has a “ratcheting up” mechanism, that requires member countries to assess how their new NDCs should evolve, so that they continue to move forward with a highest-level ambition. The US–China cooperation for the Paris Agreement was already seen in the joint announcement by US President Obama and Chinese President Xi at the 2014 Asia-Pacific Economic Cooperation (APEC) meeting. The US expressed its intention to reduce its emissions by 26%–28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%, while China intended to achieve the peaking of CO₂ emissions around 2030 and to make best efforts to peak early and to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030.

2. Explaining Competition and Cooperation in the UNFCCC

When the UNFCCC was adopted in 1992, China was 10th in the world for GDP. In 1997, when the Kyoto Protocol was adopted, China’s GDP exceeded Brazil and it became the seventh largest. After China entered the World Trade Organization (WTO), its economy rapidly grew and it became the third largest economy in 2007. When the Cancun Agreements were reached in 2017, China

had exceeded Japan and became the second largest economy. In parallel to the economic power shift, GHG emissions trends have also changed. Chinese emissions were almost equal to those of Russia in 1990, but by 1992 China became the second largest emitter. Chinese GHG emissions exceeded EU emissions by 2002 and the US by 2004, making China the largest emitter. Thus, China's cooperative position in Paris can be explained by the significance of its economic power and some responsibility as the current largest emitter.

The precarious position of the US climate diplomacy is explained by a domestic power shift. The Kyoto Protocol, the Cancun Agreements, and the Paris Agreement were all promoted by the Democratic Party administrations. The US withdrew from the Kyoto Protocol and the Paris Agreement when the Republican Party was in power. It should be noted that almost a half of state governors joined a bipartisan coalition of states, the US Climate Alliance, and signed a petition to President Trump to stay in the Paris Agreement. Some of the leading companies in the US also strongly urged the Trump administration to stay in the Paris Agreement, which would benefit US businesses and the economy by strengthening competitiveness, expanding jobs, markets, and growth, and reducing business risks.

When DuPont developed alternative chlorofluorocarbons, the US shifted its diplomatic position from anti-regulation to pro-regulation on the Montreal Protocol. By strengthening the international regulatory regime, the US could create new and more profitable chemical markets for the American chemical company while responding to the demands from environmental movements. This is a typical case of the bootlegger–Baptist model (Yandle and Buck, 2001). Alternative chemicals contributed to easing the stratospheric ozone layer depletion, and yet had high global warming potential (GWP). That is one of the business interests that explains why the US was reluctant to reduce the GHG emissions.

A higher GWP is crucial for climate impact even with a relatively small amount of GHG emissions, while a large amount of GHG emissions is also crucial even with relatively low GWP. In this sense, CO₂ emissions from fossil

fuel combustion are still key stakes in industrial and economic interests for the large-emitting countries. Especially noteworthy is the concentration of the world's top coal producers, consumers, and exporters in the region. China is the world's largest producer and consumer in the global coal market, and India, the US, Australia, Indonesia, and Russia have large interests in exporting coal. While alternative renewable sources of energy supply are growing, they have not yet successfully led to a phase-out strategy of coal and other fossil fuels in the region. The development of US shale oil and gas and Japan's "clean coal" technology is argued to be energy efficient and environment friendly per unit cost, and yet the Jevons paradox can occur if demands also increase. Renewables are much more efficient and effective both environmentally and politically. That is why state-level US governors, and business and civil society leaders continue to increase renewables. By so doing, the US can guarantee future competitive edges in renewables after shale oil and gas are exhausted.

By the 2010 UNFCCC COP-14 in Cancun, the proposals for efficient, fair, and effective mitigation criteria appear exhausted. In the three-pillar model of sustainable development, emissions, GDP, and population represent the three dimensions. In the environmental dimension, emissions should be the criteria for the polluter pays principle. G-77 and China argued that historical emissions since the industrial revolution should be the indicator as this would allow developing countries some space for growth. Developed countries argued that the baseline should be 1990, rather than pre-industrial, due to the principle of nonretroactivity.

In terms of the beneficiary pays principle, the size of populations who have enjoyed socioeconomic benefits by emitting GHGs should be taken into account. A socially bearable indicator that reflects the efforts for energy efficiency of the population could be emissions per capita. In terms of the ability-to-pay principle, the responsibility between developed and developing countries can be differentiated by the economy size. An economically viable indicator that reflects the size of the economy could be emissions per GDP by country. If both population and GDP are taken into account, an environmentally, socially, and

economically equitable indicator could be emissions per GDP per capita. Thus, the debate on the application of the common but differentiated responsibility has become complicated in practice, and eventually, no convergence emerged among member states with different degrees of emissions, population, and economy size. This situation has split the climate change regimes into the Cancun Agreements and the second commitment period of the Kyoto Protocol.

Unlike the emissions reduction targets of the Kyoto Protocol, the Paris Agreement aims at “holding the increase in the global average temperature to well below 2°C above pre-industrial levels.” The 2°C target is not enough, however, both environmentally and politically. The more desirable 1.5°C target, which was strongly claimed by the small island developing states, was degraded as “pursuing efforts.” In addition, the historical responsibility argument calling for the pre-industrial levels as the baseline was reflected in the Paris Agreement. As compared with the cause-focused emission reduction target, the effect-focused target is more environmentally direct and politically agreeable. More importantly, the shift from the three pillars of the sustainable development paradigm to the new cognitive paradigm of planetary boundaries is notable in the Paris Agreement.

A similar cognitive shift can also be seen in China’s approach to “ecological civilization.” The concept explicitly appeared in the 2012 Congress of the Communist Party of China. After the US announced its withdrawal from the Paris Agreement, Xi Jinping further stressed the “ecological civilization” concept and the climate change governance. Without this ideational shift, Chinese leadership in the Paris Agreement would not be possible.

III. Biodiversity

1. Competition and Cooperation in the CBD

The early conventions on conservation, such as the Ramsar Convention and the World Heritage Convention, were deposited with UNESCO. It was in the 1970s when the US took the lead in the CITES negotiations. Conservation biology emerged in the middle of the 1980s in the US. A wider concept of

biological diversity spread into the IUCN and the UNEP, which started intergovernmental negotiations on biodiversity in the early 1990s. In the beginning, the US was cooperative in creating an umbrella treaty, which could streamline the preexisting biodiversity-related treaties. However, when the negotiations resulted in the adoption of the CBD in 1992, US President Bush did not sign it in Rio. In the following year, President Clinton signed it, but the CBD has never been submitted for a ratification vote on the Senate floor. The US has been attending the CBD meetings with observer status.

Without an official membership by the US, little progress was made in the CBD during the first several years. In the 2000s, notable progress was seen with the leadership of the EU and like-minded megadiverse countries. Those being, the Cartagena Protocol on Biosafety adopted in 2000, the 2010 Target adopted in 2002, and the Aichi Biodiversity Targets, the Nagoya Protocol on ABS, the Nagoya–Kuala Lumpur Supplementary Protocol, the last three of which were adopted in 2010. The responses to the tragedy of the commons or *res nullius* — fragile hotspots for ecosystems, red lists of endangered species, biohazard and biopiracy of genetic resources—can be summarized in accordance with the market-based “private goods” approach, the regulatory “public goods” approach, and the cooperative governance approach to new commons or *res communis*. For instance, in managing the pathways of invasive alien species, the blacklist approach contains the species whose introduction is strictly limited and regulated. In contrast, the white list approach contains the species whose introduction may be allowed based on their risk assessment. The preventive and adaptive approach may be called a gray approach, in which both precaution and adaptive changes could be arranged in the changing ecosystem situations.

As for biosafety, when the WTO was launched in 1995, the CBD COP-2 meeting established the *ad hoc* Working Group on Biosafety to start negotiating on a biosafety protocol. The first commercial sales of patented genetically modified tomatoes began in the US in 1994. While advantages of biotechnology were increasingly recognized, its potential risks to biodiversity and human health were also widely shared as a biohazard. Thus, the Cartagena Protocol

explicitly reemphasized the precautionary principle by which the lack of scientific certainty shall not be used as an excuse to postpone preventive measures. The Cartagena Protocol focuses on a series of rules and procedures for the safe transfer, handling and use of living modified organisms (LMOs) because domestic regulations on LMOs and their risk management vary across countries. Faced with the start of LMO export from the US, the EU introduced stringent regulations from the late 1990s. International cooperation on biosafety was also important for many developing countries in domestically implementing such kinds of norms. The negotiations ended without adopting a protocol in 1999 in Cartagena due to the competition among the Miami Group (US, Australia, Canada, Chile, Argentina, Uruguay) of LMO-exporting countries with competitive biotechnology industries, the Like-Minded Group (G-77 and China with large populations and megadiverse hotspots), and the EU. The Compromise Group (Japan, South Korea, Mexico, Norway, Switzerland, Singapore, New Zealand), which had a high level of biodiversity and bioindustries, sought to bridge the gap. The efforts resulted in the adoption of the Cartagena Protocol in 2000 in Montreal.

An unresolved issue on the Cartagena Protocol was international rules and procedures of liability and redress for damage from a transboundary movement of LMOs. After the 6-year negotiations from 2004, the Nagoya–Kuala Lumpur Supplementary Protocol was adopted in 2010. Two outstanding issues related to liability and redress were the concepts of “product thereof” and “financial security.” LMO-importing countries, such as Malaysia and Africa (except South Africa), argued that liability and redress should cover not only LMOs themselves but also “products thereof.” Japan and the EU took the position of a scientific evidence-based mechanism for the liability issue. The phrase “products thereof” was eventually deleted from the Supplementary Protocol (as already included in the Cartagena Protocol), while “a causal link shall be established” between the damage and the LMO in question in accordance with domestic law. Malaysia also supported an administrative approach to “financial security” to cover potential liability exceeding the level of operator’s capacities, while Brazil and

other LMO exporters opposed. The compromise made in the Supplementary Protocol was that the member countries “retain the right to provide, in their domestic law, for financial security ... in a manner consistent with their rights and obligations under international law.”

The Strategic Plan was not mentioned in the CBD, but the COP-6 adopted in 2002 the Strategic Plan to carry out the target “to achieve by 2010 a significant reduction in the current rate of loss of biological diversity.” With the failure of the 2010 Target, the COP-10 adopted the Strategic Plan 2011–2020 with the Aichi Targets, which use the five strategic goals of Cause, Pressure, Status, Benefit, and Implementation, following a holistic framework of Drivers-Pressures-State-Impact-Response (DPSIR) adopted by the European Environmental Agency (Maxim et al., 2009). The Strategic Plan is not legally binding, but the most contentious issue was resource mobilization (IISD, 2010, p. 27). Developed countries preferred innovative financial mechanisms, such as biodiversity offsetting and a Green Development Mechanism, which was modeled after the Kyoto Protocol’s CDM. For developed countries, mainstreaming of the valuation of ecosystem services is also effective for biodiversity conservation, as demonstrated by The Economics of Ecosystem and Biodiversity (TEEB) study (Kumar ed., 2002). In contrast, developing countries opposed the market-based approach, partly because most developing countries had negative experiences of the CDM scheme. The group of Bolivarian Alliance for the Americas strongly opposed the “commodification” of nature, which would result in further environmental destruction and human rights violations. In Nagoya, the concept of an innovative financial mechanism was dropped, while TEEB was used for the Aichi Targets.

The ABS issue remained unresolved for a long time. A panel of experts on ABS was created in 1998, and the WSSD called for the negotiations of an international ABS regime under the CBD. The COP-7 meeting agreed in 2004 to provide the *ad hoc* Working Group on ABS the mandate to start negotiations on the design of an ABS regime. In 2006, the COP instructed the ABS negotiation group to complete its work to prepare an ABS regime before the 2010 deadline.

The key conflicting point in the ABS Protocol was that developed countries with a competitive biological industry wanted to guarantee “access” to genetic resources while developing countries with diversified genetic resources wanted “benefit-sharing.” Concrete conflicts included derivatives, retroactive applications, compliance, and traditional knowledge. While developed countries argued that the utilization of derivatives of genetic resources should be judged on a case-by-case basis, developing countries wanted derivatives of genetic resources to be covered by the protocol. Developed countries argued that a retroactive application of the protocol was against the principle of international law, whereas developing countries lobbied for retroactive application. Developed countries were worried about burdensome disclosure requirements for compliance of businesses, while developing countries requested that one or more checkpoints for compliance should be established in each country. Developed countries argued that benefit-sharing of publicly available traditional knowledge could be suggested, while the Like-Minded Asia-Pacific Group preferred that it is required.

The text of the Nagoya Protocol was filled with ambiguity by deleting contentious words and phrases or by providing a broader definition. The terms “retroactive application” and “benefit-sharing of publicly available traditional knowledge” disappeared from the text of the ABS Protocol. On the one hand, the utilization of derivatives can be assessed on a case-by-case basis as requested by developed countries. One or more checkpoints are to be established as requested by developing countries.

2. Explaining Competition and Cooperation in the CBD

At the international system level, without the US as a formal CBD member, the relative weight of the presence of the G-77 and China was high. In 2002, Mexico took the Cancun initiative and declared the establishment of the Group of Like-Minded Megadiverse Countries by developing countries and China. Some developed countries, such as Japan and New Zealand, have great biological diversity and hotspots as well, and yet Japan, New Zealand, and South

Korea also have a competitive biological industry.

At the domestic level, a political power shift is also important. For instance, the diplomatic position change of Japan on biosafety was one factor for cooperation. This is partly because of the regime shift in Tokyo from a business-supported LDP-led government to a union-supported Democratic Party of Japan government, and partly because Japan's presidency wanted to prevent Nagoya from becoming another Copenhagen, where climate negotiations failed in the previous year. Many delegates to Nagoya felt that a further prolonged stalemate on key issues would not be in their interests.

As for biosafety, without the US as the world's largest LMO producer, the largest pro-LMO party has been Brazil, followed by Argentina. Canada and Australia are also LMO-producing countries. The ruling of the Supreme Court of Canada (SCC, 2004) revealed the complex lawsuit case of Monsanto Canada Inc. vs. Schmeiser (a farmer) with conflicting interests between the "biopiracy" use of LMOs and the "biohazard" contamination by LMOs. As the world's largest organic farming country, Australia also has complex interests in LMO and non-LMO food and crops. For Malaysia and other food-importing countries, international regulations of LMOs, especially liability, have been strong concerns, and yet the changing food economy due to the pressure of increased population, climate change, and the increased food prices in the 2008 global financial and food crises reflected more-flexible attitudes toward LMOs by importing countries. A similar interest structure can be found in the "benefit-sharing" of genetic resources over which megadiverse developing countries have sovereign rights. Korea, Japan, and New Zealand – besides the US – have a notable number of biotechnology companies that have interests in "access" to genetic resources. China also has increased R&D in biotechnology. In terms of biodiversity hotspots, the Asia-Pacific region has the largest number and areas of hotspot initiatives, especially marine hotspots.

The three pillars of sustainable development appear not always well integrated into the CBD. The three objectives of the CBD represent the overlapping areas of environmental, social, and economic dimensions. The

conservation of biological diversity indicates the intersection of environment and economics. To conserve does not always mean to protect untouched nature as deep ecology suggests, although protected areas of wild nature are also understood as necessary for conservation. TEEB is quite compatible with conservation overlapping environmental and economic issues. The sustainable “use” of biodiversity’s components represents the social dimension. The concept of “biosafety” in the Cartagena Protocol overlaps environmental and social/human dimensions. The benefits arising from the utilization of genetic resources, which is a part of the Nagoya Protocol, overlaps the financial benefits of the biotechnology industry and the social benefits of consumers and indigenous peoples. If the benefit-sharing refers only to economic and social benefits, and not for the environment, it is not an environmental agreement.

The vision statement of the Aichi Biodiversity Targets, “Living in Harmony with Nature,” looks like a bold moonshot. However, planetary boundaries updated for genetic diversity indicate a high-risk zone, whereas global-level functional diversity cannot yet be measured. Without planetary boundaries identified social and economic boundaries will face difficulties to reach an agreement. The epistemic community of biodiversity was delayed in being formed compared with climate change. In 2008, the Parties discussed the establishment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), which is an equivalent of the Intergovernmental Panel on Climate Change established in 1988.

IV. Whaling

1. Competition and Cooperation in the IWC

The origin of the international regulation of whaling dates back to the 1930s when a blue whale unit (BWU) was used to measure the relative amount of whale oil yields by whaling companies in the Atlantic Ocean. The IWC, established in 1948, based on the International Convention for the Regulation of Whaling (ICRW) also used BWU during the period 1948–1972, for the “proper conservation of whale stocks.” The BWU catch limit was set, without a scientific

rationale, in the area for the Antarctic pelagic whaling, and therefore overfishing and competition could occur on a first come, first catch basis.

The UNCHE adopted a resolution calling for a 10-year moratorium on commercial whaling, as proposed by the US, which also enacted the Marine Mammal Protection Act at home in the same year. The IWC meetings following the UNCHE rejected the proposals from the US for zero quotas in 1972 and moratorium on commercial whaling in 1973 and 1974 and instead created in 1975 the New Management Procedure (NMP). The NPM set catch limit by species with reference to the Maximum Sustainable Yield (MSY) level. The MSY concept was expected to be operationalized scientifically, and yet it was revealed that it was difficult to identify it. With the proposal from the Seychelles, the IWC established in 1979 the Indian Ocean Whale Sanctuary.

In the context of increasingly decreased stock, the IWC adopted a moratorium on commercial whaling in 1982. Canada withdrew from the IWC, and Japan, Norway, Peru, and the Soviet Union opposed the moratorium. Peru withdrew its objection in 1983, and Japan in 1986. The IWC also allowed whaling quotas for aboriginal subsistence and scientific whaling. Japan carried out scientific whaling in the Antarctic (JARPA) and in the North Pacific (JARPAN).

The Revised Management Procedure (RMP) was adopted by the IWC's Scientific Committee in 1992, when the UNCED was held. In 1994, the IWC adopted the RMP, which was based on a catch limit algorithm and implementation review, and a Revised Management Scheme, which included monitoring and surveillance measures. The IWC also adopted in 1994 the Southern Ocean Sanctuary. Despite these decisions, the controversy between pro-whaling and anti-whaling countries continued.

The Conservation Committee established in 2003 became another addition to the controversy. To address the main discrepancies, the IWC decided in 2007 to start the "Future of the IWC" process. However, no substantial progress was made and it was decided in 2012 to have the IWC plenary biannually rather than annually. The salient conflict was seen between Australia and Japan. In 2004 an

Australian conservation group brought a litigation case against Japan's whaling within the Australian Sanctuary in its exclusive economic zone (EEZ). In 2008, the Australian Federal Court decided against Japan, but the Japanese government did not recognize the Australian jurisdiction. Separately, in 2011, Australia challenged Japan's scientific whaling before the ICJ, and the ICJ ruling of 2014 concluded that the special permits granted by Japan in connection with JARPAII are not for purposes of scientific research. Japan submitted to the IWC in 2014 a new scientific whaling plan in the Antarctic. In 2017, Japan submitted a similar plan in the Northeastern Pacific and enacted a new domestic law for scientific whaling. In 2018, Japan gave notice of its intended withdrawal from the IWC in 2019.

2. Explaining Competition and Cooperation in the IWC

In terms of power, calling for a moratorium on commercial whaling was adopted in Stockholm with the skillful leadership of Maurice Strong, UNCTAD Secretary-General, with the changing position within the US administration on whaling. However, the proposal of a moratorium was not adopted at the 1972 IWC meeting, partly because the power of the whaling countries was still dominant, and partly because the US power started declining in the early 1970s. The power gap in the region was supported by cooperation between the US and Australia, which advocated further regulations. The power of environmental NGOs was emerging to change the diplomatic positions both in the US and in Canada, but it worked for Canada to withdraw from the IWC because the country was not involved in commercial whaling. Australia's case against Japan's scientific whaling at the ICJ was made under the Rudd government (Australian Labor Party). The Abbott government (Liberal Party of Australia) did not highly politicize the whaling issue when Prime Minister Abbott visited Japan to meet Prime Minister Abe (Liberal Democratic Party, LDP). However, Australia's claim on its EEZ and territorial waters, and Japan's claim on the public sea in the Antarctic remain unresolved. Japan's decision to withdraw from the IWC is explained mainly by Japan's domestic politics. LDP's Secretary-

General Nikai and Prime Minister Abe decided to restart commercial whaling and to withdraw from the IWC. Nikai represented Wakayama Prefecture, where Japan's traditional whaling birthplace, Taiji, is located. Prime Minister Abe was elected from Yamaguchi Prefecture, where Japan's modern whaling birthplace, Shimonoseki, is located.

The combined interests of the bootleggers–Baptists model might explain the US whaling policy shift in the early 1970s. Sperm oil was consumed as a lubricant for military use (missiles) and commercial use (automobile transmission bearings), and that is why the Soviet Union and Japan took the pro-whaling position, respectively. The US also had the same stance, and yet when Sun Oil developed an alternative lubricant in 1971, the Republican Congressmen representing their interests exerted their influence actively to support the US government's policy for anti-whaling in the CITES and the ICRW (Umezaki, 1986). By banishing sperm oil from the market, sales for the alternative lubricant made by Sun Oil were expected to increase. It is also in the interests of environmental NGOs based on animal welfare, animal rights, or the precautionary principle.

The interests of Japanese whaling “culture” look socially created by the media and the Japanese government. It was in the immediate postwar period that whale meat occupied about 45% of total meat consumption in Japan (Ishii and Sanada, 2015, p. 26). By the middle of the 1960s its fraction decreased to 20%, and at best 6% by 1980. It is not in the diplomatic interest of the Japanese Foreign Ministry to withdraw from the IWC, partly because it will hurt Japan's credibility in multilateral diplomacy, and partly because a proposal for the exact same consequence of suspending scientific whaling in the public sea and resuming commercial whaling within Japan's EEZ was recommended by the IWC Chair two decades ago.

More importantly than power and interests, the whaling controversy is deeply rooted in ideational differences on sustainability. The ratios of 1 BWU being equal to 2 fin whales, 2.5 humpback whales, or 6 sei whales were based on the relative amounts of sperm whale's head oil that each species yields, and

therefore reflected on the whaling industry's economic dimension. The MSY concept was a reflection of both population ecology and the economic dimensions of whaling. However, it was criticized by conservation ecology because key factors, such as reproductive status and ecosystem damages, were ignored. The IWC Scientific Committee developed an RMP aiming at optimizing a stable catch limit, while balancing risk aversion and investment, with a compliance scheme. Based on the precautionary approach and/or animal welfare, a temporal moratorium and spacious whale sanctuary were suggested for the environmental dimension, while aboriginal subsistence whaling was allowed for the social dimension. Scientific whaling was also allowed, but a convergence between the scientific and policy communities remains unresolved.

V. Conclusion

Asia and the Pacific have become the center of the most dynamically growing economies in this century. The mode of mass production and mass consumption in the 20th century was also accompanied by mass emissions and mass extinctions. The nexus of shifting power, complex interests, and changing worldview ideas can account for the competition and cooperation on environmental problems in the region, although the relative weights of these three causal variables are different across the issue areas. It will be necessary to examine the external validity of the nexus model to other important environmental issues in the region, such as ocean plastic pollution.

We can draw from the case studies at least three policy implications: renovation, innovation, and transformation. First, if hegemonic power is still needed to provide and maintain international public goods for environmental cooperation, we need renovation of the power structure in the region. In so doing, regional or interregional frameworks, such as the APEC, could be used for the US and China to be re-engaged or further engaged in environmental cooperation. It is also important to empower domestic advocacy groups, including local governments and non-state actors, to persuade decision-makers in favor of environmental cooperation in the region.

Second, technological and policy innovations are needed for reconstructing interest in environmental cooperation. When dominant powers recognize the best available technology as their interests, policy change and innovations for multilateral environmental cooperation could emerge. Renewable energy and green chemistry would be sources for such innovations.

Last but not least, transformation in worldviews is needed. To transform our world in the Anthropocene, we need to go beyond the three-pillar model of sustainable development into a new paradigm of prospering within planetary boundaries. Before the industrial revolution reached the Asia-Pacific region, where many biodiversity hotspots are concentrated, the indigenous culture of living in harmony with the nature associated with both inland and ocean ecosystems, was dominant in the region.

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**Competition and Cooperation on Environmental Issues in
Asia and the Pacific**

<Summary>

Katsuhiko Mori

This article analyzes the complex interplay between competition and cooperation on critical environmental issues on the atmosphere, the biosphere, and the hydrosphere in Asia and the Pacific. For the atmospheric environment, the power transition between the US and China observed over the last three decades impacted the climate change negotiations. In this process, the contention about the Kyoto Protocol was turned into cooperation on the Paris Agreement between the world's two largest emitters. In the field of the land biosphere, increased resource use for the developed and emerging economies causes degradation and loss of ecosystem services in the megadiverse countries in the region. For life in the hydrosphere, the gaps in scientific knowledge and evidence-based understanding of the causes of overhunting led to Japan's withdrawal from the International Whaling Commission. Thus, a varied combination of power, economic interests, and ideas can account for the competition–cooperation dynamism in the environmental issues in the Asia-Pacific region. It is argued that effective environmental governance requires not only the renewal of cooperation but also innovative and transformative changes in the region.

