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POWER AND COOPERATION IN INTERNATIONAL ENVIRONMENTAL LAW

by

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12. Power and cooperation in international environmental law

*Richard H. Steinberg**

This chapter examines international environmental regulation from economic, political, and legal perspectives. Section 1 introduces the economics and politics of international environmental regulation. International agreements on environmental issues are often seen as symmetric contracts among states, solving cooperation problems among states with similar interests, or facilitating side-payments from states that favor environmental regulation to states that would not otherwise support regulation. In contrast, some realist political scientists suggest that when international environmental interests vary across states, international environmental agreements often result from coercion of weaker states by more powerful ones.

With this framework in mind, the bulk of this chapter examines the negotiation and substance of the world's most important international environmental agreements.¹ Section 2 examines the main agreements related to international environmental protection of the oceans, including those concluded to protect fisheries and those intended to reduce land-based marine pollution. Section 3 examines the main agreements relating to global air pollution and climate change – the Montreal Protocol to the Vienna Convention for the Protection of the Ozone Layer (Montreal Protocol)² and the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto Protocol).³ Section 4 explores the main trade and the environment issues and agreements, including the Basel Convention on the Transboundary Movement of Hazardous Wastes (Basel Convention)⁴ and the Convention on

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¹ As this suggests, this chapter focuses on understanding commitments to (i.e., not compliance with) international environmental agreements.

² Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987, 26 ILM 1541.

³ Kyoto Protocol to the FCCC, FCCC Conference of the Parties, 37 ILM 22 (1998).

⁴ Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 22 March 1989, 28 ILM 649 (1989).

International Trade in Endangered Species of Wild Fauna and Flora (CITES),⁵ as well as environmental issues in the World Trade Organization (WTO), the North American Free Trade Agreement (NAFTA), and European Union (EU).

Section 5 concludes that most effective international environmental agreements have resulted not from symmetrical contracting alone but from negotiations that involve coercion by powerful, greener countries of weaker countries that are generally less interested in international environmental protection. In this sense, international environmental regulation is at least as much political as it is economic.

1. Contracting and coercion: economic and political analysis of international environmental law

International environmental policy questions have both economic and political dimensions.

From an economic perspective, pollution and environmental degradation raise health care costs, as well as the costs of producing some goods and services (e.g., the productivity of fisheries). Moreover, at present and for future generations, environmental degradation diminishes opportunities for recreation and intrinsic enjoyment of nature's beauty (Leopold 1949). At the same time, environmental protection is financially costly for the governments and firms that undertake it. Environmental regulation in one country may also place the firms that are subject to it at a competitive disadvantage vis-à-vis foreign firms that are subject to less stringent environmental regulation. Largely for these reasons, regulation of activities affecting the environment may also be politically costly for policy-makers who choose to engage in it.

Economic reasoning has long offered an important heuristic for analyzing domestic environmental law and policy. Pollution may be considered a negative externality: absent government regulation, the costs of environmental degradation are often not internalized into a producer's cost function. Of course, Coasian contracting may generate a Pareto-efficient reduction of such degradation (Coase 1960). But without an initial governmental assignment of a property right to be free from environmental degradation, the Coasian market-based solution usually entails paying the polluter, a distributive consequence that runs counter to a normative 'polluter pays' preference (Calabresi and Melamed 1972). Moreover, in many instances, Coasian bargaining faces a transaction cost or a collective action problem that undermines a potential solution (Olsen 1971). Some environmental issues, such as overfishing or

⁵ Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1975 (amended 22 June 1979), 12 ILM 1085.

overhunting, may be characterized as a problem of the commons. Hence, government intervention may be justified.

In the international context, where there is no global sovereign, environmental problems are particularly difficult to solve. There, states are the entities that must cooperate to regulate pollution and some states—often poor ones—place little or no value on environmental protection.⁶ The states that favor global environmental protection may refuse on principle or be unable to ‘pay’ poorer states to limit environmental degradation. Moreover, the states that favor global environmental protection may face significant barriers to cooperation. And even if they can cooperate, the absence of a centralized global environmental administrative authority implies that states and non-governmental organizations are the only entities that can gather and disseminate information about the precise sources and consequences of environmentally unfriendly activities (Raustiala 2002). The fundamental international environmental problem is that, unlike the domestic context, where a national government can intervene to solve distributive, cooperation, and information problems, the international system does not have a supranational sovereign. In this sense, the international system is said to be anarchic (Waltz 1979).

Using economic reasoning, some political scientists have shown that international institutions may solve these problems. International institutions may improve information generation and transmission, foster verification of and compliance with commitments, and help solve collective action and other cooperation problems (Keohane 1984). But in the environmental context, successful establishment of such institutions presumes fundamental agreement among states on environmental objectives and willingness to share associated costs. As suggested above, in the international environmental context, there is often fundamental disagreement on these issues between states on the importance of environmental protection and on the willingness to share costs—a fundamental divergence of interests.

Sociological arguments suggest that interests are plastic. Transnational epistemic communities (TECs) of expert professionals may persuade all states of the adverse consequences of environmental degradation, but TECs exist and operate effectively under only restrictive conditions of uncertainty (Haas 1992). Liberal interest group pressures, particularly those exerted by transnational non-governmental organizations (NGOs) and other transnational advocacy networks (TANs) of like-minded activists, could persuade all or most countries that polluters have a duty to diminish environmental degradation

⁶ This low value on environmental protection is understandable: whether environmental protection is a normal good or a luxury good, poor states are less likely than rich states to spend money on it.

(Moravcsik 2001; Keck and Sikkink 1998). Some argue that almost all interests are socially constructed and malleable (Wendt 1999). But the reconstitution of interests implicit in these approaches usually takes place over a long time period and is undoubtedly constrained by material factors, such as the financial costs of environmental protection. Empirically, therefore, TANs, TECs, and other liberal pressures have not persuaded all states to support across-the-board global environmental protection. Without broad global convergence on environmental objectives, it is hard to reach consensual Pareto-improving environmental agreements.

Concluding an international agreement through a side-payment offers another form of contracting. States that favor environmental protection may offer a side-payment to other states that otherwise would not support environmental protection or that are unwilling to pay for it. If the side-payment is large enough to induce voluntary agreement, then the arrangement is Pareto-improving, as all parties will be better off. There are, however, a few reasons why side payments might not be favored by states that support environmental protection. First, some states may refuse to pay them out of a sense of the unfairness of doing so. As suggested above, there is a normative current that suggests that polluters ought to pay the costs of not polluting – and that they should not get paid for such behavior. This stance may resonate particularly well in the United States and Europe, two powerful, wealthy regions that might otherwise be in a position to offer a side-payment. Second, if parties' interests are highly divergent, or the costs of complying with an environmental agreement are high, then a side-payment may be too costly to be borne by the parties favoring the agreement.

Third, politics may offer another solution that is less costly than making a side payment. In the absence of a supranational sovereign to impose a solution, or like-minded states that can contract a solution, power offers a means by which environmental arrangements may be established. Technically, legal sovereignty implies that all international agreements are based on state consent; behaviorally, however, weaker states may face insurmountable international political pressure to 'consent' to a particular agreement (Steinberg 2004). An agreement reached through coercion may be seen as asymmetric in the sense that it generates less political support for the state from domestic interests in weaker countries than in powerful ones; at the extreme, a weaker state may be coerced into an agreement that actually runs contrary to domestic political interests. Of course, the source and measure of state power varies across environmental issue areas (Keohane and Nye 1974), and the extent to which power is concentrated varies as well (Steinberg 1997). While richer countries generally prefer more environmental protection than do poorer ones (Wildavsky 1988), in particular environmental issue areas, some rich countries may not support environmental protection or they may disagree among them-

selves about the appropriate extent or means of protection. Where powerful states can not agree, as in the case of climate change, no agreement will be reached or any agreement that is reached will be of limited effectiveness. According to the logic of this realist argument, environment-friendly rules and agreements may be concluded in issue areas where the interests of powerful states are sufficiently convergent, and their combined power is sufficiently substantial, to coerce other countries into joining. Under these conditions, bargaining between powerful and weak countries takes place on the Pareto frontier (Krasner 1991).

Thus, these two approaches – contracting (either between like-minded states or through side-payments) and coercion, one essentially economic, the other political – together denote conditions under which effective international environmental law may be generated. First, economic logic suggests that in those environmental issue areas where states do share similar interests, they may contract to reach an effective and symmetric Pareto-improving international agreement. Alternatively, economic logic suggests the possibility of Pareto-improving contracts concluded through side-payments. Second, realist political logic suggests that when state interests diverge and side-payments can not be made, effective international environmental agreements may be reached only if powerful, greener states coerce weaker states into a particular agreement. Third, it is possible that effective international agreements may be reached from a combination of coercion and side-payments.

2. International environmental agreements on the sea: land-based marine pollution and fisheries

There are two main issue areas in which international environmental agreements have been concluded to protect the sea: those aimed at diminishing land-based marine pollution and those regulating fisheries. These two sets of agreements illustrate the two main means of reaching agreement, contracting and coercion, respectively.

2.1. Land-based marine pollution

Over half of the world's population lives within ten miles of the coast (Hunter et al. 1998, p. 779), so it is not surprising that land-based marine pollution (LBMP),⁷ which involves the pollution of maritime zones by land-based

⁷ Article 1 of UNCLOS defines marine pollution as: '[T]he introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities'.

discharges, accounts for approximately 70 per cent of marine pollution (Kiss and Shelton 2004, p. 539). This pollution contaminates and damages fisheries, marine mammals (Hunter et al. 1998, p. 779),⁸ coral reefs (Davidson 2002, p. 502), and other aspects of the marine environment.⁹ Although the cumulative consequences of marine pollution are greater than any single oil spill (Wolfrum et al. 2000, p. 252), the international community has yet to develop a comprehensive and enforceable global approach to the problem. However, several regional agreements have been reached among like-minded countries.

The unsuccessful pursuit of effective global commitments The past three decades are littered with global agreements containing hortatory provisions relating to LBMP, but the international community has not established a mandatory and enforceable global regime to regulate LBMP.

The doctrine of *sic utere tuo ut alienum non laedes* (use your property not to injure that of another) has served as a customary international law justification for regulating the discharge of land-based pollution (Guruswamy et al. 1999, p. 598). The 1972 Stockholm Conference (the results of which were non-binding 'soft law') codified this notion in Principle 7 which provides that 'states shall take all possible steps to prevent pollution of the seas by substances' (Guruswamy et al. 1999, p. 598). In 1973, the General Assembly established the United Nations Environment Programme (UNEP) to implement the provisions of the Stockholm Convention (Mensah 1999, p. 299). In 1974, the UNEP devised the Regional Seas Programme built on a regional control strategy consisting of four objectives, the conclusion or provision at the regional level of: (1) action plans for research, assessment, and monitoring of land-based sources of marine pollution; (2) legally binding conventions; (3) technical protocols and annexes tailored to address particular threats; and (4) financial and institutional support to enforce the first three provisions (Hunter et al. 1998, p. 788).

In 1982, the international community touched upon LBMP in the United Nations Convention on the Law of the Sea (UNCLOS), but the relevant provisions are hortatory or so vague as to be ineffective. Article 194 obligates states to 'take, individually, or as appropriate, jointly, all measures that are necessary

⁸ Toxic chemicals in LBMP tend to remain in the tissues of marine mammals and compromise their immune systems. These concentrations are often 'bio-accumulative', which means that they increase as one advances through the food chain (Hunter et al. 1998, p. 779).

⁹ Coral reefs harbor many fish. More than one billion people in Asia depend on coral reefs as a source of food (Davidson 2002, p. 502). Besides food, coral reefs can serve as a source of tourism and protect shorelines from hurricanes (Davidson 2002, p. 502).

to prevent, reduce and control pollution from any source' (Wolfrum et al. 2000, p. 252). Article 207 refers directly to the LBMP problem, providing that states must 'prevent, reduce, and control pollution of the marine environment from land-based sources' (Sands 2003, p. 429). In order to meet this aim, member-states must take 'internationally agreed rules, standards, and recommended practices and procedures' into account (Sands 2003, p. 429). Article 213 stipulates that states must enforce international as well as national environmental laws (Wolfrum et al. 2000, p. 252).

After conclusion of the UNCLOS, the international community again addressed LBMP through the UNEP's Montreal Guidelines. The Guidelines, which the UNEP adopted in 1984, constituted the first comprehensive attempt to regulate LBMP (Mensah 1999, pp. 302–3). However, the resulting 19 recommendations and three Annexes are so broad and non-binding that they have not required implementation (Hunter et al. 1998, p. 784).

Two scientific reports subsequently provided additional impetus to reach a more substantive global agreement on LBMP. In 1987, the 'Brundtland Commission' (the World Commission on Environment and Development) published a report entitled *Our Common Future*. The Commission encouraged international cooperation to combat the growing threats that pollution and land-based development posed to the living resources of the sea. In 1990, the Group of Scientific Experts on Marine Pollution (GESAMP) completed the first comprehensive study on the effects of marine pollution, concluding that land-based activities bore responsibility for the majority of marine pollution (Mensah 1999, p. 297).

In 1995, 108 states and the European Union gathered in Washington, DC to conclude an agreement calling for a global program of action to restrict LBMP emissions (Sands 2003, p. 429). This conference produced two agreements, the Washington Declaration on the Protection of the Marine Environment from Land-Based Sources (Washington Declaration) and the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) (Mensah 1999, p. 307). In the Washington Declaration, participants announced their intentions to take action to combat LBMP (Hunter et al. 1998, p. 785). In the GPA, participants specified four fields of action, including a call for a binding instrument dealing with some of the more dangerous pollutants (Sands 2003, p. 430).¹⁰ Yet the GPA failed to

¹⁰ These four areas are: (1) measures to ensure periodic assessment of the current state of the coastal environment on both the global and regional levels; (2) methods to facilitate information exchange; (3) a mechanism to coordinate activities of organizations devoted to issues concerning LBMP; and (4) the establishment of an intergovernmental mechanism to evaluate the progress in implementing LBMP (Mensah 1999, p. 308). Point 17 urged the ban of at least a dozen bio-accumulative

include any mention of target reductions or timetables (Wolfrum et al. 2000, p. 253). Rather than forming an organ to ensure implementation, the GPA requests states themselves to 'take the necessary measures for the implementation of the GPA at the national, regional, and international level' (Wolfrum et al. 2000, p. 253).

Yet the GPA has yet to develop a globally binding instrument, as countries are reluctant to cede any sovereignty over activities within their territories (Mensah 1999, p. 312). Both developing and developed countries seem uninterested in pursuing a mandatory and enforceable global LBMP regime. Some developing countries fear that these environmental measures will curb economic development (Ring 1997, p. 69). At the same time, developed countries have been unwilling to offer financial assistance to developing countries to reduce LBMP (Ring 1997, p. 129). But most importantly, many studies, including the one by GESAMP in 1990, have concluded that LBMP has yet to make a significant impact outside of coastal waters (Mensah 1999, p. 312).

Regional approaches The generally concentrated and localized nature of LBMP impacts explains why it has been easier to reach effective regional than global agreement on the regulation of LBMP. States have signed several binding agreements concerning LBMP at the regional level.

European states adopted two regional agreements that were the first to effectively address LBMP (Mensah 1999, p. 300). The first such agreement was the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources in 1974. The signatories, all of whom were Western European states, agreed to protect the marine environment in the Atlantic and Arctic Oceans, excluding the Baltic and Mediterranean Seas (Hunter et al. 1998, p. 789). Articles 4(1)(a) and 4(2)(a) required the elimination of land-based marine pollution caused by particular substances listed in Part I of Annex A (Sands 2003, p. 431).¹¹ These same articles also required the minimization of the discharge of substances listed in Part II of Annex A (Sands 2003, p. 431).¹² Articles 4(3) and 4(4) restricted the discharge of radioactive substances by requiring the adoption of 'measures to forestall, and as appropriate, eliminate pollution of the maritime area [of these substances]'. Article 6 required the

pollutants, including aldrin, dieldrine, chlordane, heptachlor, DDT, dioxins, furans, endrin, hexachlorobenzene, mirex, polychlorinated biphenyls, and toxaphene (Hunter et al. 1998, p. 787).

¹¹ This list included mercury and mercury compounds, cadmium and cadmium compounds, and persistent oils and hydrocarbons (Sands 2003, p. 431).

¹² These substances were considered less harmful and easier to neutralize through natural processes than the substances in Annex I. Part II included organic compounds of phosphorus, silicon, tin, arsenic, copper, lead, nickel, and zinc (Sands 2003, p. 431).

states to forestall any pollution from land-based sources (Hunter et al. 1998, p. 789). In Article 7, the Convention's administrative organ, which consisted of one representative from each member-state, had the power to adopt certain binding programs, measures, and decisions via unanimous vote (Sands 2003, p. 432).

In 1992, the EC member-states replaced this agreement with the Convention for the Protection of the Marine Environment of the North-East Atlantic. Article 31 of the 1992 Convention ensures that many measures passed under the 1974 Convention remain applicable (Kiss and Shelton 2004, p. 540). The 1992 Convention also calls for the application of the precautionary principle to restrict the emission of LBMP and the obligation to use the 'best available technologies' (BATs) to combat point-source pollution¹³ and 'best environmental practices' (BEPs) to combat pollution from diffuse sources (Mensah 1999, p. 319; Kiss and Shelton 2004, p. 540). The 1992 Convention entered into force on 25 March 1998 (Wolfrum et al. 2000, p. 256).¹⁴

Also in 1974, the states on the Baltic Sea established the Helsinki Convention, another agreement located outside the UNEP program, to address pollution from a variety of sources (Hunter et al. 1998, p. 789). Marine pollution was a particularly acute problem in the Baltic Sea, where it accounted for over 80 per cent of pollution (Hunter et al. 1998, p. 789). Article 6 of the Convention called for a permit system to control substances listed in Annex II; the permit could only be issued upon approval by the designated national authority (Hunter et al. 1998, p. 789). In 1992, the parties adopted a 'new Helsinki Convention', with standards resembling those of the 'new' Paris Convention. The 1992 Helsinki Convention called for states to adopt the precautionary approach to restrict LMBP emissions (Wolfrum et al. 2000, p. 255). The new convention also called for BATs and BEPs (Kiss and Shelton 2004, p. 541). On 17 January 2000, the modified Helsinki Convention entered into force. There are currently ten signatories, including the European Union.¹⁵

¹³ Point source pollution refers to pollution that emanates from a discrete source, such as discharge from a factory pipeline. That which does not emanate from a discrete source is known as diffuse source pollution. An example of diffuse source pollution would be run-off from agricultural crops which were sprayed with herbicides or pesticides.

¹⁴ Signatories are Belgium, Denmark, the EU, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom (Wolfrum et al. 2000, p. 256).

¹⁵ In 2005, the parties included: Germany, Latvia, Sweden, Estonia, Finland, Denmark, Lithuania, Poland, Russia, and the European Community.

By 1999, in addition to the foregoing, regional seas agreements had been adopted in nine different regions.¹⁶ Four of these agreements contain only a hortatory provision on LBMP, calling for contracting parties to undertake all appropriate measures to limit land-based pollution from within their own territories (Hunter et al. 1998, p. 788). One other agreement, the Protocol Concerning the Development of the Marine Environment of the Wider Caribbean Region on 6 October 1999, covers 16 states of the Caribbean (including the United States), but it has yet to be ratified by any of the signatories (Kiss and Shelton 2004, p. 543).¹⁷

However, four of the agreements have entered into force and include mandatory rules and processes regulating land-based pollution: the 1980 Athens Land-Based Sources of Pollution (LBS) Protocol concerning the Mediterranean Sea (the Mediterranean LBS Protocol),¹⁸ the 1983 Quito LBS Protocol concerning the Southeast Pacific region, the 1990 Kuwait LBS Protocol covering the region around Kuwait,¹⁹ and the 1992 Black Sea Protocol (Sands 2003, p. 436). These four agreements demand banning the

¹⁶ The agreements covered the following areas: Mediterranean, Kuwait region, West and Central Africa region, the Southeast Pacific region, the Red Sea and the Gulf of Eden region, the Wider Caribbean region (Hunter et al. 1998, p. 788), the East African Region, the South Pacific region, and the Black Sea (Mensah 1999, p. 299).

¹⁷ The Protocol incorporates GPA principles for the preparation of environmental impact assessments for 'planned land-based activities or planned modifications to such activities which are subject to regulatory control and which are likely to cause substantial pollution of or significant harmful changes to the Convention area' (Kiss and Shelton 2004, p. 543). The agreement also sets forth strict maximum numeric levels for pollution and timetables for compliance which surpass the level of detail in any other LBMP Protocol (Hunter et al. 1998, p. 790).

¹⁸ The Mediterranean LBS Protocol is notable for covering activities within the hydrologic basin of all member-states. The parties to the Mediterranean Protocol defined the hydrologic basin as 'the entire watershed area within [the territories of a member-state] and draining into the Mediterranean Sea'. In 1996, the parties adopted a new protocol that calls for strict regulation of point-source discharges and the releases of materials in the air that may reach the Mediterranean Sea. This agreement has yet to enter into force because it has only been approved by 13 of the 22 signatories to the original convention, leaving it four short of the requirement for approval by 75 per cent of the original signatories. The following parties have ratified the amended protocol: Albania, Cyprus, the European Community, France, Greece, Italy, Malta, Monaco, Morocco, Slovenia, Spain, Tunisia, and Turkey. The following states have not ratified the protocol: Algeria, Bosnia-Herzegovina, Croatia, Egypt, Israel, Lebanon, Libya, Syria and Yugoslavia (Kiss and Shelton 2004, pp. 541–2).

¹⁹ The Kuwait region includes Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The Kuwait LBS Protocol is notable for being the first regional protocol to call for environmental impact assessments (Mensah 1999, p. 318).

discharge of substances on their Annex I 'black lists', and require authorization by a designated scientific authority to discharge substances on their Annex II 'gray lists' (Sands 2003, p. 436). All of the protocols call for cooperation to develop standards, provide technical assistance, and establish a system for assessing pollution levels and the effectiveness of measures (Sands 2003, p. 437). These agreements rely on the participation of parties rather than a central secretariat for information gathering, compliance reviews, and consultations in the case of one member-state's LBMP harming the interests of another (Sands 2003, p. 437).

Assessment of LBMP regimes The effects of LBMP are more pronounced regionally than at great distances. And particular LBMP problems vary across regions. As a result, LBMP interests are more salient at a regional than a global level. Hence, there is no global, effective agreement regulating LBMP, but there are several regional ones.

The regional LBMP regimes have been criticized by environmentalists for 'weak standards and weak supervisory institutions' (Hunter et al. 1998, p. 790), being established at the 'lowest common denominator', and accommodating economic and commercial considerations (Mensah 1999, p. 320). Moreover, most regional protocols lack dispute settlement mechanisms²⁰ and civil liability regimes to punish violations (Mensah 1999, p. 320). Finally, some of the regional regimes have been criticized for lacking a reliable transfer of resources to developing country member-states, which require serious financial assistance to upgrade their institutional capacities (Schumacher et al. 1996, p. 115).

Nonetheless, several regional LBMP regimes are considered effective. Effective, regional LBMP regimes are more likely to be found in wealthy parts of the world than poor ones. As noted above, wealthier countries tend to be greener than poorer ones and more capable of bearing the costs of environmental protection. Moreover, when member-states are uniformly wealthy, the LBMP regime has tended to be more comprehensive. Hence, three of the six effective regional LBMP protocols involve predominantly EU member-states and EU aspirants, and these three EU-centered protocols have been considered 'relative successes' or 'a model' (Mensah 1999, p. 319; Wolfrum et al. 2000, p. 254).²¹

²⁰ The Kuwait LBS Protocol does have a judicial commission to rule on disputes between member-states (Mensah 1999, p. 320).

²¹ Some have argued that the Mediterranean Protocol has 'achieved a measure of success' in no small part due to the influence of EU environmental legislation (Mensah 1999, pp. 317–18). Since EU states had already ceded some sovereignty on this issue by passing several directives relating to LBMP (Kiss and Shelton 2004 p. 540), they may have been more amenable to comprehensive agreements.

2.2. *Fisheries agreements*

Renowned law scholar Hugo Grotius re-introduced the Roman concept of freedom of the seas in his 1609 work, *Mare Liberum*.²² By the 1800s, the legal principle of the freedom to navigate on and fish this unregulated area known as the high seas had gained universal acceptance among the major powers. While customary international law allowed for an extension of a nation's territorial sovereignty over the marine area off its coast not to exceed three miles, activities on the vast expanses of the oceans were free from any sort of regulation (Hunter et al. 1998, pp. 678–9).

This freedom has created a classic 'tragedy of the commons', threatening the long-term viability of fishing on the high seas. Until recently, no institution existed to manage the resource for the benefit of all. In the absence of such an entity, each actor's interest in short-term exploitation of the resource exceeded the perceived long-term benefits of not exploiting the resource. This short-sighted behavior has produced an overexploitation of the resource (Ardia 1998, p. 519). Since fish are the primary source of protein for close to 950 million people and fishing represents up to 80 per cent of the exports in certain developing countries, the current stagnation of fish yields²³ carries significant consequences (Kiss and Shelton 2004, p. 402).

There are two standard alternative solutions to the tragedy of the commons: privatization and regulation. Since the mid-twentieth century, powerful coastal states, led by the United States, have used their naval power to expand territorial waters so as to, in effect, privatize large fisheries. They have subsequently used access to those fisheries as a source of bargaining leverage to coerce weaker fishing states into agreements that regulate stocks of fish that straddle territorial and international waters.

Extensions of coastal sovereignty Following World War II, US President Harry S. Truman issued the first extension of territorial authority past the traditional three-mile zone when he established a fishery conservation zone to protect Alaskan salmon (Picard 1996, p. 319). Although the United States assured other countries that this action would not interfere with their freedom

²² In this work, Grotius defended the right of Dutch ships to traverse through areas of the Indian Ocean and Eastern Seas over which England and Spain exercised control. Grotius argued that natural law forbade ownership of the commons; therefore, the rights of navigation and fishing on the high seas were basic rights of all nations (Hunter et al. 1998, p. 678).

²³ Due to persistent overfishing, fish production has stagnated since the 1990s. Overfishing has resulted in a substantial increase in annual yields of fish from 18 million tons in 1950 to 56 million tons by 1970 (Kiss and Shelton 2004, p. 402).

of navigation,²⁴ the countries that followed suit unilaterally expanded their respective jurisdictions without the attendant assurance of the continuation of the freedom of navigation (Picard 1996, p. 319). By 1958, almost 20 countries had claimed control over their continental shelves (Hunter et al. 1998, p. 679).

The conflict over the high seas led to the first two United Nations Conferences on the Law of the Seas (UNCLOS I and UNCLOS II) in 1958 and 1960, respectively. The tension between coastal states, which asserted an extension of territorial control, and the distant water fishing nations, which desired to minimize national control over the seas' resources, was irreconcilable in those negotiations (Hunter et al. 1998, pp. 679–80) and that tension has since defined all subsequent fisheries negotiations.

The naval force-distance gradient, defined as the degree to which naval and associated political power diminishes as we move away from a home base (Boulding 1963, p. 245), permitted coastal states to continue unilaterally declaring extension of their territorial seas. Hence, the nationalization of the sea continued to the point that by 1973 states had asserted authority over one-third of the ocean territory (Hunter et al. 1998, p. 680).

In 1973, negotiations began on UNCLOS III, which concluded in 1982. UNCLOS III has become a seminal document for the protection of the marine environment. The most notable achievement of UNCLOS III was codification of the nationalization of ocean territories that had already taken place in fact because of the local power of coastal states. According to Article 17, a state exercises control over the territorial waters up to 12 miles from the coast although it has to permit the innocent passage of ships. However, innocent passage does not permit the exploitation of local marine resources. Furthermore, coastal states were granted an exclusive economic zone (EEZ) that extends up to 200 miles from the coast.²⁵ Articles 61 through 68 permit a coastal state to regulate the marine resources within its EEZ, and these rights include obligations to ensure the conservation of species (Articles 56, 61, and 62). Article 73 grants a coastal state the right to inspect, board, and arrest any vessel within its EEZ. Beyond the EEZ, only the flag state (the state in which the ship is registered) possesses the right to regulate vessel activity. Part XII of UNCLOS III (Articles 192–237) places a duty on states to preserve the habitat of depleted, threatened, or endangered species and other types of marine life. The net result is that over 90 per cent of the world's fisheries

²⁴ The Truman Proclamation included a disclaimer that the conservation zones would maintain their 'character as high seas . . . and the right to their free and unimpeded navigation' (Picard 1996, p. 319).

²⁵ Article 76(1) states that the EEZ covers whichever is larger: the 200 miles from the baseline (the area that covers coast to the harbor walls) or the edge of the continental margin.

reside within EEZs (Hunter et al. 1998, pp. 680–83; Wolfrum et al. 2000, pp. 226–9).

This ‘privatization’ of coastal fisheries addressed part of the international tragedy of the commons. However, this development has not always led to sustainable management of fish populations within EEZs, largely because of domestic politics. In some cases, the fishing industry dominates the decision-making process for managing fisheries, which has meant that many coastal states continue to engage in EEZ fishing beyond biologically desirable levels (Swing 2003, p. 141).²⁶ Moreover, some fishing fleets have increased as governments have continued to subsidize the construction of vessels (Carr and Scheiber 2002, p. 56).

Straddling stocks, migratory stocks, and international waters The privatization of coastal waters could not fully solve the international fisheries problem: international waters were still a commons. Straddling stocks (whose range covers both EEZs and the high seas) and migratory stocks of fish do not limit themselves to EEZ boundaries (Picard 1996, p. 329).²⁷ Together, these fish stocks account for approximately 10 per cent of the world’s food supply (Barston 1995, p. 159). In the 1980s, regional organizations such as the International Convention on the Conservation of Atlantic Tunas (ICCAT), the North Atlantic Fisheries Organisation (NAFO), and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) tried but failed to secure the necessary participation among all fishing parties to cooperate in managing high seas fisheries (Carr and Scheiber 2002, p. 52; Warner-Kramer 2004, pp. 511–22). In the same period, many ships re-flagged in states with open registries that were not parties to UNCLOS III in order to avoid control by jurisdictions that subjected their vessels to stricter regulations (Carr and Scheiber 2002, p. 60).²⁸ These conditions reflected and perpetuated the

²⁶ For instance, fishing industry interests serve on regional regulatory councils in which they possess full voting rights (Carr and Scheiber 2002, p. 58). In the United States from 1990–2001, commercial fishing interests constituted 49 per cent of the membership on regional councils, recreation fishing interests constituted 33 per cent, and all other industry interests constituted 17 per cent (Okey 2003, p. 193). In the EU, the fishing industry managed to reduce the scientists’ recommended 85 per cent cut in fishing quotas to a much more politically palatable 60 per cent cut (Carr and Scheiber 2002, p. 45).

²⁷ For instance, the Pacific salmon spends most of its formative years within the EEZ and then spends most of its adult life outside the reach of any EEZ, except to reproduce (Ardia 1998, pp. 538–9).

²⁸ US tuna fishermen escaped restrictions designed to protect dolphins by re-flagging in countries such as Costa Rica, which did not require such measures (Carr and Scheiber 2002, p. 61). Overall, the practice of flag state responsibility and the

pathology in which each state had an interest in extracting as much of the resource as possible.

These emerging problems compelled participants in the 1992 UN Conference on Environment and Development (the Rio Summit) to call for an international conference to address straddling and highly migratory fish stocks in Agenda 21, Chapter 17. A 1994 report of the United Nations Food and Agricultural Organization (FAO) stressed the urgency of the issue, reporting that 14 of the 20 existing stocks of commercial tuna were dangerously depleted and that straddling fish stocks had been decreasing precipitously since 1989 (Vigneron 1998, pp. 582–4).

By the early 1990s, the tension between pro-access deep-water fishing nations and more pro-conservation coastal states resulted in many coastal states taking unilateral actions to restrict access to areas that affected their fish stocks. Canada, Chile, Colombia, Peru, Argentina and Mexico made claims to extend their jurisdiction beyond their UNCLOS III-recognized EEZs (Vigneron 1998, p. 585). These moves signaled that coastal states could further expand their EEZs and further restrict access to their coastal stocks unless fishing nations agreed to regulate the fishing of straddling and migratory stocks in international waters.

On 29 January 1993, the UN General Assembly agreed to convene an inter-governmental conference on straddling and migratory stocks. During the negotiations, the participants divided themselves into two main groups, the coastal states and the distant-water fishing states. Although the United States belonged to the coastal state club, it sought a balance that would advance conservation and protect high-seas fishing interests.

The distant-water fishing states, which had a vested interest in maintaining freedom of the high seas, wanted a non-binding legal instrument with a narrow scope. Many of these states contended that any binding agreement would violate the principle of freedom of the high seas articulated in Article 87 of UNCLOS III. Participants in this group included China, Estonia, Japan, Poland, Thailand, the EU, and the Ukraine (Vigneron 1998, pp. 596–7).

The coastal states consisted of four active subgroups, all of which sought a legally binding agreement to at least better monitor high-seas fishing activities (Vigneron 1998, p. 597). The first active group, the ‘extreme coastal states’

absence of any binding guidelines have led to the increased popularity of ‘open registries’ (defined by the United Nations Conference on Trade and Development as a registry where less than 10 per cent of ships are owned by nationals of that flag state). The number of open registry states increased from 11 in 1980 to 32 in 2003. Few of these states were part of any regional conservation organization. Panama is the lone open registry state to have enacted legislation covering standards set forth by the International Labour Organisation for work in the fisheries sector (Warner-Kramer 2004, pp. 500–01)

group, led by Chile, Ecuador, Peru, and Colombia, advocated the doctrine of the 'presencial sea' doctrine, which would have validated their exclusive rights over resources beyond the internationally recognized EEZ (Barston 1995, p. 161). This group argued that such an extension of territorial rights was necessary for the maintenance of the eco-system of the territorial waters of these states (Picard 1996, p. 340).

A second group of activist states that included Canada, Argentina, and Norway took a more restrained approach, advocating a right to control straddling stocks in areas adjacent to their EEZs. However, this group also developed a common position with the extreme coastal states to advocate an expanded zone subject to inspection and a right of a state to enact its own measures in its EEZ absent any consensus in a regional organization over minimum standards (Barston 1995, p. 160–61).

A third group, of moderate reformers, consisted of Australia and New Zealand. These states focused on improving the current measures instead of reformulating the boundaries of the EEZ. They advocated the establishment of a scientific data collection system and an increase in the responsibilities of flag states to monitor their vessels (Vigneron 1998, p. 596).

A fourth position was taken by the United States government, which faced domestic pressures from both a strong fishing industry and a strong pro-conservation lobby, forcing it to seek a compromise. The fishing lobby's aforementioned political influence provided a strong voice in favor of ensuring that the freedom of the high seas remained, especially in the plentiful 'Peanut Hole' in the Sea of Okhotsk. On the pro-conservation side, environmental groups had organized a consumers' boycott against tuna caught in driftnets because these methods also resulted in the suffocation of dolphins. In 1990, major American tuna processing companies responded to consumer demand by severing their business relationships with fishermen whose methods were unsafe for dolphins and attaching a 'dolphin-safe' label to canned tuna. That same year, Congress prohibited the sale of any tuna that failed to meet the dolphin-safe standard. The United States had also introduced a United Nations resolution that banned driftnet fishing on the high seas,²⁹ and amended the Magnuson-Stevens Fishery Conservation Management Act to ban the importation of products from states whose ships use large-scale driftnet fishing methods.³⁰ In the same period, beginning in the mid-1980s, US shrimp trawler fishermen were required to carry turtle excluder devices

²⁹ Following introduction of this resolution, Japan, Korea, and Taiwan all abandoned their driftnet fishing practices (Carr and Sheiber 2002, p. 65).

³⁰ In 1990, the United States imposed an embargo on imports of Mexican tuna. This action was subject to a series of GATT dispute settlement challenges, which the US government lost. See discussion below, at pp. ____–____.

(TEDs) to prevent turtles from drowning in their nets. Because US fishermen believed that these methods placed them at a competitive disadvantage, they collaborated with environmental groups to compel Congress to embargo shrimp imports by states whose vessels did not use TEDs.³¹ Thus, the US sought to promote conservation but not at the expense of its own opportunities on the high seas (Vigneron 1998, p. 596; Carr and Scheiber 2002, pp. 63–6; Ardia 1998, p. 563).

The coastal states quickly established and maintained a unified front. Immediately after the establishment of the Conference on Straddling Fish Stocks and High Migratory Fish Stocks, Canada hosted a meeting in which the coastal states coordinated their positions (Vigneron 1998, p. 595). This unity, combined with leverage derived from their control over EEZ fishing, allowed the coastal states to pressure the distant-water fishing states to adopt measures that would restrict their high-seas fishing activity despite UNCLOS' pronouncement of the freedom of the high seas.

The result was the 1995 United Nations Agreement on the Implementation of the Provisions of the UN Law of the Sea of 10 December 1982 Relating to Conservation and Management of Straddling Fish Stocks and High Migratory Fish Stocks (the Fish Stocks Agreement). The Fish Stocks Agreement managed to extend jurisdiction over high seas to areas that are 'compatible and coherent' with the protection of certain straddling and migratory stocks (Wolfrum et al. 2000, p. 240). The final agreement is asymmetric in the sense that it strikes a balance favored by coastal states and places greater restrictions on fishing than was preferred by distant-water fishing states. There is no evidence that coastal states made side-payments to induce commitment by distant-water fishing states. Under Article 7-2(a), distant-water fishing states are bound to not take actions on the high seas that would undermine conservation measures enacted by coastal states. By contrast, Article 7-2(b) merely requires coastal states to take previous high seas measures into consideration when they formulate their own conservation and management measures (Vigneron 1998, pp. 598–9).

The agreement stipulates that regional organizations will coordinate management policies for the high seas. Article 8(3) provides that states must either join a regional organization or agree to abide by the conservation measures established by that organization. Article 8(4) excludes states that are not members of the relevant regional fishing organization from fishing for the relevant fishing resources. Where there is no existing regional organization,

³¹ In 1998, the WTO invalidated US administration of the law but later ruled that subsequent administration efforts were WTO-consistent. See discussion below at pp. ____–____.

Article 8(5) states that ‘relevant coastal states and states fishing on the high seas for such stock . . . shall cooperate to establish such an organization’. The coastal states also managed to obtain detailed clauses regarding mandating transparency for non-governmental organizations. The distant-water fishing states succeeded in leaving the regional organizations with some autonomy to set their own standards, even though the coastal states favored using their leverage at the talks to secure as many minimum international standards as possible. However, the lack of a firm mandate for the standards in regional organizations was not important to the US government, because the access to its market provides enough leverage to dominate regional organizations (Vigernon 1998, pp. 599–600; Wolfrum et al. 2000, pp. 240–41).

To facilitate compliance, the agreement provides for increased information collection and increased inspection powers for regional organizations to mitigate the effects of lax flag-state enforcement. It also increases the duties of flag states. Article 14 obligates states to provide comprehensive data relevant to straddling stocks and migratory fisheries. Article 21 allows any member of a regional organization to inspect any vessel belonging to another party-state (whether or not the flag state is a member of the particular regional organization) that is located within the regional organization’s territory for the purpose of ensuring compliance. Article 18 contains numerous requirements for the licensing and regulation of vessels flying that country’s flag. Article 33 limits the contravening behavior of non-parties by stating that all parties have the obligation to ‘deter the activities of vessels flying the flag of the non-parties which undermine the effective implementation of this Agreement’. As of 13 August 2004, there were 52 signatories to the Fish Stocks Agreement, including the European Union and the United States, but many distant-water fishing states – including Japan and China – had not ratified the Agreement.

To date, the results of the Agreement have been mixed. The Agreement failed to address an important source of the overfishing problem: fish subsidies regimes among developed states. Fish subsidies have favored the continued growth of the fishing industry to over 4 million boats despite stagnant yields (Eichenberg and Shapson 2004, p. 590). Experts estimate that subsidies account for as much as 20–25 per cent of the commercial fishing industry’s annual revenues (Schorr 1999, p. 144). Although Pacific Rim nations have made this a priority trade issue, the United States and EU have historically opposed addressing fisheries subsidies within the WTO regime.

In addition, the increased number of open registries threatens to diminish the effectiveness of the agreement. Because none of the 32 open registry states have signed any of the major international agreements on high seas activity, the increase in vessels flying the flags of these states is seen by some as an ominous sign (Warner-Kramer 2004, p. 501).

Nonetheless, the Fish Stocks Agreement has produced some positive

results for an area once believed to be impossible to regulate. In recent years, there has been a 'perceptible slowing' of the trend towards fisheries depletion (Carr and Scheiber 2002, p. 77). In 2000, pursuant to the Agreement, 25 Pacific states, including the United States, concluded a regulatory regime for the Pacific: the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Article 9 of this Convention entrusts a commission with the power to determine the acceptable level of fishing and establish mechanisms to ensure cooperation. In 2002, pursuant to the Fish Stocks Agreement, the EU passed two relevant regulations: Regulation EC No. 2371/2002 calls for multi-annual management and recovery plans for fisheries, and Regulation EC No. 2347/2002 establishes access requirements for deep sea waters designed to limit fishing efforts. By the end of 2004, there were almost 30 international fishery organizations (Kiss and Shelton 2004, pp. 404–7).

In short, the power of coastal states has established an international basis for protection of global fisheries.

3. International agreements on air pollution and climate change

Initiatives to address global air pollution and climate change have resulted in two significant agreements, the Montreal Protocol and the Kyoto Protocol. The former agreement, which resulted from US-European coordination to use side-payments (in the form of financial assistance) and coercion (in the form of market leverage) to garner the support of developing countries, enjoys nearly global adherence and has been effective at substantially reducing the production and use of ozone-depleting substances. In contrast, the Kyoto Protocol embodies an approach to stemming global climate change that has split the world's two most powerful economic actors, the United States and the EU, so while the EU is a party to the agreement, the United States is not and the regime is ineffective.

3.1. The Montreal Protocol

The ozone layer, a sheet of O₃ molecules, furnishes protection against the sun's ultraviolet radiation and against increases in the temperature of the stratosphere (Sands 2003, p. 343). Man-made emissions of inert gases, most notably chlorofluorocarbons (CFCs) and halons, rise to the ozone layer where ultraviolet rays break them down.³² The decomposition of these CFCs and halons yield free chlorine and bromine, respectively, both of which erode the

³² CFCs are used commonly as refrigerants, air conditioner coolants, aerosol-spray cans, styrofoam production (Sands 2003, p. 343), and solvents for cleaning electronic parts (Wettestad 2002, p. 156).

ozone layer. Scientists have shown that this erosion can cause harm to both human health and marine organisms.

In the mid-1970s, two groups of American scientists connected the emissions of CFCs with the erosion of the ozone layer. By the end of the 1970s, this issue attracted enough attention to be placed on the agenda of the UNEP and the World Meteorological Organization (Wettestad 2002, pp. 155–6). In 1985, the Vienna Convention for the Protection of the Ozone Layer was concluded, establishing a duty to cooperate on legal, technical, and scientific assessments,³³ and providing for exchange of information³⁴ (Kiss and Shelton 2004, p. 575). Article VIII provided the Conference of the Parties with the right to adopt Protocols.

After the Vienna Convention, the UNEP and the World Health Organization (WHO) published reports indicating serious dangers of continued trends in the production of CFCs (Kiss and Shelton 2004, p. 575). In 1987, the parties gathered in Montreal to sign a protocol that would be repeatedly amended to become increasingly stringent. The 1987 version stipulated that industrial countries would reduce their CFC emissions by 50 per cent by 1998 and halt halon production by 1992 (Kiss and Shelton 2004, p. 576). The Protocol entered into force on 1 January 1989. Article 7 of the Protocol constituted a compliance regime built on transparency alone: parties must report on production, imports, and exports of all controlled substances (Sands 2003, p. 356).

At the time of the first meeting of the parties in May 1989, new information indicated that ozone depletion was two to three times worse than previously thought. By the 1990 London Conference, the United States had succeeded in persuading the EC to declare it would eliminate CFCs by 2000 and would join the United States in agreeing to provide financial assistance to developed countries in order to support their compliance. India received a side-payment, commonly valued in India at \$40 million, to agree to phase out the use of certain CFCs (Herring 1998). In 1992, the parties advanced the dates for industrial countries to eliminate halons (by 1994), CFCs (by 1996), methyl chloroform, and carbon tetrachloride. By 1996, the parties had agreed to eliminate methyl bromide production in industrialized countries by 2010, an expedited elimination of HCFCs in industrial countries, and their elimination in developing countries by 2040 (Kiss and Shelton 2004, pp. 576–7; Wettestad 2002, p. 159).

³³ See Annex I and Article II of Vienna Convention for the Protection of the Ozone Layer, 26 ILM 1529 (1985).

³⁴ See Annex II and Article IV of Vienna Convention for the Protection of the Ozone Layer, 26 ILM 1529 (1985).

In 1999, the Protocol's member-states strengthened the compliance regime by banning the importation and exportation of restricted products listed in Annex C from both member and non-member states. In 2001, the member-states passed a measure that requires them to request that private industry cover costs of the potential harm caused to ozone by new substances (Kiss and Shelton 2004, p. 578).

As a result of US–EU coordinated use of carrots and sticks to bring the world on board, the Montreal Protocol has been one of international environmental law's greatest global successes. From 1988–95, the annual production of the most menacing ozone-depleting substance, CFCs, had decreased by 76 per cent (Kiss and Shelton 2004, p. 579).

3.2. *Division among the powerful: climate change and the Kyoto Protocol*

Global warming is a climate trend that describes the trapping of the sun's radiation in the atmosphere by the emission of greenhouse gases (GHGs),³⁵ which has resulted in an increase of the global temperature over the decade of the 1990s of 0.5–0.9 degrees Celsius (Breidenrich et al. 1998, p. 315, fn. 3; Oberthur and Ott 1999, pp. 6–7; Victor 2001, p. 10).³⁶ Since the industrial revolution, the atmospheric concentration of carbon dioxide has increased by almost 30 per cent (Oberthur and Ott 1999, p. 7). This increase can be attributed largely to human activities, particularly the use of fossil fuels³⁷ to provide electricity and to power engines. The resulting warming trend has strengthened to the point that the decade of the 1990s was the warmest period in the last two millennia.³⁸ The continued acceleration of this warming trend³⁹ would likely precipitate negative changes in weather patterns, leading to increased desertification, disease, and floods. The Intergovernmental Panel on

³⁵ Greenhouse gases include carbon dioxide, nitrous oxide, methane, sulfur hexafluoride, hydrofluorocarbons and perfluorocarbons. Carbon dioxide emissions alone account for 70–72 per cent of the greenhouse effect and comprised 82 per cent of the GHG emissions by industrialized countries in the early 1990s (Breidenrich et al. 1998, p. 315, fn. 3; Oberthur and Ott 1999, pp. 6–7).

³⁶ For a brief summary of skeptical views on the certainty of global warming, see Murkowski 2000, pp. 347–8.

³⁷ The main fossil fuels are oil, coal, and gas, all of which emit carbon dioxide.

³⁸ The increase in temperature is all the more impressive because there was a period of global cooling from 1945–70 that may be attributed to the dimming of the sun or an increase in aerosol production resulting from volcanic and industrial activity (Victor 2004, p. 10).

³⁹ A recent study, sponsored group of scientific experts on the United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC), projected that current emission trends mean a likely increase in the global mean temperature in between 1.4 and 5.8 degrees Celsius by 2100 (Browne 2004, p. 22).

Climate Change (IPCC) concluded that it is necessary to reduce human emissions by 60 per cent from their 1990 levels to avoid worsening the atmospheric concentrations of GHGs (Houghton *et al.* 1990, p. xxxvi).

Early multilateral efforts to address global warming Multilateral efforts to control climate change began in 1988, when the UNEP created the IPCC to assess trends in climate change. In 1992, the IPCC's above-mentioned findings regarding the need for sharp emissions reductions led to the United Nations Framework Convention on Climate Change (UNFCCC).⁴⁰ The 155 participants called for stabilizing the level of GHG concentrations in the atmosphere. The Convention urged all the countries listed in Annex I (mostly developed countries)⁴¹ to take actions to limit human-induced GHG emissions. In April 1995, the UNFCCC signatories signed the Berlin Mandate, which stipulated that the Annex I countries would 'elaborate policies and measures, as well as set quantified limitation and other reduction objectives within specified timeframes' such that they would bring GHG emissions back to their 1990 levels.⁴² In December 1995, the IPCC's Second Assessment Report emphasized the need for action by declaring 'the balance of evidence suggests that there is a discernible human influence on global climate' and that states could adopt measures to combat this trend.

The Kyoto negotiations In December 1997, representatives of over 160 states gathered in Kyoto, Japan to commit to halting human-induced climate change. Almost from the outset, the United States and a handful of other countries were isolated by the EU, former Eastern Bloc countries, and developing countries, which demanded a formula whereby most of the costs of GHG emissions reduction would be borne by the United States and a handful of other smaller developed countries. Under that formula, which was putatively consistent with the Berlin Mandate, 1990 was to be used as the base year for establishing maintenance and reduction commitments.

In 1990, the European Union accounted for 24.2 per cent of the carbon dioxide emissions from industrialized countries (Oberthur and Ott 1999, pp. 15–16).⁴³ At that time, these emissions had been expected to increase another 5–6 per cent by 2010. However, by the time of the Kyoto negotiations in 1996,

⁴⁰ United Nations Framework Convention on Climate Change, 31 ILM 849 (1992) (entered into force 21 March 1994) (hereafter UNFCCC).

⁴¹ The Annex I group is commonly referred to as the 'developed countries' and includes members of the OECD and some states located in the former Eastern Bloc.

⁴² FCCC Conference of the Parties, 1st Sess., UN Doc. FCCC/CP/1995/7/Add.1, Decision 1/CP.1 (6 June 1995).

⁴³ This amounted to 15–16 per cent of the global emissions of carbon dioxide.

the reunification of Germany and the privatization of the British energy industry had led to respective emissions reductions of 10 per cent and 5 per cent from their base year levels.⁴⁴ The EU's dependence on imported fossil fuels also created a strong incentive to adopt conservation measures. Furthermore, EU industry was not an impediment: the protocol figured to benefit a large portion of European industries that had already undertaken commitments to reduce emissions.⁴⁵ The business community generally supported further reduction commitments as long as they were also applied to other industrialized countries. The fact that Green Parties had achieved parliamentary representation in over two-thirds of the EU member-states indicated public support for environmental measures (Oberthur and Ott 1999, p. 16). These environmentally favorable circumstances enabled the European Union to adopt an ambitious negotiating position that called for a mandatory 15 per cent reduction of 1990 emissions levels by 2010. Although the EU requested permission for 'internal differentiation', a scheme whereby different EU Member States could commit themselves to different levels of reductions as long as the EU as a whole met its assigned target, it did not support this policy outside the EU.⁴⁶ The EU proposed that developing countries should not undertake any new commitments (Schroder 2001, pp. 32–3).

The developing countries supported the European position, asserting that they should not be required to make any reduction commitments as the Berlin Mandate did not require them to agree to any reductions. Developing countries comprise three-fourths of the world's population and account for less than one-third of all carbon dioxide emissions (Grubb et al. 1999, p. 113). However, the lack of stringent air pollution standards in these countries and their likely continued economic growth means that their total emissions will surpass those of the developed countries by 2020 (Heller and Shukla 2003, p. 44).⁴⁷ By the time of the Kyoto negotiations, the coalition of developing countries known as the Group of 77 consisted of 130 countries, and China, although not a formal member, collaborated closely with it. A large subgroup of these countries maintained a common negotiating position, arguing that they should

⁴⁴ German reunification had led to the closure of many emission-intensive industries in the eastern portion of the country. The British energy privatization led to a shift from coal to gas which is not as emissions-intensive (Grubb et al. 1999, p. 81).

⁴⁵ For instance, German industry had already committed itself to a 20 per cent reduction in 1987 levels by 2005 (Schroder 2001, p. 50).

⁴⁶ The plan permitted the EU's poorest countries to significantly increase emissions. For instance, Portugal was allocated a 40 per cent increase, Greece 30 per cent, and Spain 17 per cent (Schroder 2001, pp. 33, fn.77, and 50).

⁴⁷ China is expected to surpass the United States as the world's top emitter of greenhouse gases in 2020 (Oberthur and Ott 1999, p. 27).

be able to develop without need to address a problem they did not cause, and that no developing country commitment should interfere with their sovereignty over their natural resources (Oberthur and Ott 1999, pp. 24–7). The G-77 supported the EU's proposal that called for 15 per cent reductions from 1990 levels among Annex I states and opposed all flexibility mechanisms that would soften the economic costs of complying (Grubb 1999, pp. 58–9).

The states within the Former Eastern Bloc accounted for 17.4 per cent of global emissions in 1990. The closure of many vastly inefficient and energy-intensive enterprises had led to significant reductions in emission totals by 1997. Russia's carbon dioxide emissions had fallen by 30 per cent since 1990. Because these states were unlikely to approach their 1990 emission levels any time in the near future, any agreement that used 1990 as the baseline year and permitted emissions trading would allow these states to reap a financial windfall. Russia could earn as much as \$3 billion annually from selling emissions credits. Hence, these countries also generally supported the EU position (Oberthur and Ott 1999, p. 21; Yandle and Buck 2002, p. 223).

The United States, which accounted for 35 per cent of the total carbon dioxide emissions of industrialized countries in 1990 (Oberthur and Ott 1999, p. 18), found it impossible to agree to the formula supported by the EU and most other countries. First, by the time of the 1995 negotiations, US emissions had already increased significantly since 1990.⁴⁸ Moreover, half of the emissions in the United States were from products that had a life-expectancy of at least 25 years, meaning that reversing the upward trend in emissions by 2008 would be impossible without seriously disrupting the economy. More broadly, the low cost of cheap fossil fuels within the United States has led to an energy-intensive lifestyle that has reduced the incentive for conservation. The existence of a large domestic fossil fuel industry created another loser from energy conservation (Victor 2004, pp. 3–4; 30–37; Grubb et al. 1999, p. 31).

In 1997, as the Kyoto negotiations were approaching their conclusion, a US domestic lobbying effort against the Kyoto formula began in earnest. A business lobby consisting of fossil fuel and other industrial companies launched a \$13 million advertising campaign against the Kyoto Protocol, arguing that it would leave the US companies at a competitive disadvantage against developing countries. The industrial lobby also began to shadow the US delegation at climate conferences (Schroder 2001, p. 48). Shortly before conclusion of the Kyoto Protocol, the US Senate passed the Byrd-Hagel Resolution by a 95–0 margin,⁴⁹ making approval of any binding commit-

⁴⁸ At close of 1990s, US emissions were already 15 per cent above 1990 levels and rising at 1.3 per cent annually (Victor 2004, pp. 3–4).

⁴⁹ The Byrd-Resolution can be located at: S. Res. 98, 105th Cong. (1997).

ment on the United States dependent upon a reciprocally binding commitment on developing countries.

These economic and political realities meant that the United States required a more flexible approach to meeting any potential obligations. The United States proposed a binding target to reduce emissions to 1990 levels by 2008–12, subject to flexibility mechanisms that would have provided alternative channels to gain emissions credits (Schroder 2001, p. 39; Grubb et al. (1999), pp. 89–96, 133–6). The proposed flexibility mechanisms included a joint implementation rule, a clean development mechanism that included an emissions trading scheme, and credit for carbon sinks (natural resources that recapture carbon from the atmosphere).⁵⁰ Furthermore, the Byrd-Hagel Resolution meant that the United States needed to secure some commitments from developing countries.

The United States had formed an informal coalition with a group of other developed countries consisting of Japan, Switzerland, Canada, Australia, Norway, and New Zealand. The goals among members of this coalition, known as JUSSCANZ, were not completely compatible, but these states were all committed to avoiding unduly harsh reduction commitments. Together the JUSSCANZ states accounted for 14.7 per cent of the carbon dioxide emissions among developed countries in 1990 (Oberthur and Ott 1999, pp. 15–18, 21).

States were not the only participants in the negotiations. An estimated 250 NGOs were observers in Kyoto. Business NGOs lacked a monolithic position. Although ‘gray’ groups that favored substantial flexibility were represented, other business NGOs such as the World Business Council for Sustainable Development and much of the insurance industry sided with environmental interests. Although differences existed among the ‘green’ NGOs, these NGOs remained committed to presenting a coordinated position. Representatives from these groups formally intervened in negotiating sessions, attended informal contact group meetings, and gained access to diplomats. Environmental NGOs also made strong efforts to involve the media by organizing press conferences and providing background materials. In turn, these media reports increased public support for an agreement (Oberthur and Ott 1999, pp. 31–2, 76; Carpenter 2001, p. 319).

⁵⁰ Joint implementation would permit industrial countries to obtain credit for implementing climate protection measures abroad in other Annex I countries. The clean development mechanism would permit reductions for activities similar to joint implementation in non-Annex I countries. Carbon sinks are processes such as reforestation, afforestation, and land-use changes that result in the recapture of carbon from the atmosphere. Emissions trading is the process where a country that has not used its emission allotment can sell its unused portion to a country that has exceeded its allotment (Grubb et al. 1999, pp. 89–96, 131–2; Sands 2003, p. 374.)

Thus, the negotiating states involved found themselves under increased public pressure to reach an agreement. The alliance between the European Union, the countries in transition, and the developing countries capitalized on the increased external pressure to present the United States with an agreement that failed to meet the standards of the Byrd-Hagel Resolution. US representatives admitted that their fear of being held responsible for a failure in the Kyoto negotiations compelled them to sign the agreement (Schroder 2001, p. 92). The agreement contained some flexibility mechanisms, most notably the clean development mechanism, an emissions trading scheme that could take pressure off the North's pace of emissions reduction, and that could be seen as a side-payment to the South by virtue of technology transfer provisions and the likelihood of paying developing countries for emissions credits. Yet the United States suffered fatal defeats on other issues in the Protocol. In order to assure a 5 per cent global reduction in emissions by 2012, the agreement provided that the United States would reduce its carbon dioxide emissions by 7 per cent of its 1990 levels, which would have required a 25 to 30 per cent reduction in projected emissions levels (Schelling 2002, p. 3). While the EU agreed to an 8 per cent reduction for itself, it was already within range of those levels due to the above-mentioned changes in emissions among these economies since 1990 (Yandle and Buck 2002, p. 221). Furthermore, the EU was allowed to continue to pursue 'internal differentiation', but other states were not permitted to do so. Developing countries have no reduction commitments. The treaty was to enter into force upon the ratification of at least 55 countries including Annex I parties which collectively account for at least 55 per cent of the emissions among developing countries.⁵¹

Post-Kyoto negotiations and entry into force At the Hague Summit in November 2000, the signatories gathered to discuss outstanding issues, especially those relating to flexibility mechanisms. Carbon sinks became the focus of disagreement between the EU and United States. The United States requested credits for 20 per cent of the 288 million tons of carbon dioxide that its forests absorb annually. NGOs and the majority of developing countries supported the EU's stance of opposing significant crediting for carbon sinks. (Yandle and Buck 2002, p. 221; Grubb and Yamin 2001, pp. 264, 271–2).

The failure to obtain more favorable terms for the use of flexibility mechanisms left the United States with a costly agreement. The US Department of Energy reported that the implementation of the Kyoto Protocol would cause US gas and electricity prices to increase by 53 per cent and 86 per cent, respectively, by 2010 (Energy Information Administration 1998). Labor unions

⁵¹ Kyoto Protocol, Art. 25.

opposed the agreement on the expectation that it would lead to job losses in seven figures (Yandle and Buck 2002, pp. 202–3). In March 2001, President George W. Bush cited the high costs of participation to justify US withdrawal from the treaty process.

The remaining countries subsequently finalized outstanding details. Given the requirement that the treaty's signatories must account for at least 55 per cent of the industrialized countries' emissions for the treaty to enter into force, the absence of the United States forced the EU to make concessions to both Japan and Russia. In May 2004, the EU received a promise from Russia to ratify the treaty in exchange for the EU's endorsement of Russia's attempt to join the World Trade Organization. In late 2004, Russia ratified the treaty and submitted its ratification documents to the United Nations, triggering the Protocol's entry into force in February 2005.

The resulting agreement will be of limited effectiveness, at best. Without US participation, the deepest GHG reductions that can be expected by 2010 (compared to their 1990 levels) is a 2 per cent decline in the GHGs of parties to the agreement – yet without commitments for developing countries, the anticipated emissions growth in China and India alone will increase global greenhouse emissions by 75 per cent by 2020. (Macher 2004, p. 17). Moreover, as of the end of 2004, Canada, Japan, and most EU countries were not on target to meet their obligations, and they were likely to acquire credits from Russia through the Protocol's emissions trading scheme rather than incur the political costs of reducing emissions. Moreover, the Protocol lacks enforcement mechanisms and clear sanctions for countries that fail to meet their obligations (Victor 2001, p. 55). While the Kyoto Protocol has been used by many NGOs and countries to critique US international environmental policy, it is based on a politically divisive and unviable formula and it will not be effective at achieving its purported objectives.

4. Trade and the environment⁵²

Trade-environment issues have been part of the international law landscape since at least as early as 1947, when US trade negotiators included in the draft GATT a set of provisions intended to permit trade restrictions that would be necessary to protect the environment. They moved toward the center of environmentalist NGOs' concerns in the late 1970s, when trade measures intended to protect the environment were embedded in agreements such as CITES. However, it was not until the late 1980s that trade-environment issues became particularly potent in the United States and Europe (Esty 1994). At that time,

⁵² For elaboration of the points made in this Section, see Steinberg (1997 and 2002).

the EU adopted its Beef Hormones Directive,⁵³ discussed below, based partly on purported environmental and consumer concerns, leading to mobilization of the US beef industry, which claimed protectionism. At the same time, a series of GATT/WTO dispute settlement decisions relating to the environment mobilized environmental NGOs, which were further energized by concerns over the substance of agreements being negotiated in the GATT's Uruguay Round of trade negotiations.

After describing the core trade-environment issues, this section will analyze the politics behind and outcome of two significant trade-environment agreements, the Basel Convention and CITES, and then consider trade-environment politics in the world's three most important trade-related organizations – GATT/WTO, NAFTA, and the EU.

4.1. Core issues

Since the late 1980s, trade negotiators and environmentalists have considered a host of trade-environment issues, including fisheries subsidies (discussed above), tariffs on 'green' environmentally sound products (e.g., solar energy products), and the impact of trade liberalization on the global scale of consumption (Charnovitz 1994). However, the core of the debate has centered on two sets of issues: the legality of using import restrictions to protect the domestic environment, and the legality of using trade measures to influence activity affecting the environment located outside the jurisdiction of the country employing the measures.

Domestic health, safety, and environmental protection International trade organizations grapple with the tension between free trade and the desire of national governments to maintain domestic health, safety, and environmental standards. Environmentalists, consumer advocates, and labor unions often argue that liberalization increases the threat posed by imports to domestic health and safety standards, as imports with unsafe or dirty characteristics will face fewer trade barriers. To what extent may a country restrict imports for reasons related to protection of the environment within its territory?

Many who champion free trade are concerned that environmental regulations on international trade may be protectionist measures dressed up as 'environmental' measures. Such measures may garner domestic political support from what have been called 'Baptist-Bootlegger' coalitions of environmentalists and protectionists (Yandle 1983; DeSombre 1995). Serious US govern-

⁵³ Council Directive 96/22/EC of 29 April 1996, concerning the Prohibition on the Use in Stockfarming of Certain Substances Having a Hormonal or Thyrostatic Action, 1996 OJL 125, 3.

ment attention has been focused on European trade measures that have been supported by such coalitions. The EU's Beef Hormones Directive, which bans the European importation of beef from hormone-treated cattle, and the EU's *de facto* moratorium on the approval for sale of products containing genetically modified organisms (GMOs), are examples of such measures.

While protectionists often have a hand in measures like these, most governments want to be permitted to ban the importation of goods embodying standards that do not meet their chosen level of domestic environmental protection, as well as products embodying untested chemicals or genetically modified structures until they have completed scientific assessments of any potential risks posed by those products. In addition, most governments want to permit the eco-labeling of products so as to provide accurate and meaningful information to consumers about the potential environmental impacts of the products

Trade measures aimed at extrajurisdictional activity: endangered species, foreign pollution, and the 'race to the bottom' At the same time, many governments have expressed concern about activities affecting the environment that take place outside their jurisdiction. For example, several US statutes⁵⁴ and multilateral environmental agreements (MEAs) to which the United States is a signatory⁵⁵ are aimed at restoring populations of endangered or threatened species, or managing populations of other species, that inhabit territories outside the United States by means that affect the activities of persons who are not US nationals. And some of those statutes and MEAs require parties to impose import restrictions or prohibitions to achieve their ends. Some commentators and activists are concerned about lax environmental standards in jurisdictions outside the United States, for moral reasons or because of associated negative externalities. In addition, some fear that goods will be increasingly produced in and imported from countries imposing less stringent production and processing methods (PPMs)⁵⁶ because *ceteris*

⁵⁴ See, for example, African Elephant Conservation Act, Title II of the Endangered Species Act Amendments of 1988, PL 100-478; Marine Mammal Protection Act, 16 USC Sec. 1361 ff; Pelly Amendment to the Fisherman's Protective Act, PL 92-219 (1971); and Sec. 609 of PL 101-62 (1989) (generally prohibits imports of shrimp or shrimp products 'which have been harvested with commercial fishing technology that may affect adversely such species of sea turtles' protected under the US Endangered Species Act).

⁵⁵ For example, CITES, described beginning at p.

⁵⁶ The OECD Secretariat defines PPM standards as standards that 'specify criteria for how a product is manufactured, harvested, or taken. They encompass emission and effluent standards, certain performance or operations standards, and practices prescribed for natural resource sectors. Terms such as "made with" "produced by" and

paribus goods are less expensive to produce under such conditions; many fear that this could cause industrial flight to such countries and place downward pressure on the stringency of environmental rules worldwide – a ‘race to the bottom’ (Stewart 1977; Esty and Geradin 2001). Empirically, it has proven difficult to confirm the hypothesis that firm locational decisions are affected by the stringency of environmental measures or that there is, in fact, a race to the bottom (Anderson and Kagan 1997). Nonetheless, many find the argument theoretically compelling and some anecdotal evidence is consistent with the hypothesis.

At the same time, sovereignty suggests that states have an exclusive legal right to control activities within their own jurisdiction (Steinberg 2004). This principle has been used to argue that a country may not restrict the importation of a product on the basis that it was made in a jurisdiction that requires less stringent PPMs.⁵⁷ Most developing country governments fear that affluent countries may use such extrajurisdictional measures to effectively coerce them into raising their environmental standards to levels that will slow their economic development.

4.2. *The Basel Convention*

A sui generis regime, the Basel Convention, exemplifies some of the tensions inherent in trade regulation intended to help governments protect their domestic environment. The transportation of toxic waste from one country to another has been a common method of transferring the costs of pollution (Kiss and Shelton 2004, pp. 606–7). Insofar as hazardous waste has been exported, it has tended to move from developed to developing countries (Wolfrum et al. 2000, p. 410). By 1990, 10 per cent of the waste generated in OECD countries was transported across the border (Kiss and Shelton 2004, p. 607). The 1990s bore witness to several accidents involving the illicit dumping of waste in developing countries (Sands 2003, p. 690).

In the mid-1980s, environmental NGOs from Europe and the United States

“harvested by” signify a PPM standard . . . All PPM standards apply to the production stage, i.e., before a product is placed on the market for sale. These standards specify criteria for how a product is produced or processed. However, the PPM standard may address the environmental effects of a product all during its life-cycle, i.e., effects which may emerge when the product is produced, transported, consumed or used, and disposed of’. *Typology of Trade Measures Based on Environmental Product Standards and PPM Standards: Note by the Secretariat*, Joint Session of Trade and Environment Experts, OECD Environment Directorate and Trade Directorate, COM/ENV/TD(93)89 (28–30 September 1993).

⁵⁷ For example, this argument was advanced in ‘United States-Restrictions on Imports of Tuna’, Report of the Panel, DS21/R (unadopted), dated 9 September 1991, 39S/155 (hereafter Tuna I).

joined some developing countries, largely from Africa, to advocate the passage of a categorical ban on the international transport of hazardous waste (Wolfrum et al. 2000, p. 413). However, some other developing countries opposed such a ban, arguing that each sovereign state should be permitted to decide whether to import hazardous waste – whether to take payment for the import and bear the associated costs.

In 1989, broad international agreement was reached on the topic, when 116 states adopted the Basel Convention. The Convention defines hazardous waste as any substance or material generated in any one of 18 ‘waste streams’ and lists 26 substances that are hazardous regardless of whether they flow in a waste stream (Wolfrum et al. 2000, p. 412). The Convention contains general obligations to minimize both the generation of the relevant waste and its transboundary movement, and permits exports of the covered materials only if the exporting state lacks the capacity for environmentally sound disposal, the waste is required as a raw material for recycling or recovery in the importing state, or according to other criteria decided by the parties. The heart of the agreement is a system of prior informed consent which stipulates that the exporter must provide advance notification to the government of the importing state and any transit state, transportation through a party-state requires its permission, and the exporting country must accept the return of the waste if requirements for transboundary movement of waste are not met. Article 11 allows for more stringent bilateral agreements as long as they are at least as environmentally friendly as those terms in the Convention, and Articles 12 and 13 list detailed reporting requirements intended to foster compliance (Sands 2003, pp. 692–4).⁵⁸ By 2000, 39 states had prohibited the importation into or

⁵⁸ In December 1995, the parties to the Convention adopted Decision III/1. This decision, which is also known as the Ban Amendment, would prohibit the exports of hazardous waste from Annex VII countries (the EU and OECD states plus Liechtenstein) to non-Annex VII countries for the purposes of final disposal and recycling (Kiss and Shelton 2004, p. 609). This amendment will become effective after ratification by three-quarters of the members present at the time that the amendment was adopted. As of the end of 2004, about one-third (49) of the necessary ratifications had been secured and the United States had not yet ratified the Amendment.

In 2002, the parties developed guidelines for a liability protocol, which would establish strict liability for any person in control of the hazardous waste ‘from the point where the wastes are loaded on the means of transport in an area under national jurisdiction of the state of export’. Art. 5 of the Protocol allows the establishment of fault liability in the event that intentional, reckless, or negligent acts or omissions lead to violation of the Convention. This Protocol will enter into force after 20 countries have ratified it. Currently, there are 13 signatories and three ratifications (Kiss and Shelton 2004, p. 610; Sands 2003, p. 925). The Secretariat’s list of signatories and ratifications is available at <http://www.basel.int/ratification/frsetmain.php#protocol>. The United States has neither signed nor ratified the Protocol.

transshipment through their territories of transboundary waste (Kiss and Shelton 2004, p. 607).

4.3. *Convention on International Trade in Endangered Species*

CITES exemplifies many of the tensions inherent in a *sui generis* regime that uses trade measures to combat extrajurisdictional activity that is environmentally degrading. Some reputable scientists predict that up to 50 per cent of species alive in 2000 will become extinct by the end of the 21st century. The principal cause of this threat involves human activity that is destroying natural habitats. However, some species are also threatened by human hunting for their by-products such as hides, furs, and ivory. Experts appraise the likely retail value of the commercial wildlife trade at close to \$50 billion, much of it in luxury goods such as fur coats (Reeve 2002, pp. 7–8; Kiss and Shelton 2004, p. 389).

International action to address the problem of species extinction began in the 1950s, when it became apparent that international wildlife trade was threatening wildlife populations (Curlier and Andresen 2002, p. 358). Initial attempts to address this problem were made through regional treaties.⁵⁹ In 1963, the General Assembly of the International Union for the Conservation of Nature pressured states to adopt measures to restrict the trade in designated species (Reeve 2002, p. 27). By the 1970s, states such as the United States and United Kingdom had adopted national measures to restrict imports of animals facing extinction,⁶⁰ but the lack of an effective international regime rendered their actions largely ineffective (Curlier and Andresen 2002, p. 359).

Establishment of the CITES regime At the 1972 Stockholm Conference on the Human Environment, the state participants passed Resolution 99.3, which called for a conference to create a convention concerning the ‘import, export, and transit of certain species of wild animals and plants’. This led to a 1973 conference in Washington, DC, where approximately 80 states, including the United States, met to negotiate an agreement to address the problem. By December 1974, 56 states had signed CITES, which entered into force on 1 July 1975 (Curlier and Andresen 2002, p. 359; Kiss and Shelton 2004, p. 390).

The Western European countries, the United States, Canada, and Australia dominated the negotiations. Almost all wildlife trade is imported by developed

⁵⁹ For example, Article 9 of the 1953 Western Hemisphere Convention, to which the United States is a party, demands permits for the importation or exportation of any protected species (Curlier and Andresen 2002, p. 358).

⁶⁰ In 1964, the United Kingdom adopted the Animals Restriction of Importation Act (Curlier and Andresen 2002, p. 358); in 1969, the United States adopted the Endangered Species Conservation Act (Reeve 2002, p. 27).

countries from developing countries, imbuing the developed countries with dominant market power in negotiations to regulate the trade. The United States was influential enough that its draft text served as the working document for the Conference (Kiss and Shelton 2004, p. 389; Curlier and Andresen 2002, p. 359; Reeve 2002, p. 28).

Terms of the Convention The Convention provides protection to species based on the Appendix list on which they appear. Appendix I consists of 'all species threatened with extinction which are or may be affected by trade'. Trade⁶¹ in 'any recognizable part or derivative of a specimen of the listed plant or animal' is authorized only in exceptional circumstances.⁶²

Appendix II includes 'all species which although not necessarily threatened with extinction may become so unless trade in specimens is subject to strict regulation in order to avoid utilisation incompatible with their survival'. Commercial trade of such species is permitted if it is not detrimental to the survival of the species and the specimen was not obtained in violation of the exporting state's law. The importation of an Appendix II specimen only requires the presentation of an export permit or re-export certificate (Kiss and Shelton 2004, p. 391; Sands 2003, pp. 508–9).

Appendix III includes 'all species which any party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the co-operation of other parties in the control of trade'. Trade in such species requires an export permit from the management authority in the exporting state, but the standard for issuance of a permit is set solely by the exporting state (Sands 2003, p. 509).

The Convention also establishes a tracking system to monitor shipments and facilitate compliance with the agreement. Article IV establishes quality control standards for the issuance of permits and nomenclature to be used (Reeves 2002, p. 33; Sands 2003, p. 514).

The Convention resolves the free-rider problem by requiring in Article X

⁶¹ Art. I(c) defines trade as 'export, re-export, import, and introduction from the sea'.

⁶² Article III permits the conferral of an export permit only if: (1) a scientific authority of the exporting state has found that the export will not be detrimental to the survival of the given species; (2) a Management Authority believes that the given specimen was not procured in a manner that violates the given state's protection for fauna and flora; (3) the Management Authority must ensure that any living specimen must be shipped in a manner that minimizes the harm as much as possible; and (4) the Management Authority must be sure that the party in the importing country has obtained the requisite permit. In addition, the importing state's designated scientific authority must assert that the importation is not detrimental to the survival of the species.

that a party-state may import Appendix I or II species from a non-party state only if the goods are accompanied by 'comparable documentation' issued by 'competent authorities' in the exporting state, certifying that the non-party state has (1) made a non-detriment finding, and (2) the specimens in question were not obtained illegally. In order to be deemed 'competent', scientific authorities and institutions must be included in the Secretariat's most recent list of sanctioned non-state party authorities (Reeve 2002, pp. 34–5).⁶³

The development and effectiveness of the CITES regime The CITES regime now covers over 33,000 species of fauna and flora. The high-priority Appendix I list has doubled since the Convention entered into force (Kiss and Shelton 2004, p. 390).⁶⁴ The CITES Secretariat has proven much stronger and more independent than in most environmental regimes (Curlier and Andresen 2002, p. 367). CITES's transparency and open access structure⁶⁵ have allowed conservation-oriented NGOs such as Trade Records Analysis of Flora and Fauna in Commerce (TRAFFIC), the World Conservation Monitoring Center, and the World Wildlife Federation to monitor compliance and enforcement (Sands and Bedecarre 1990, p. 800). TRAFFIC is particularly influential as it collects information on the illicit aspects of the wildlife trade and shares the information with the Secretariat (Reeve 2002, p. 68).

CITES has been effective at establishing the basis for global management of endangered species. Perhaps its most well-publicized success has been reversing the rapid decline of African elephant populations, which in the 1980s were being hunted in unsustainable numbers in order to support a lucrative ivory trade. By the late 1990s, following implementation of CITES rules, African elephant populations were thriving in many countries. Indeed, some African countries were experiencing elephant overpopulation problems, yet

⁶³ The CITES Convention contains three potentially important exceptions. First, Article VII (2) allows a member-state's management authority to issue a certificate that exempts specimen 'acquired before the provisions of the present Convention applied to that specimen'. Second, parties have the right to register reservations either at the time of ratification or by attaching an amendment to the appendix. Third, a party can register its objections to the listing of an Appendix I or II species up to 90 days after the specimen is added to the list; an objection to an Appendix III species can be listed at any time. If a party registers an objection, it is treated as a non-party in matters concerning the specimen in question.

⁶⁴ Some of the more notable species on this list include the tiger, leopard, whale, and various kinds of parrots (Kiss and Shelton 2004, pp. 389–90).

⁶⁵ Art. XII empowers the Secretariat to obtain assistance from 'suitable inter-governmental or non-governmental, international, or national agencies or bodies technically qualified in protection, conservation, and management of wild fauna and flora'. Art. XI (7) states that NGOs have the right to participate as observers at the meetings.

most developed country governments and even environmental NGOs seemed so captured by popular public support for the plight of elephants that they ignored scientific assessments calling for diminished protection (Kaempfer and Lowenberg 1999; Kiss and Shelton 2004, pp. 395–6; Sands and Bedecarre 1990, pp. 806–16; Curlier and Andresen 2002, p. 370; Reeve 2002, pp. 81–8). By contrast, issues that do not capture as much public attention have been easier to address in a scientifically sound manner. For example, the crocodile was the first instance of downgrading a species from Appendix I to Appendix II. The sustainable use approach to management of the crocodile has led to a constant population; in turn, illegal trade has dwindled (Curlier and Andresen 2002, p. 370).

4.4. International trade organizations

State power and interests on trade-environment issues explain the relative environment-friendliness of trade rules in the world's three most important trade regimes – the WTO, European Union, and NAFTA. Process-tracing shows that in all three organizations, richer countries have been the demanders of greener rules; richer countries have used access to their large markets – threats to open or promises to close them – as a source of leverage in trade-environment negotiations; and green trade rules have become more salient in richer countries as integration has deepened. Thus, among the three regimes, trade rules are most environment-friendly in the European Union (because it has the deepest integration and market power has been concentrated in the large countries of northern Europe, most notably Germany), moderately environment-friendly in the NAFTA context (where market power is concentrated in the United States but where there is comparatively moderate integration), and least environment-friendly in the GATT/WTO (which has the least integration and the most diffuse market power structure) (Steinberg 2002). There is nothing inherent in the concept of integration to suggest that deepening integration will lead to more environment-friendly rules; the correlation exists only because of the political dynamic – that environment-friendly rules in a trade regime become more salient to powerful states as integration deepens.

In each of the three regimes, rules on the environment are best seen as a result of both side-payments and coercion. As indicated above, process-tracing shows that within each trade regime powerful states used access to their large markets as a source of leverage in demanding that poorer, weaker states agree to rules that are more environment-friendly than they preferred. Moreover, it is not clear that all states were made better off by accepting the relevant package of rules: in particular, as argued below, some WTO countries may have been made worse off than before by accepting the package of Uruguay Round agreements.

Trade-environment issues in the GATT/WTO Trade-environment rules are less well developed and less environment friendly in the GATT/WTO than in some other trade organizations, such as the NAFTA and the EU.

Three sets of GATT/WTO rules are most relevant to defining the conditions under which a green country can ban imports that threaten the maintenance of its chosen levels of domestic health, safety and environmental protection. First, Article XX – the GATT’s ‘general exceptions’ – allows import bans, discrimination against imports, and other deviations from the GATT’s rules in specified circumstances, including some relating to the conservation of exhaustible natural resources and some relating to human, animal or plant life, health or safety. Second, the Uruguay Round Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)⁶⁶ covers measures relating to human, animal and plant health and safety in agriculture, including, *inter alia*, pesticide and fungicide tolerances, and inspection rules for meat. Third, the Agreement on Technical Barriers to Trade (TBT)⁶⁷ was designed mainly to ensure that technical standards and regulations not addressed by the SPS Agreement are not used for protectionist purposes.

The general rule under the GATT, the SPS Agreement, and the TBT Agreement is that each country may maintain regulations necessary to protect domestic life and health, and conserve exhaustible natural resources, and may determine for itself the level of risk it deems appropriate to embody in its product standards.⁶⁸ In general, the importation of products not meeting those standards may be prohibited. Each country may provisionally prohibit imports of goods while national control, inspection and approval procedures (e.g., FDA approval) are under way.⁶⁹ These environment-friendly rules are qualified to ensure that they are not used as disguised means of protectionism. Hence, product standards that limit imports must be applied on a most-favored-nation

⁶⁶ The SPS Agreement was concluded as part of the Uruguay Round agricultural negotiations and catalyzed primarily by EU-US rows over health and safety measures relating to beef, wine, and other agricultural products. Agreement on the Application of Sanitary and Phytosanitary Measures, 15 April 1994 (hereafter SPS Agreement).

⁶⁷ The TBT Agreement is applied multilaterally through the Uruguay Round Final Act. Agreement on Technical Barriers to Trade, 15 April 1994.

⁶⁸ SPS Agreement, 15 April 1994, Arts. 2, 5, Agreement Establishing the World Trade Organization, Annex 1A, in Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh, 15 April 1994, p. 69 (hereafter Final Act); Agreement on Technical Barriers to Trade, 15 April 1994, preamble, *id.* at 17; GATT (hereafter TBT Agreement). See also GATT Dispute Panel, Thailand – Restrictions on Importation and Internal Taxes on Cigarettes, 7 November 1990, GATT, BISD (37th Supp.) (1990), p. 200 (hereafter Thailand Cigarettes).

⁶⁹ SPS Agreement, Art. 5.7 and Annex C; TBT Agreement, Arts. 2–4.

(MFN) basis,⁷⁰ must be subject to national treatment disciplines,⁷¹ must not 'arbitrarily or unjustifiably discriminate' against imports,⁷² and must not be 'more trade restrictive than necessary'⁷³ to achieve the chosen level of environmental protection.⁷⁴ SPS measures either must conform with international standards, guidelines or recommendations – in which case they are deemed WTO-consistent – or must not be maintained 'without sufficient scientific evidence' of a relationship to the harm to be avoided.⁷⁵

This balance may be considered friendly to the environment within the jurisdiction of a WTO member with relatively stringent environmental standards, inasmuch as members can generally ban imports that would undermine their domestic environmental protection. However, qualifications of that right may be used to attack the WTO legality of national environmental laws, as the decision in the WTO Beef Hormones case⁷⁶ has shown. Moreover, the GATT/WTO approach will not likely increase environmental protection in countries with relatively weak standards to the same extent that harmonization at a high level of protection would.⁷⁷ The net result of these GATT/WTO rules will be maintenance of, but little improvement in, the level of global environmental protection.

The GATT/WTO dispute settlement system has never fully condoned a challenged trade restriction aimed at extrajurisdictional environmental activity.

⁷⁰ SPS Agreement, Art. 2.3; TBT Agreement, Art. 2.1.

⁷¹ SPS Agreement, Art. 2.3; TBT Agreement, Art. 2.1.

⁷² SPS Agreement, Art. 2.3; TBT Agreement, preamble.

⁷³ SPS Agreement, Art. 2.2; TBT Agreement, Art. 2.2. The SPS Agreement uses the word 'necessary', while the TBT Agreement uses the word 'required'. See also GATT, Art. XX; Thailand Cigarettes.

⁷⁴ A footnote in the SPS Agreement clarifies the meaning of this language: to challenge an import restriction successfully under this language, the challenging party must show that another measure that would achieve the same level of protection is 'reasonably available' and would be 'significantly less restrictive to trade'. SPS Agreement at n. 3.

⁷⁵ SPS Agreement, Art. 2.2.

⁷⁶ 'European Communities – Measures Concerning Meat and Meat Products (Hormones)', Report of the Appellate Body', adopted on 13 February 1998, WTO Doc. WT/DS26/AB/R, WT/DS48/AB/R.

⁷⁷ The GATT/WTO approach may nonetheless result in some upward harmonization via two means. First, the SPS Agreement regards conformity to international standards as GATT-consistent, creating an incentive for poor countries that cannot afford testing simply to default and choose the international standard, which is generally more stringent than current developing country standards. Second, the right of wealthy green countries to ban imports that do not conform to their relatively stringent standards is likely to create market pressures on developing countries to produce products for export that meet those higher standards. On this latter point, see David Vogel (1995).

Developing countries have consistently opposed a right of importing countries under the GATT to impose any trade restriction or duty surcharge on goods produced in countries with less stringent PPMs. In addition, there has been no agreement to harmonize PPMs at a high level of environmental protection. GATT Article XX provides exceptions to the GATT's liberal trade rules, including actions necessary for the protection of human, animal or plant life or health,⁷⁸ or the conservation of exhaustible natural resources.⁷⁹ Those provisions were interpreted, in the Tuna II decision,⁸⁰ to permit import restrictions for the protection of health or exhaustible natural resources only within the national jurisdiction of the importing party.⁸¹ That decision suggested that it would be GATT-illegal to apply CITES to goods exported from a GATT contracting party that was not a party to CITES. However, by 2005, less than a dozen WTO members were not members of CITES, implying that any risk of the WTO scuttling CITES is minimal (Reeves 2002, p. 314).

Moreover, the more recent and authoritative 'Shrimp-Turtle' Appellate Body Report⁸² backed away from the Tuna II report's stance on the jurisdictional limitation of the relevant Article XX exception, representing a potentially environment-friendly shift in GATT/WTO jurisprudence. The Appellate Body expressly avoided a decision on the jurisdictional scope of Article XX(g), instead analyzing several factors that must be considered in determining whether such import measures might be deemed WTO-illegal on grounds that they were 'arbitrary' or unjustifiably 'discriminatory'. The Appellate Body ruled that the US shrimp-turtle law was WTO-inconsistent, and identified factors that limit the circumstances under which unilateral import measures aimed at extrajurisdictional activity would be found WTO-legal. Developing countries have cheered the resulting rules, fearing 'eco-imperialism' by the United States and other relatively green countries. Nevertheless, the United States was able to comply with the decision without lifting its shrimp-turtle import ban and many view the Appellate Body's standards for successfully invoking Article XX as relatively easy to meet.

While not as environment-friendly as rules in the two other regimes examined below, it is hard to see how GATT/WTO rules would be as environment-

⁷⁸ GATT, Art. XX(b).

⁷⁹ Id., Art. XX(g).

⁸⁰ GATT Dispute Panel Report, United States – Restrictions on Imports of Tuna, 33 ILM 839 (1994) (hereafter Tuna II); see also WTO CTE Report.

⁸¹ See Schoenbaum (1997, pp. 279–8). See also WTO CTE Report (especially para. 7).

⁸² 'United States – Import Prohibition of Certain Shrimp and Shrimp Products, Report of the Appellate Body', WTO Doc. WT/DS58/AB/R, 12 October 1998 (hereafter, "Shrimp-Turtle" Appellate Body Report').

friendly as they are without European and US influence. Most developing countries oppose or want to highly constrain environmental bases for restricting imports – whether to protect the domestic environment or advance global environmental protection – whereas the EU and the United States have favored more environment-friendly rules. The US wrote the early rules, which became the GATT 1947, and presented them as a *fait accompli* to any country that wanted to join the regime. And in the Uruguay Round, the EC and the United States fashioned the package of agreements to which all countries were to adhere, then withdrew from the GATT 1947, presenting the developing countries with a new *fait accompli*: sign onto the WTO rules or lose the formal guarantee of access to the European and US markets. While the WTO agreements are generally a package of Pareto-improving market-opening rules, some of the agreements are not purely liberal, and some economists and developing country diplomats argue that the Uruguay Round package may have made some developing countries worse off (Finger et al. 1999; Harrison et al. 1996; Goldin et al. 1993).

Trade-environment issues in the NAFTA and NAAEC The system of trade-environment rules and institutions established by the NAFTA and the North American Agreement on Environmental Cooperation (NAAEC)⁸³ (hereafter, the ‘NAFTA/NAAEC system’) are more developed and environment friendly than in the GATT/WTO.

The NAFTA rules on the use of trade measures to protect domestic human, animal, plant, and environmental health and safety are similar to those in the GATT/WTO. The NAFTA provisions on sanitary and phytosanitary measures were adapted from nearly final versions of the Uruguay Round SPS Agreement, described above. On technical barriers to trade, the NAFTA parties expressly agreed to adhere to the GATT/WTO TBT Agreement⁸⁴ – again adopting the GATT/WTO approach. Both the NAFTA and the GATT/WTO rules establish the right of a party to ban imports that in its view do not meet the appropriate level of domestic health, safety and environmental protection, subject to some general tests intended to ensure that the restrictions are not a disguised means of trade protectionism.

Problems raised by extrajurisdictional activity are addressed more fully, and in a more environment-friendly way, in the NAFTA/NAAEC system than in the GATT/WTO. While the NAFTA/NAAEC system generally prohibits

⁸³ North American Agreement on Environmental Cooperation, 17 December 1993, US-Can.-Mex., pt. V, 32 ILM 1480 (1993) (hereafter NAAEC).

⁸⁴ North American Free Trade Agreement, 8, 11, 14, 17 December 1992, Art. 712.1, US-Can.-Mex., 32 ILM 289 (1993) (hereafter NAFTA), Art. 903.

import restrictions unless they are used to protect health or to conserve exhaustible natural resources within the jurisdiction of the importing country, in two circumstances the system permits import restrictions aimed at activities taking place outside its jurisdiction. First, unlike the GATT/WTO, the NAFTA expressly provides that import restrictions may be applied to enforce specified multilateral environmental agreements (MEAs), such as CITES, the Montreal Protocol, and the Basel Convention.

Second, and more significantly, the NAFTA/NAAEC system effectively increased the stringency of applied PPMs in Mexico. At the time the NAFTA was negotiated, reviews of Mexican PPMs suggested that, on the books, they were generally equivalent to those in the United States; the bigger problem was that Mexican PPMs were not enforced.⁸⁵ The NAAEC resolves the problem by providing that a party government may have recourse to dispute settlement to challenge another party's 'persistent pattern of failure to enforce' domestic environmental measures; demonstration of such a pattern and the failure to cure it gives rise to a monetary fine against the nonenforcing party and, eventually, a right to trade retaliation if the pattern of failure to enforce is not cured.⁸⁶ The NAFTA also permits environmental NGOs to submit a formal report 'that a Party is failing to effectively enforce' to specified trilateral authorities, which may then prepare a factual record on the issue; that record may serve as a basis for further action by the parties on enforcement matters.⁸⁷ This set of solutions to problems associated with Mexican environmental law enforcement appears to have been successful, facilitating a substantial increase in the number of Mexican environmental enforcement officers, the number of annual inspections, and the number of annual plant closures due to noncompliance with Mexican environmental law.⁸⁸ Mexico strongly resisted this effective enforcement standard, but the Clinton administration forced Mexico to accept it as a condition of concluding the NAFTA and gaining preferential access to the US market.

Trade-environment issues in the EU The wealthier, greener, northern European countries (Germany and Denmark, in particular) have insisted on relatively high environmental standards at each step of deepening integration. Among trade organizations, the European Union maintains the most

⁸⁵ See Garvey (1995, p. 442); Patton (1994, p. 90); confidential interviews with US government officials (from Office of the United States Trade Representative and the Environmental Protection Agency) who negotiated NAFTA trade-environment issues, Washington, DC (September 1994).

⁸⁶ NAAEC, Arts. 14, 15.

⁸⁷ *Id.*

⁸⁸ Steinberg (1997, pp. 249–53).

well-developed and environment-friendly trade-environment rules and institutions.

The European Union permits member-states to prohibit the import of goods insofar as 'necessary' to meet the importing country's chosen level of environmental or health risk.⁸⁹ This right is balanced against the principle of free trade. For example, such an import restriction must be maintained in a manner that provides for national treatment and MFN treatment, and evidence that harm would result from nonapplication of the restriction must be based on sound science.⁹⁰ But the European Union also provides for 'harmonization' or 'approximation' of member states' environmental,

⁸⁹ Consolidated Version of the Treaty on European Union, as amended by the Treaty of Amsterdam, Done at Maastricht, Rome, and Amsterdam, 7 February 1992, 25 March 1957, and 2 October 1997, 37 ILM 56 (1998) (hereafter TEU), Art. 30. See also Case 302/86, *Commission v. Denmark*, 1988 ECR 4607, 1 C.M.L.R. 619 (1989) (Danish rules that certain beverages be sold only in recyclable bottles not inconsistent with Treaty of Rome, despite effects on intra-Community trade) (hereafter *Danish Bottles case*). An EU member state may also impose an import ban provisionally where it has not yet established the level of risk it is willing to accept for a particular additive or emission. Case 53/80, *Officier van Justitie v. Koninklijke Kaasfabriek Eysen BV*, 1981 ECR 409, 2 CMLR 20 (1982) (European Court of Justice [ECJ] upheld Dutch ban on the use of nisin in processed cheese until clear health risks were established for maximum permissible intake) (hereafter *Dutch Nisin case*).

⁹⁰ The European Union also has a rule suggesting that the import restriction must be the least trade restrictive means necessary to effectuate the measure's legitimate purpose. See Case 120/78, *Rewe-Zentral AG v. Bundesmonopolverwaltung für Branntwein*, 1979 ECR 649 (German ban on French Cassis, on theory that French Cassis was low in alcoholic content and so could confuse German consumers into consuming too much alcohol, held inconsistent with Treaty of Rome) (hereafter *Cassis de Dijon case*); Case 130/80, *Criminal Proceedings Against Fabrik voor Hoogwaardige Voedingsprodukten Kelderman BV*, 1981 ECR 527 (Dutch ban on French brioches held inconsistent with common market principles in the Treaty of Rome). And the European Court of Justice has interpreted the rule as requiring 'proportionality' – a balancing test between the trade restrictiveness of the measure and the purpose of the measure. *Cassis de Dijon case*; Case 178/84, *Commission v. Germany*, 1987 ECR 1227, 1 CMLR 780 (1988) (German beer purity law, *Reinheitsgebot*, held to interfere impermissibly with intra-Community trade) (hereafter *German Beer case*). It may be argued that this invites a determination by the ECJ as to the importance of the measure's purpose, effectively substituting the Court's judgment about risk aversion for that of national authorities. However, the ECJ has been careful about intruding on national judgments in adjudicating disputes over import restrictions adopted for the purposes of domestic health or environmental protection. For example, in some well-known cases, the Court has upheld national laws apparently intended for these purposes. *Danish Bottles case*; *Dutch Nisin case*. But it has struck down other national laws that do not appear to have been legitimately so intended. *German Beer case*; *Cassis de Dijon case*.

health and safety standards.⁹¹ As EU environmental measures⁹² must be based on 'a high level of protection',⁹³ the EU harmonization/approximation process may be described as 'upward harmonization' (i.e., harmonization of standards at a high level of environmental, health and safety protection). Taken together, these approaches have led to more extensive cross-national environment-friendly convergence on the domestic environmental protection issue than in any other international organization.

The European Union goes further than any other international trade organization in addressing extrajurisdictional activities of concern to the greener members. EU rules specifically permit some import bans directed at poor environmental protection that is taking place outside a member-state's jurisdiction. For example, EU member-states are required to ban imports from other member-states and from outside the Community of goods embodying animal parts covered by CITES (plus all species of dolphin and cetacean products), the EC fur seal ban (1983), and the EC whale ban (1981). In addition, under

⁹¹ The European Union has engaged in a massive exercise in harmonization of product additive and emission standards. These efforts began in the late 1960s, but were not successful on a large scale until the exercise culminating in the Single European Act (1987–92). By the end of 1992, the European Community had harmonized or approximated 75 SPS measures and 18 other food law measures. (Baker & McKenzie 1994). In addition, the Community had established harmonization of EC-wide automobile emissions standards. See Dietrich (1996, p. 199).

⁹² That is, action taken under the TEU, Art. 147.

⁹³ At Germany's insistence, the Single European Act, the Maastricht Treaty, and the Treaty of Amsterdam provide that harmonized or approximated standards (i.e., action taken under the TEU, Art. 95) and EU environmental measures (i.e., action taken under the TEU, Art. 147(2)) are to be based on 'a high level of protection'. TEU Arts. 95(3), 147(2). Moreover, at Germany's and Denmark's insistence, where Community standards for purposes of completing the internal market are adopted only by 'qualified majority voting' (i.e., where legislation is adopted by population-weighted voting by member states in the Council, so that the legislation may become EU law despite the objection of any particular member state), member states may maintain their own more stringent standards (Kramer, 1987, p. 680). See also Vandermeersch (1987, pp. 417–19). TEU, Art. 95(4). See also Danish Bottles case.

And for all other Community environmental measures, member-states may maintain or adopt their own more stringent standards. TEU, Art. 176. Each member-state must permit imports of products from other member states that comply with unanimously established Community standards. While harmonization or approximation measures are sometimes phased in or provide for derogations by the poorest member-states, most harmonization and approximation directives have required that the member-states eventually meet standards that are as high as those then in place in Germany. Hence, the EU exercise in upward harmonization or approximation of standards has generally maintained domestic health and environmental protection within the greenest northern European importing countries and simultaneously increased the stringency of pesticide, fungicide, product additive and emissions standards in the dirtier European countries.

some directives the member-states are required to ban imports of goods from outside the Community not produced in accordance with specified EU PPMs. And at least one European Court of Justice (ECJ) decision suggests that a member-state may maintain a national environmental rule that is more stringent than EU or international standards and that bans the importation of goods from other member-states, with the intention of protecting animal life outside its border.⁹⁴ Perhaps more significantly, the European Union has engaged in an upward harmonization or approximation exercise of dozens of PPM standards and has adopted over 200 directives⁹⁵ dealing with air, water, waste and chemicals.⁹⁶ Those exercises have been subject to the requirements that the directives use a 'high level of protection' and member-states are generally allowed to maintain more stringent standards.

5. Conclusions

It is easy to mistake international environmental challenges as simple cooperation problems among the world's states with similar interests in protecting the global environment. It may be tempting to think of most global environmental problems, such as overfishing or global warming, as a tragedy of the commons, a prisoners' dilemma, or as negative externalities that evade a Coasian solution because of collective action problems faced by states. Such cooperation problems would usually be solved through international agreements that establish focal points, credible commitments, information systems for monitoring and verification of the commitments, and a system of decentralized sanctions for enforcement. Some international agreements appear to possess those attributes – such as regional agreements governing land-based marine pollution – and so appear to confirm the analysis. And many may view symmetrical Pareto-improvement among the parties as the happy result.

⁹⁴ Dicta in Dutch Red Grouse case, described in Environment Directorate and Trade Directorate, *Typology of Trade Measures Based on Environmental Product Standards and PPM Standards*, OECD Doc. COM/ENV/TD(93)89 (28–30 September 1993). For the Dutch Red Grouse case, see Case 169/89, *Commission v. Netherlands*, 1990 ECR 2143.

⁹⁵ This is according to former European Environmental Commissioner Ritt Bjerregaard's interview in the journal, *Europe*. Fallesen and Guttman, 1996, pp. 26–7.

⁹⁶ For example, each member-state must now limit emissions of nitrogen oxides and sulfur dioxide in accordance with the Large Scale Combustion Directive; reduce lead content in gasoline and offer unleaded gasoline in accordance with the EC emissions directives; reduce water pollution in accordance with the water effluent directive; control or restrict the use of chemical substances in accordance with EC chemicals directives; and recycle a specified proportion of solid wastes in accordance with the Solid Wastes Directive.

In fact, however, there is a wide range of state interests on most international environmental problems – with some states favoring environmental protection and some opposed – suggesting that what is at issue is more than a cooperation problem. For example, as a general rule, richer is greener. This is particularly clear in international trade negotiations: wealthier countries prefer more environmental protection than poor ones. There are, of course, additional divisions among countries, such as a split in fisheries management negotiations between rich coastal states and rich distant-fishing states. Indeed, in all of the negotiations analyzed in this chapter, there has been political tension between states favoring stringent environmental protection and those that don't.

In this context, in some instances, side-payments have been used to facilitate agreement. For example, the United States and Europe provided some developing countries with aid so that they could sign and comply with the Montreal Protocol. Similarly, the Kyoto Protocol's clean development mechanism, a form of emissions trading with developing countries, and provisions on technology transfer, may be seen as side-payments by Europe to obtain support for the agreement from many developing countries. Nonetheless, side-payments may be eschewed by wealthier countries because they are expensive and it is often politically unpopular to be seen to be paying countries to diminish their polluting activities. Moreover, coercion may be an option.

Hence, effective solutions to global environmental problems have often required coercion of weaker, less environment-friendly states by powerful greener states. For example, to the extent that international fisheries agreements are now regulating global fishing, they have been largely imposed on distant-fishing states by more environmentally conscious coastal states, which have leveraged their local power over coastal fisheries to regulate both those fisheries and straddling and migratory stocks. Similarly, the effectiveness of CITES and the Montreal Protocol has resulted from the capacity of environment-friendly states with rich markets to threaten to close them to specific products from less environment-friendly markets. And in trade organizations, environment-friendly rules have resulted only when richer, greener countries have used their market power to bring them about. In only one issue area examined here, LBMP, was agreement reached due exclusively to an apparent alignment of similar environmental interests. Hence, most effective environmental agreements are asymmetrical contracts between states resulting at least partly from coercion.

Less effective regimes result when the power of environment-friendly states is dispersed or the environmental interests of powerful states is divided. Hence, for example, the Kyoto Protocol's formula for addressing global warming has divided the United States from the European Union, China, and Russia, resulting in an agreement that will have little meaning. Similarly, fish-

eries are most fully regulated in regions where there are powerful, environment-friendly states and least well-regulated in regions where there are not. And of the world's three main trade regimes, rules are least environment-friendly in the GATT/WTO, where the power of environment-friendly states is relatively dispersed.

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