

CHAPTER 18 INNOVATIONS

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If there was ever a dynamically changing area of law, it is the law of global environmental protection. Surely some of the considerations in the present Anthology will become outdated as new developments replace them. Yet it is important, at any moment in time, to be aware of trends and innovations that are presently in place and to speculate as to their possible outcomes.

This final Chapter looks at some of the strategies that grow out of considerations presented in the earlier Chapters yet are designed to be open-ended so as to encompass not only a changing global environment but also changing national expectations regarding the environment. The Chapter contains discussions of the strategies of trading debt and technology for nature, of expanding the role of non-governmental organizations, and of new institutional structures for dealing with environmental disputes. These strategies are of course not meant to be exhaustive--they hardly could be, given the rapidly changing subject matter--but rather illustrative of the new kinds of thinking that we need to deal with new assaults upon our shared life-sustaining global environment.

A. Realizing Sustainable Development

1. Trading Debt and Technology for Nature¹

In both developing and industrialized nations, any strategy designed to address global environmental problems must at the same time confront the issues of poverty and economic development, which often seem to make environmental protection a luxury that most nations cannot afford. Until recently, these tandem concerns have been compartmentalized and considered separately by agencies and institutions charged with one mission or the other. There is an emerging consensus that recognition of the global nature of environmental problems necessarily entails recognition of the global nature of the problems of poverty and development. While this theoretical consensus is important, international policy has yet to reflect the interrelation between environment and development. The challenge for international cooperative efforts is to put this recognition into practice.

The rallying cry of "sustainability"² is a shorthand description of the need to integrate considerations of environmental quality and economic development. The underlying goal of sustainability is Paretian in character: the simultaneous improvement of the welfare of multiple groups and interests, including those of future generations.

Nowhere is there a greater need to adopt sustainability and Paretianism as guiding maxims for policy than for those environmental issues that involve the interests of both developed and developing countries. It is clear that countries of the Third World must be free to pursue development and improve prospects for economic health and self-determination. In order to reduce poverty and unemployment, and to eliminate the large international debt burden under which many developing countries now operate, new productive arrangements are indispensable. Equally clear, however, is the need for growth to be undertaken in an ecologically prudent manner, that is, in a manner appreciative of the fact that neither economic nor environmental health can be realized in isolation.

In recent years, the "debt-for-nature" swap has become a prominent strategy for solving environmental problems within the frameworks of sustainability and Paretianism. Broadly speaking, debt-for-nature swaps are designed to stem the exploitation of natural resources in developing nations without ignoring economic needs in those nations. Their chief virtue is that they confer economic benefits while promoting environmental goals. But it is necessary to develop more ambitious arrangements for achieving environmental quality and economic growth. We conclude that trades of energy technology for nature have significant advantages over debt-for-nature swaps. Trades that involve technology hold out the best long-term promise for helping both developing and industrialized nations to promote economic development, to protect the environment, and to bring about an equitable international sharing of the burdens imposed by both of these imperatives.

a. The Agreement

The idea that debt might be exchanged for nature was originally proposed in 1984 by Dr. Thomas E. Lovejoy, then Vice-President for Science at the World Wildlife Fund ("WWF"). Lovejoy noted that programs calling for the management of natural resources were often eliminated by countries that needed to reduce spending. Such countries thereafter relied on foreign donors to obtain the funds necessary to support national parks. According to Lovejoy, it would be a simple and direct solution for developed countries to take advantage of the debt crisis to deal with environmental problems that threatened developing and industrialized nations alike. The solution was to create transactions by which public or private actors in developed countries would agree to retire some of the debt of a developing nation in return for an agreement to protect natural resources.

The idea was implemented for the first time in 1987. Lender banks, especially frustrated that debts had appeared to become uncollectible, sought new means for alleviating this liability. A number of conservation

organizations offered to acquire foreign debt from the banks and then retire the debt in return for conservation. The first swap occurred in July 1987, as Conservation International ("CI"), a private organization, purchased \$650,000 of Bolivia's commercial debt through Citicorp Investment Bank for \$100,000. In exchange the President of Bolivia agreed to set aside over four million acres of tropical forest for national protection and to create a \$250,000 fund for managing the area.

Many debt-for-nature trades have followed. In December 1987, Ecuador and the United States branch of WWF ("WWF-US") completed an exchange involving the purchase of \$1 million of Ecuadoran debt at thirty-five cents on the dollar; this exchange was the first of a \$10 million debt-for-nature program approved by the government of Ecuador. The second exchange under the Ecuadoran program, involving the remaining \$9 million, took place in April 1989. The Nature Conservancy ("TNC") and the Missouri Botanical Gardens joined WWF-US as purchasers of the debt at twelve cents on the dollar.

Costa Rica participated in its first of five exchanges in February 1988. A recent swap, in March 1990, brought the total face value of Costa Rican debt exchanged to \$79,253,631. The purchasers of the debt involved in the various Costa Rican exchanges included WWF-US, TNC, Holland, Sweden, and the National Parks Foundation of Costa Rica, with WWF assistance.

WWF-US has completed two swaps in the Philippines, the most recent of which occurred in August 1990, exchanging an aggregate of \$1,290,000, at rates of 51 and 48.75 cents on the dollar respectively. WWF-US' two exchanges in Madagascar involved a total of \$3,030,475; in Zambia, WWF-International purchased debt with a face value of \$2,270,000; and in Poland, WWF-US purchased \$50,000 of debt. TNC and the Puerto Rican Conservation Trust, in March 1990, bought debt of the Dominican Republic having a face value of \$582,000.

b. Mechanics

The mechanics of debt-for-nature swaps follow a basic pattern. An interested group, usually an international nongovernmental organization ("NGO"), purchases, on the secondary market, developing country debt held by an international lender. The price is discounted from the face value of the debt. The purchasing group then trades its right to repayment of the debt for a commitment on the part of the developing nation to protect, in some fashion, the environmentally vulnerable lands within its territory. This trade may involve exchanging the debt instrument directly for legislative protection by the debtor country government. Alternatively, it may involve transferring the debt to a debtor country conservation organization, which will then turn it over to its government in exchange for local currency or local currency bonds to be used to finance a conservation program managed by the local group.

The parties to debt-for-nature agreements have fashioned a number of variations on this basic model. These variations often increase the complexity of the deal, but they also increase the likelihood of serving the interests of everyone involved. In the Bolivia swap, CI traded the debt that it had purchased on the secondary market with the government of Bolivia in direct exchange for legislative measures. In successive swaps, the nature portion of the transactions has most often been structured to include support for local conservation groups--a crucial step. In the first exchange of the Ecuadoran program, WWF-US acquired debt with a face value of \$1 million at thirty-five cents on the dollar and assigned this debt to Fundacion Natura. Fundacion Natura exchanged this debt for government bonds issued in sucres at 100% of the debt's face value. Both the interest and the principal of the nine-year bonds are to be used to finance Fundacion Natura conservation activities.

The mechanics of the Philippines swap were similar to those in the Ecuadoran swap, except that the exchange was for cash rather than local currency bonds. The Philippines' Central Bank credited the full value of the debt to a local currency account for the benefit of the Haribon Foundation, a conservation group in the Philippines, and the Department of Environment and Natural Resources.

c. Environmental Commitments

The environmental commitments undertaken in the various swaps accommodate a broad array of ecological and policy goals of the various developing countries. These commitments range from the preservation of specific areas, to the creation of programs for education and training, to the establishment of funds for environmental uses whose details are left to later determination. In the Bolivian arrangement, for example, the government elevated to the highest legal protective status the existing 334,200-acre Beni Biosphere Reserve. It also created, with the same level of legal protection, an adjoining 877,205-acre reserve, as well as an additional 2,870,561-acre buffer zone--the Chimane Forest Reserve--to be developed in a sustainable manner. Finally, Bolivia designated the local currency equivalent of \$250,000 for the establishment of an operational fund for the management of the Biosphere Reserve.

Under the Ecuadoran agreement, the interest paid on the bonds during the first year is to be used for the protection and management of several specified parks and reserves. The agreement provides that the interest paid on the bonds in successive years is to be used for projects later selected by Fundacion Natura, in conjunction with WWF-US. Upon maturity of the bonds, the principal is designated for the establishment of an endowment fund to

support the general activities of Fundacion Natura.

The Philippines swap, in addition to funding the protection and management of two specified reserves, emphasizes the need for education and training. The agreement envisages a range of programs, from field training to university fellowships. The terms of the agreement prohibit the use of any of the proceeds for the compensation of non-Philippine consultants.

The Madagascar commitments include funding the training and equipment of 400 park rangers for certain protected areas. Finally, the Zambia agreement, among other things, provides specifically for the alleviation of habitat degradation and the protection of that country's threatened rhinoceros and elephant populations.

d. Objections

There have been a number of objections to debt-for-nature trades. The objections generally fall into four categories: (a) notions of political and economic sovereignty, (b) allegations of colonialism, (c) administrative and enforcement difficulties, and (d) limited results. We address each of these objections in turn.

(1) Sovereignty

Some observers argue that debt-for-nature exchanges pose a threat to national sovereignty. This objection has taken various forms. Former President Sarney of Brazil has claimed that these exchanges are part of a campaign to halt development in poor nations. Labor leaders in Bolivia have criticized what they see as, in effect, a sale of national assets to large international interests. They contend that "if land today can be sold for environmental protection, tomorrow it can be sold under another cover but with the same end: accepting the dictates of the centers of political and economic power." On this view, the debt-for-nature swap represents an effort by the economic powers of the developed north to exert political authority over the developing south.

At least in general, we believe that this objection has little merit. If developing countries have voluntarily entered into agreements to trade debt for nature, the fact that such agreements entail an intrusion on what would otherwise be rights of sovereignty is no objection. By hypothesis, both parties to a voluntary agreement are made better off. Indeed, the existence of foreign debt may well be a far greater threat to sovereignty than is an agreement to protect natural assets. Debt itself entails ownership of national assets by others. If this is so, sovereignty is enhanced rather than diminished by debt-for-nature trades. In any case, that issue appears at first glance to be one for the developing nation to decide; if the decision is voluntary, the objection from sovereignty seems weak.

More refined versions of the objection, however, are somewhat more plausible. Under the immediate pressure of the debt crisis, developing nations may be tempted to enter into contracts that are not in their best long-term interest because they create a permanent loss of control over natural resources. Here the problem is that the relevant deal reflects a form of myopia—a rationale often brought forth to bar seemingly voluntary agreements.³

Alternatively, it may be suggested that certain attributes of sovereignty should not be commodified, that is, that states ought not to be authorized to trade aspects of self-government in return for money. It might well be troubling, for example, if a country facing an enormous debt decided to trade, in exchange for dollars, the power to make a set of future decisions about its social and economic development, its religious and ethical commitments, its basic culture, or its forms of governance. This example presents two problems. The first involves one set of people binding future citizens who are not actual parties to the deal. The second involves the decision to allow a portion of self-governance—here the power to manage natural resources—to be traded on markets at all.

In the context of the ordinary debt-for-nature trade, we believe that these problems do not amount to powerful objections. With respect to the questions of myopia and implications for future generations, the central point is that the decision to protect natural resources is, to a significant degree, in the long-term interests of the developing nation, and is subjectively perceived as such. As we have seen, the exploitation of resources is often a product of the external pressure of the debt crisis rather than some internal free choice. The trade helps to relieve that pressure. Moreover, and crucially, future generations are made better rather than worse off through arrangements that relieve their own financial pressures, which would otherwise produce environmental degradation posing a severe threat to future citizens.

We also believe that the debt-for-nature trade poses no real threat of commodifying a nation's power of self-governance. Any intrusion of that sort is minor in scale and scope. The presence of debt itself creates precisely the same threat, and to the extent that the trade reduces foreign debt, it actually frees up the nation's capacity for self-governance. Moreover, the trade enables the nation to overcome a form of myopia, again produced by external pressures, rather than submitting to it. Frequently, economic development that is insufficiently respectful of environmental needs is a straightforward sacrifice of the future, and of future generations, for the immediate present. Insofar as debt-for-nature trades counteract this tendency, they are in the interest of everyone involved.

As we discuss below, the relevant concerns about sovereignty can be met through creative structuring of the trade. Such structuring attempts to ensure local participation and autonomy, thus strengthening local institutions and

local options.

(2) Colonialism

It is sometimes suggested that the debt-for-nature trade involves a form of colonialism, that is, the imposition by wealthy countries of values held by them, an imposition made possible only by disparities in wealth. This argument seems largely to recapitulate arguments from sovereignty, and to do so in especially dramatic form.

We do not believe that this objection is persuasive. So long as the debts have been lawfully incurred, the foreign country has voluntarily entered into the deal, the agreement is structured to promote the ability of the developing nation to choose its own means of providing protection, and the goal is to prevent environmental degradation, the objection of colonialism seems misplaced.

To say this is not to deny that the objection points to significant risks. In light of those risks, it is important to ensure that the arrangement is organized so as to promote flexibility and to maximize the capacity of the developing country to protect its own resources in its own way. Agreements by which developed countries impose a highly particular environmental philosophy, select means of carrying out environmental ends, or conscript managerial authority that might otherwise be respectful of native norms and traditions, might well provide a basis for legitimate complaint. We return to these issues below.

(3) Administrative and Enforcement Difficulties

Sometimes it is said that the debt-for-nature trade poses insuperable problems of administration and enforcement. Suppose, for example, that a question is raised about whether the developing country has complied with some provisions of the deal. How are such questions to be resolved? No international tribunal is in a position to ensure compliance with the agreement or to provide remedies in the event of a default.

Without an enforcement mechanism, the parties must depend on the monitoring capacity of one side or on the good faith of the other. Perhaps these will be sufficient, independently or in conjunction, in most cases. Without more particular information, however, it is difficult to know whether optimism is justified. For this reason, concerns about administrability are warranted.

(4) Limited Results

It is also suggested that debt-for-nature trades will, at best, produce limited results. Although recent exchanges and programs have involved increasingly ambitious amounts of debt, numerous financial and regulatory constraints remain. First, commercial banks have only limited incentives to sell or donate the debt for use in such exchanges. Such banks would, of course, prefer to receive full repayment of the debts. In light of ongoing debt negotiations, they will usually be reluctant to compromise their bargaining position by offering a discounted rate in a debt-for-nature exchange.

Despite these limitations, banks will realize some benefits from the donation or sale of the debt at a greatly reduced price. In the case of a sale, banks can remove from their books a nonperforming loan and receive a bad debt tax deduction for the remainder; in the case of a donation, they will gain goodwill from favorable publicity and receive generous tax treatment. In general, however, these benefits simply do not warrant—especially in the eyes of the shareholders—large-scale use by the banks of this strategy for reducing their outstanding debt.

This point is crucial. Even if debt-for-nature exchanges were to continue to grow in number and scope, they would have only limited impact. The debt of developing countries is so enormous that trades of this sort will make only small inroads. Even more important, developing countries cannot continue to meet the burdensome requirements of debt servicing and repayment by engaging in unsustainable productive practices. We have seen that the self-destructive nature of these practices threatens severe environmental harm.

A more basic problem is that the solution offered by debt-for-nature swaps is superficial. It does not provide a mechanism for changing the incentives for engaging in destructive behavior. Debt-for-nature trades do little to change the underlying pressures of debt and environmental destruction, and do not offer an alternative way for developing countries to manage these pressures. In failing to present a long-term solution, debt-for-nature trades can provide only a partial corrective.

This point is not an objection to such trades. It is an invitation to develop alternative strategies for promoting sustainable development.

e. Energy Efficiency, Technology, and Development

For developed and developing countries alike, there is a basic obstacle to environmental protection, energy independence, and economic growth: the absence of widespread implementation of techniques for energy efficiency. In the developing countries in particular, inefficient technologies are a severe local problem, one with potentially disastrous consequences for both particular countries and the world as a whole. Most fundamentally, more efficient energy output will allow for greater development at lower cost. For developing countries, the closely linked problems of poverty and development find a valuable if partial solution through energy efficiency.

Any strategy for using economic incentives to redress these problems would have to begin with an understanding of the potential economic and environmental advantages of energy efficiency. The short-term goal of such a strategy would be to ensure dissemination of efficient technologies. Ultimately, the effort would be to promote the widespread use of energy sources other than fossil fuels, which are the most important source of environmental degradation. We propose an arrangement—a technology-for-nature exchange—designed to facilitate these economic and environmental goals.

(1) Energy Efficiency

Energy, the capacity to do work, is indispensable to support productive activity. According to accepted wisdom, increased energy consumption is a prerequisite to economic growth. The view that consumption and development are inextricably linked underlies the use of energy consumption as a yardstick for economic progress. Energy efficiency technologies weaken the link between growth and increased consumption. It is for this reason that both scientists and policy makers have pointed to energy efficiency as the area holding the greatest potential for returns on private and public investments that will advance both environmental and developmental goals.

(2) Energy Efficiency and Developing Countries

Without energy efficiency technologies, developing nations would require increasingly greater levels of energy consumption in order to support their desire to industrialize, achieve a higher standard of living, and accommodate a growing population. The potential gains from energy efficiency in developing nations can be viewed as a sort of future energy source. The key virtue of energy efficiency is that it promotes economic growth in a way that simultaneously allows for environmental protection and energy conservation. At the same time, these technologies might ultimately increase independence, allowing developing nations to become more autonomous of the developed world.

In impoverished areas of many developing countries, available technologies could be employed to harness a much greater percentage of current energy input, providing larger amounts of usable energy to meet basic needs. Currently favored cooking methods illustrate the present connection between poverty and inefficient energy use. Cooking in earthen pots over an open fire uses about eight times more energy than aluminum pots over a gas stove. The distribution of aluminum pots, pressure cookers, and fuel-efficient wood stoves would bring about significant gains in energy efficiency. Fuel-efficient wood stoves have been refined over traditionally employed models, using about half as much firewood per year. The same \$2 billion required to finance the construction of a single nuclear power plant could instead fund the construction of 200 to 400 million energy-efficient stoves, at the current cost of \$5 to \$10 per stove—a number well in excess of that required to equip all of the urban and rural poor households in India.

In developing countries with more advanced economies and infrastructures, there are also large potential gains from energy efficiency. In Brazil, for example, the electricity sector provides numerous opportunities for efficiency improvements. Under the guidance of a national electricity conservation program (PROCEL) established by the government in 1985, many of these have been or are being implemented. A detailed study completed in 1984 helped provide impetus for the government undertaking. It indicated that for a total investment of \$10 billion in more efficient end-use technologies—such as refrigerators, street lighting, and motors—it would be feasible to defer construction of 22 gigawatts of new electrical supply capacity, which would have cost an estimated \$44 billion.

(3) Beyond Efficiency: Alternative Energy Sources

For both developing and developed nations, the ultimate goal ranges beyond energy efficiency to new technologies having minimal adverse environmental consequences. Current efficiency technologies can be seen as a transition stage before widespread reliance on renewable energy sources and replacements for environmentally harmful substances.

The principal renewable sources of energy include wind, biomass, solar thermal, photovoltaic cells, and geothermal.

It is especially significant that developing nations frequently have abundant supplies of renewable energy resources. Indeed, one of the most attractive aspects of energy sources such as sun and wind is that they are more equitably distributed on a global basis than are the known fossil fuel reserves. These natural advantages remain insufficient, however, in the absence of proper incentives, investment capital, and appropriate technology. It is here that the international community might provide the necessary assistance to develop renewable sources of energy.

The question is, therefore, how to develop arrangements which facilitate the worldwide use of energy technologies that limit or reduce environmental degradation.

f. Technology-For-Nature Trades

We suggest an altogether novel kind of exchange. Developed nations would transfer economically and environmentally sound technologies to developing countries. In turn, the latter would agree to protect natural

resources. Specifically, the exchanges would involve the transfer of energy technology from an industrialized country in return for a commitment from a developing nation to stem deforestation and to protect biological diversity.

Trades of this kind would provide an exceptionally powerful tool for promoting development in poor countries, while at the same time contributing to the solution of local and global environmental problems. For developing nations, they offer not merely a minor reduction in debt, but an opportunity to ensure that economic growth proceeds in an environmentally responsible manner. They would enable developing countries to avoid becoming dependent on energy sources that have created so many environmental problems for the industrialized world. At the same time, they would save energy costs while permitting the energy use that is indispensable to development. In short, trades of technology for nature have greater long-term potential than debt-for-nature swaps to accomplish all the relevant goals.

More specifically, the proposed exchange would yield dramatic and long-term environmental and developmental benefits. It would seek to improve upon the benefits to be gained from the "debt" side of the debt-for-nature equation by transferring to the developing nation something that provides not immediate, short-term economic relief, but instead facilitates the recipient nation's long-term economic growth and political and economic independence. The transfer of energy technology in particular is designed to take advantage of the enormous current opportunities for increasing energy efficiency, while allowing growth to remain at least constant.⁴ These arrangements would enable the recipient nation to become a more efficient consumer of energy, regardless of the source, and therefore to increase the prospects for economic development. These swaps could also facilitate the research, development, and application of renewable sources of energy particularly suited to the debtor country's needs. Importantly, such arrangements would contribute to the increase in technological capacity and research infrastructure in the developing nation.

This reduced dependence on non-renewable sources of energy would, in turn, increase the benefits on the nature side of the equation. Diminished demands on, for example, wood from the forests as a source of fuel would reduce deforestation, ideally to the point of sustainable use. Economic pressures, moreover, that overtax the natural resource base will be relieved in some measure, as less energy input will be required to produce a given level of economic output, thereby freeing capital to be redirected towards addressing the underlying causes of environmental degradation. Moreover, the continued development and use of energy-efficient technologies could reduce, on a worldwide basis, dependence on environmentally harmful fossil fuels. Some developing countries might eventually become exporters of efficient end-use technology or of surplus electricity generated from renewable primary energy sources.

We propose a trade of technology for nature, but it is important to point out that there are strong justifications for requiring industrialized nations to transfer technology to developing countries for free. Such measures might be required under some versions of theories positing a right to access by all nations to the universal heritage of technology. They might also be justified on the view that industrialized nations have incurred such a duty because of their past and present irresponsible energy consumption. Measures to ensure that technological advances extend to developing countries might be required as a *quid pro quo* for demands that developing countries join international agreements to limit environmentally harmful practices.⁵ A grant of technology might also be based on the view that the global need for technologies is in large part a function of environmental hazards unleashed by productive forces from which industrialized nations have disproportionately benefited.

The argument for such a grant might be straightforwardly redistributive in character, referring to the extraordinary wealth of some nations in comparison with others, the injustice of such large disparities,⁶ and the moral duty of those who are in an unjustly superior position to share their technological capacities with others who need them. Finally, this view might be founded on the idea that industrialized nations have a good deal to gain from the development of improved energy technologies throughout the world, namely, reduced aggregate pollution.

For present purposes, we take no position on these complex questions. A principal difficulty with making technology freely available is that it may diminish incentives to create the technology in the first place. For this reason, one might expect governments in developed countries to provide compensation to industries with the relevant technology, and then to ensure that the technology is given to developing countries for free or for a below-market price. Such an approach introduces some of the complexities in a technology-for-nature trade.

g. Diffusion of Technology

The transfer of technology from developed to developing countries has historically elicited two principal objections. Both objections turn out to be versions of the same fundamental concern, namely, the possible insensitivity of transferors to the unique situation and needs of each developing country.

The first objection is that technology developed for use in an industrialized country may be ill-suited, and

perhaps even harmful, for use in a particular developing nation. This criticism is based largely on experience in an era when most technology transfers occurred only in conjunction with the sale of equipment by private enterprises from industrialized nations. This sort of transfer is not representative of the broad array of technology transfers possible, nor of the transfers that we envision. Nonetheless, the criticism provides an important warning: parties to a technology transfer must ensure the suitability of the technology for the recipient country.

This seemingly obvious requirement might easily be overlooked. The tendency to assume that technological advancement is tantamount to increased consumption, and that the needs of the developing countries replicate those of the developed world at an earlier stage in its industrialization, might lead to the creation of programs with perverse effects. The problem here is not only the opportunity costs of the misdirected resources but also the exacerbation of existing problems in the developing country. Thus, for example, a transfer that involves technology encouraging centralized energy supply systems might add to an already overcrowded urban population concentration. It may also contribute to the entrenching of the "dual society" of many developing countries, as the urban elite approach the consumption patterns of developed countries while the needs of the rural poor are not addressed.

Another example of inappropriate technology exacerbating existing problems involves transfers that are insensitive to the effect of the new technology in displacing economic activity. Transfer of certain technologies to countries with high unemployment can be destructive if they contribute to that problem and fail to capitalize on the abundance of labor. This is a special concern in light of the fact that some advanced technology is especially adapted for large, energy-intensive, labor-saving industries rather than smaller, labor-intensive industries.

The second common objection to technology transfer is that some forms of transfer perpetuate the dependence of developing countries rather than encouraging their long-term self-reliance and genuine growth. In the area of energy technology, this criticism arose in response to past development aid projects, which were often conceived, constructed, and managed by policy makers, engineers, and consultants from the developed world. When these workers returned to their developed countries, any expertise and experience gained in the process was also effectively repatriated. The project left a new generating facility, for example, in the developing nation, but contributed little to its acquisition of human technical capacity or to the foundations of a research infrastructure.

This objection points to the same remedy as the first. Participation and involvement on the part of the developing country, including its researchers and NGOs, is crucial in all stages of the project and should be a product of both nations, rather than dictated by one to another. Transfer arrangements that take the form of a joint research effort between developed and developing countries probably best accommodate this concern.

The response to both criticisms, then, is not that technology should never be transferred, but instead that transfer arrangements should be crafted so as to observe the imperative of local involvement in all cases. Transfers should, moreover, be fashioned with an eye toward achieving long-term technological self-reliance, and thus stability and growth, for developing nations.

B. Reforming International Environmental Institutions

1. Expanding The Role of Non-governmental Organizations⁷

The international character of our environmental problems requires a cooperative international approach to their resolution. There are numerous reasons for doubting the adequacy of traditional international law to cope with environmental problems. Most importantly, there is reason to doubt the ability of states, as the sole subjects of international law, to enforce the existing rules for the protection of the environment. The role of states in asserting legal rights on behalf of the international community as a whole has not been well developed. In international affairs, the function of a state might be compared to that of an attorney-general in national law. As Professor Christopher Stone has written, there are clear limitations on an attorney-general's ability to enforce the rules and protect the environment:

Their statutory powers are limited and sometimes unclear. As political creatures they must exercise the discretion they have with an eye towards advancing and reconciling a broad variety of important social goals, from preserving morality to increasing their jurisdiction's tax base. The present state of our environment, and the history of cautious application and development of environmental protection laws long on the books, testifies that the burdens of an attorney-general's broad responsibility have apparently not left much manpower for the protection of nature.⁸

However, traditional international law, as presently conceived, does not provide an alternative to the state acting as international attorney-general. Non-state actors (people, corporations, non-governmental organizations and so on) are not recognized as legal persons, and thus have no standing to protect the environment on the international plane. Unlike national society, which treats each of these actors as participants endowed with legal rights,

international society exists in a quasi-feudal state in which the sovereign (the state) is vested with all rights and powers. International law is therefore the law of the law of states, and not the law of actual international society. In the eyes of international law, international society is seen as a community of states.

International law has divided the world into some 160 nation states and granted to each of them autonomy and sovereignty. The state owes a duty to its citizens and to neighboring states which may be harmed by its activities, but not to international society as a whole. Under traditional international law, the state has the right to protect its own property, its persons, and their property, and the obligation not to cause damage to the property or persons of other states. However, many environmental issues do not fit easily into a legal framework revolving around territory, the state and state property. The environment as such is not considered part of the territory of a state and therefore not part of its "property."

Until international law moves away from the view that international society comprises a community of states, and comes to encompass the persons (both legal and natural) within those states, it will not be able to provide even the most elementary framework for the protection of the environment. Indeed, the very term "community of states" seems increasingly self-contradictory. Notions of community suggest a sense of deep, horizontal comradeship among groups and individuals, growing out of its members' ability to imagine communion amongst themselves. Traditional notions of sovereignty, territory and state lie uncomfortably with the very idea of community, since they establish a territorial and proprietary notion of international relations which belies a sense of common interest and common action. Paradoxically, it is precisely non-state actors whose common interests are capable of developing into such powerful bonds, such as people, corporations and NGOs, who lack standing to act on the international plane.

To describe international society as comprising a community of states is to ignore reality. As a matter of political fact, the time is long past in which states alone acted as "subjects" of international law. New technologies have given non-state actors the virtually unrestricted power to transmit satellite broadcasting signals across the globe, to transfer within moments vast sums of capital between banks in different states, and to run industries and plants which pollute massively across international borders.

a. A Role for Non-governmental Organizations

The problem of transboundary pollution demonstrates how states have failed to take effective international enforcement measures to protect the environment from degradation. In attempting to fill this void, NGOs have become the environment's moral, if not legal, guardians. Experience both in national and international fora suggests that NGOs will have a useful and increasingly pivotal role to play. And the NGOs, with their multinational membership and resources, are slowly discovering that international law might provide a tool with which to challenge the degradation of the environment.

NGOs have traditionally been handicapped in this regard by their lack of standing under general international law. NGOs are not endowed with international legal personality.⁹ They cannot act as legal guardians under international law because they cannot pursue legal claims on the international plane.

Nonetheless, many NGOs have legal personality in national law, a prerequisite to the grant of personality and status in international law. In an article published in 1972, Professor Christopher Stone proposed that American law "give legal rights to forests, oceans, rivers and other so called "natural objects" in the environment--indeed to the natural environment as a whole." Professor Stone's article had considerable influence on the development of environmental protection litigation in the United States. Thirteen years later he noted two separate lines of development: the first included the liberalization of judicial standing requirements, the extended employment of environmental impact requirements, increased statutory provision for "citizens' suits" and expanded reliance on public trust concepts;¹⁰ the second concerned the problem of evaluating damage to the environment, even where federal statutes had permitted actions by the state or another "public trustee" to recover "damages to the natural resources" from spills of oil and other hazardous substances.¹¹

While international responses to environmental concerns lag somewhat behind developments in the United States, there are indications that similar developments are taking place. There is now a considerable body of international treaty law which expressly or implicitly seeks to protect the environment. Moreover, NGOs have been recognized as having a legal personality within regional "international" legal systems, such as the European Community and the Nordic Community. In many respects the 1974 Nordic Convention is unique in establishing a comprehensive regime for the protection of the environment.¹² It allows any person who is or may be affected by a nuisance caused by "environmentally harmful activities" in another contracting state to challenge the activity before the appropriate court or administrative authority ("examining authority") of the state and to seek compensation. Sovereign immunity from suit is not a possibility. The Convention also provides for the appointment of a supervisory authority in each state to safeguard general environmental interests. To this end, the supervisory

authority has certain rights in other contracting states, including the power "to institute proceedings regarding environmentally harmful activities" and the power to publish its communications with examining authorities in local newspapers or elsewhere.

The Convention, which grants individuals, groups, and non-governmental organizations access to a legal system under international law, recognizes the right and the interest of such persons in the protection of the environment. It treats such persons as members of a community and gives expression to their concerns, interests and rights. The 1987 amendments to the EEC Treaty have brought environmental protection within the Community's jurisdiction.¹³ The amendments were preceded by a large body of secondary legislation enforceable by the Commission of the EEC against member states before the European Court of Justice, and by private citizens and groups against offending public (and sometimes private) bodies in the national courts of the member states. As a result of these amendments, NGOs are able to initiate proceedings against the Community directly before the European Court of Justice; to inform the EEC Commission of breaches of Community environmental laws by individual member states; and to intervene as interested parties in certain cases before the European Court in which environmental issues are at stake.

Political integration in the European and Nordic Communities has been accompanied by more flexible standing requirements in relation to the enforcement of supranational rules. While neither the European nor the Nordic Community has gone so far as to establish the notion of "environmental rights," both developments mark a considerable step forward for individuals who wish to enforce environmental regulations under international treaties.

Greater action by NGOs in this "watchdog" capacity--identifying rules of international law and highlighting breaches by states--might in itself contribute to the further development of the law, by publicizing the existing shortcomings and by bringing pressure to bear from citizens on governments to remedy the wrongs.

Some NGOs have been granted observer or consultative status in certain international institutions, a recognition of their legitimate interest in certain fields of international affairs. Consultative status at the International Atomic Energy Agency, for example, may be granted to organizations "having special competence in the field." Organizations so designated may be represented by an observer at sessions of the General Conference and at public meetings of the Board of Governors; submit certain written statements; make certain brief oral statements; and have access to some of the Agency's documentation. NGOs not qualified for consultative status but nonetheless recognized as "concerned with developing uses of nuclear energy for peaceful purposes" may be represented by observers at regular sessions of the General Conference.

As NGOs become more ambitious, they may attempt to litigate breaches of environmental standards, either in national courts or perhaps before international tribunals. They might do this in their own name or on behalf of interested and affected persons. They might also provide assistance to poorer states which themselves seek to litigate against other states. It would not be difficult to imagine a coalition of underdeveloped states, developing states and non-governmental organizations attempting to litigate an issue like global warming, either by bringing proceedings directly before the International Court of Justice, or by requesting advisory opinions from the ICJ or the relevant international organization. While the chances of obtaining a binding judgment from an international tribunal are limited, the likelihood of a non-binding opinion would be greater.

Any objective of such judicial efforts must be twofold: to establish that the environmental issues are susceptible of international legal clarification (that is to say, that international law provides methods and means for ascertaining rules and their meaning and enforcement); and to establish the significant contribution that can be made by nonstate actors once they are given the right to assert their interests. In order to assert these interests under the rules of international law, NGOs will require the assistance of international lawyers. Expertise in international law is at present a costly, inaccessible and generally mystifying commodity, concentrated in the hands of a few individuals. A new generation of practicing international lawyers will have to provide assistance to NGOs by making their services generally available at low cost. Academics will have a role to play by recognizing the state as only one of a number of "centers of power," and by helping to train a new generation of environmental practitioners, as they have done in the field of human rights.

While a distinction might be drawn between environmental rights, which are collective, and human rights, which under the current regime are characterized as individual, it is not far-fetched to consider the right to a healthy environment as a human right. The argument is made with increasing frequency that people are entitled to clean and healthy living conditions, and that the failure of states to provide such an environment constitutes a breach of their humanitarian legal obligation.

To a large extent the change of consciousness and attitude toward international human rights has been due to the pioneering activities of non-governmental organizations such as Amnesty International. NGOs in the environmental field should follow the example that these groups have provided. By seizing on the potential inroads

into the state-centered international legal edifice presented in human rights by the United Nations Charter and the Universal Declaration of Human Rights, individuals now have available a wide range of substantive rules and procedural opportunities within which to enforce or publicize breaches of rights.

Finally, new treaties and intergovernmental agencies are being proposed to deal with the environment. Such instruments could be rendered more effective by establishing a formal legal role for NGOs as "guardians" of the environment. At a minimum, NGOs should be given wider consultative status, with the right to make representations and participate in the development of environmental standards. In the event that a new international agency were created with the power to investigate breaches of environmental standards, it should be able to receive information and petitions from NGOs and individuals. If such an agency were to be endowed with the right to make requests for Advisory Opinions from the ICJ or some other tribunal, NGOs should be entitled to intervene as interested parties.

NGOs have shown themselves to be willing and able to act as guardians of the international environment. In that context the time has come to expand the role of NGOs under general international law by giving their guardianship role formal legal expression. Unless and until such groups, or individuals or corporations, are given standing under general international law, so that their voices are not only heard but their actions felt, the role of international law in environmental protection will be limited and considerably less effective than it could be.

2. New Institutional Authorities

a. International Court for the Environment¹⁴

The creation of an International Court for the Environment as part of the United Nations is urgently needed for several reasons. Heading the list are: an increasing world population; disastrous environmental impacts due to the policies of industrialized countries toward the Third World (with the aid of the International Monetary Fund and the World Bank); attempts to exploit the Antarctic, the bottom of the ocean, and tropical forest ecosystems such as the Amazon; trans-frontier pollution threats; degradation of the ozone layer; the greenhouse effect; and desertification. Traditional clashes between the East and West are shifting to North-South conflicts. The environment, with its changing resources, becomes a dangerous cause of conflict. Thus, it is important to have new legal State liability rules and, consequently, compulsory and efficient conflict regulation procedures supported by a permanent, international authority.

From a moral, social, and cultural standpoint, the passage of responsibility for protecting the global environment to the legal and political phase is inevitable. An International Court for the Environment must soon be formed in order to make individuals and States respect prevention rules, as well as to force repair of ecological damage (a guarantee instrument). The court's task will be to "judge," not to "mediate," according to new international legal regulations regarding protection of the environment.

Do not be distracted by the word "court." There are already courts for the environment in individual countries. The efficiency of their judgment is limited, however, in relation to the nature and size of the phenomenon, which is objectively international.

Having a civil defense is not enough. We must have an International Court for the Environment that draws moral and legal strength not from countries, but from individuals who are the real holders of a universal human right. People cannot "delegate" defense tasks to bureaucratic organizations. They must have a court at their disposal that has the power to impose itself on all individuals and countries because it judges in the name of the international community--i.e., for the whole of mankind today and for future generations.

Technically speaking, setting up an International Court for the Environment as a special court according to Article 26 of the Charter of the International Court of Justice would be impossible. Nevertheless, an ad hoc court is preferable. An ad hoc court would specialize in environmental issues, both with regard to countries and to petitions by individuals. There would be no contradiction in the existence of the International Court of Justice (a judge for countries on all other matters) and an International Court for the Environment (a judge for countries in applying primary and secondary norms to the environment, as well as adjudicating human rights to the environment and guaranteeing these rights in the case of individual petitions).

b. International Environmental Legislature¹⁵

The purpose of this article is to suggest new ways to make international law for the environment. The existing methods are slow, cumbersome, expensive, uncoordinated and uncertain. Something better must be found if the environmental challenges the world faces are to be dealt with successfully. Nearly twenty years after the Stockholm Declaration, we still lack the institutional and legal mechanisms to deal effectively with transboundary and biospheric environmental degradation.

As matters stand today, we lack many of the necessary rules and the means for devising them; we lack

institutions capable of ensuring that the rules we have are effective. I do not wish to sound apocalyptic. In fact, the proposals put forward here build on existing international law and institutions. But it will take political courage to take the necessary decisions. Unless we devise a better way to make international law for the environment, future progress is likely to be piecemeal, fitful, unsystematic and even random. If the appropriate steps are not taken now, the manifestly unsatisfactory situation we have will limp along toward crisis. Assuredly, action will be necessary in the end; it will be easier if we start soon.

In truth, the United Nations lacks any coherent institutional mechanism for dealing effectively with environmental issues. The Charter itself provides no environmental organ, an omission that would most certainly be rectified if it were being drafted today. In no respect is the Charter more a product of its times than in its disregard of the environment. Aside from a reference to "good neighbourliness," it contains nothing. At present, environmental responsibilities are divided among a number of the specialized agencies, including the Food and Agriculture Organization, the World Health Organization, the World Meteorological Organization, the International Maritime Organization, the UN Educational, Scientific and Cultural Organization and the UN Development Programme, with a coordinating and catalytic role assigned to the UN Environment Programme (UNEP). UNEP itself is a creature of a mere General Assembly resolution. The Economic and Social Council has the task of coordinating all of these diffuse efforts and it is fair to say that the task has not been accomplished.

UNEP can push states, probe their policies and plead with them; it cannot coerce them. UNEP lacks teeth. It has no executive authority. Partly for this reason, UNEP has made generous use of "soft law" instruments in the international consensus building that it engages in. All UNEP programs are financed by direct, voluntary contributions from member states. It has a Governing Council composed of representatives of fifty-eight member states. UNEP has access to excellent scientific advice not filtered through nation-states. Given the nature of UNEP's constitution, its achievements are substantial, but it is not an adequate international organization for protecting the world's environment.

Many of these problems are widely recognized, but the logical inference from the facts seems politically unpalatable; the only way to cure the problem is to create a proper international environmental agency within the United Nations system that has real power and authority. At the same time, other environmental components within the UN system should be restructured and reorganized.

What is missing from the present institutional arrangements is the equivalent of a legislature: some structured and coherent mechanism for making the rules of international law. For such an institution to succeed, it must have access to high quality streams of advice. An effective way of ensuring the availability of appropriate scientific information is essential. To maintain the authority of the rules that are made, international efforts must be devoted to effective monitoring, assessment and enforcement.

The Hague Declaration calls for the "development of new principles of international law including new and more effective decision-making and enforcement mechanisms." Since the problems are planet-wide, solutions can only be devised on a global level. In designing the solutions, the different levels of development of nations must be taken into account. The declaration states that most of the emissions affecting the atmosphere originate in industrialized countries. Special obligations will have to be undertaken to assist developing countries. In concrete terms the nations that signed the declaration acknowledged several principles and undertook to promote them. What they undertook to do by a soft law method was to promote a new species of hard law. The first casualty was to be the rule of unanimous consent. They thus pledged themselves to promote

[t]he principle of developing, within the framework of the United Nations, new institutional authority, either by strengthening existing institutions or by creating a new institution, which, in the context of the preservation of the earth's atmosphere, shall be responsible for combating any further global warming of the atmosphere and shall involve such decision-making procedures as may be effective even if, on occasion, unanimous agreement has not been achieved.

In terms of traditional international law, this statement is radical. It is the embryo of a legislative system for international environmental issues. Nations that do not agree with a rule and will not consent to its inclusion in a treaty may be obliged to follow the rule anyway. This principle opens up the opportunity for the creation of a new organization with the ability to create norms by special majorities. If state sovereignty is the foundation of international law, the Hague Declaration may be the first nail in its coffin.

Acceptance that nations can be bound without their consent opens the door to a quite different legal context from that in which international law has developed. It offers the prospect of fashioning an international legislative process for global environmental issues. It offers the practical means of securing the higher standards that may be required by an objective assessment of the scientific evidence, however politically inconvenient a particular measure may be for an individual country. The search for the lowest common denominator in environmental matters, as in

others, can be a grinding and laborious diplomatic search that hungrily consumes energies and time--both of which are too scarce. Nations that do not want to change can sit tight and avoid change. A recurring theme at international conferences is the last-minute effort to persuade one country or another to go along. Language is softened, material is removed, and much of substance is lost. Herein lies a fundamental difference between the legislative and the diplomatic process. With legislation everyone is bound by the outcome, including those who do not agree. With treaties those who do not agree simply do not become bound.

The weakness of the international machinery has not escaped comment. The Hague signatories wanted new institutional authority that would "develop instruments and define standards to enhance or guarantee the protection of the atmosphere and monitor compliance." In 1988 a Canadian-sponsored conference in Toronto called for a comprehensive framework convention and protocols to protect the atmosphere, and experts did quite a lot of work in framing a convention. Taking a different tack, in 1988 the President of the World Federation of United Nations Associations proposed that the Trusteeship Council be revitalized and given a new mission to exercise trusteeship over the "planetary systems on which our security and survival depends, as well as [over] the global commons."

Relying explicitly on the Hague Declaration, New Zealand advanced a proposal in the 1989 General Assembly debate for a new United Nations institution, an Environmental Protection Council. The proposal was developed in the following way:

In New Zealand's judgment, the traditional response of international law, developing international legal standards in small incremental steps, each of which must be subsequently ratified by all countries, is no longer appropriate to deal with the highly complex environmental problems of the future.

The time has come for something more innovative, for a conceptual leap forward in institutional terms. And we see the need for the establishment of a new organ in the United Nations system--perhaps it would be called the "Environmental Protection Council". . . . I have no doubt that if the Charter were being drawn up today, there would be widespread support for including among the organs of the United Nations a body empowered to take binding decisions on global environmental issues. In our view, nothing less than an institution with this status will command the necessary respect and authority to achieve what is required.

Perhaps the most effective way to achieve this would be the inclusion in the United Nations Charter of a new Chapter dealing with the environment.

The missing institutional link, however, is the equivalent of a legislature. We would envisage the new Environmental Protection Council becoming the point in the United Nations system which links the streams of economic and environmental advice. It would perform the function that currently falls between the cracks in the mandates of all existing organizations. It would have responsibility for taking coordinated decisions on sustainable policies for global environmental protection. It would be empowered to take binding decisions. And if decisions are to be binding, the membership of the Council may need to be very wide--perhaps including all members of the United Nations. But the key thing is that it should have power to act--not just talk.

There are basically four policy options in the institutional area. First, things could be left as they are. Second, UNEP could be strengthened and given formal responsibilities. Third, the secretariat approach of the Vienna Convention could be embroidered upon and developed so that a series of secretariats operate for separate environmental issues. At present, that is the way things are heading. The fourth broad option is to create a new international institution.

To take the high road now will require considerable political commitment, but it is likely to ensure that there will be less trouble later on. International norms gain legitimacy from the process by which they are arrived at. An enduring institutional framework in which the processes are thorough and based on solid scientific data, and in which there is plenty of opportunity for refinement and debate, is likely to serve the world best in the long run.

What form should a new institution take? The most ambitious course is to create a new organ in the United Nations by amending the Charter. It would be the best possible outcome of the 1992 Conference on Environment and Development. But the procedures for changing the Charter are by no means easy, and the permanent members of the Security Council have a veto. Although I favor creating a new UN organ, it is not the only option. An easier choice to achieve, and one that could provide a workable institutional framework, would be to create a new specialized UN agency.

International law has never been confronted with a set of problems of the nature and quality of the global environmental problems. To meet the challenge, a new approach is needed, one that builds on the international law and institutions we have. The thesis advanced is that in those ways that international law seems different from municipal law, there will have to be changes. To deal effectively with the global problems, a form of legislative capacity is essential. Rules that are binding on nations will have to be made by means other than unanimous consent.

Some of the disputes that may lie ahead could be difficult indeed; the rules will have to ensure that fair and

binding adjudication can be held between nations. Some inspection and enforcement will be inevitable. The stakes are so high that slippage in meeting the standards will be intolerable. The actions of one nation could render nugatory the actions of all the others to preserve the global environment.

The global environmental problems pose three specific challenges: setting the rules, monitoring and verifying compliance, and providing an authoritative and binding method of settling disputes. Each of these goals could be better achieved if a new organ of the United Nations were created or a new United Nations organization established. A new UN organization called the International Environment Organization could be established at the 1992 meeting in Brazil. It should look to the procedures of the International Labour Organisation as a model for establishing norms, monitoring compliance and settling disputes. The rest of the international machinery touching on the environment should be restructured to avoid duplication and waste.

The argument here is not for some utopian system of world government. It is merely for a limited extension of the existing institutions of international law so that the law can cope effectively with a new problem. The proposal does require nations to surrender some sovereignty. It is palpably in their self-interest to do so. The politics of it are good. Most members of the global public consider preservation of life here a sound idea.

There is a political imperative driving environmental diplomacy. It is the rising level of consciousness among people everywhere of the serious nature of the global environmental problems. One can feel it in the air at the increasingly numerous international conferences held on the subject. Governments are eager to be seen as taking a constructive stance. It is time to translate that attitude into action.

FOOTNOTES CHAPTER 18

¹ Catherine A. O'Neill & Cass R. Sunstein, *Economics and the Environment: Trading Debt and Technology for Nature*, 17 COLUM. J. ENV'TL L. 93, 95-98, 107-18, 122-23, 129-38 (1992). Copyright 1992. Reprinted by permission.

² See World Commission On Environment And Development, *Our Common Future* 8-9 (1987); Lester R. Brown, *Building A Sustainable Society* (1981).

³ See, e.g., Cass R. Sunstein, *Legal Interference With Private Preferences*, 53 U. CHI. L. REV. 1129, 1164-66 (1986) (discussing myopia).

⁴ The idea here is that because developing nations use inefficient energy technologies, they have high energy intensities. The potential for a developing nation to reduce its energy intensity by employing energy efficient technologies already in existence is therefore great, and can be viewed as a sort of future energy resource possessed in a disproportionate amount by developing nations.

⁵ This view finds support, for example, in Principle 12 of the Declaration of the REPORT OF THE UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT at 4, U.N.Doc. A/CONF.48/14/Rev.1, U.N. Sales No. E.73.II.A.14 (1972) ("Resources should be made available to preserve and improve the environment, taking into account . . . any costs which may emanate from [developing countries] incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose."). See also Experts Group On Environment Law Of The World Commission On Environment And Development, *Final Report Of The Experts Group On Environmental Law On Legal Principles For Environmental Protection And Sustainable Development* (1986), *Reprinted In* Experts Group On Environment Law Of The World Commission On Environment And Development, *Environmental Protection And Sustainable Development: Legal Principles And Recommendations* 35, 65-69 (1987) (Article 7 and accompanying comment).

⁶ See generally THOMAS W. POGGE, *REALIZING RAWLS* (1990).

⁷ Philippe J. Sands, *The Environment, Community and International Law*, 30 HARV. INT'L L. J. 393, 396-400, 412-17 (1989). Copyright 1989. Reprinted by permission.

⁸ Stone, *Should Trees Have Standing?--Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450, 472-73 (1972).

⁹ A subject of international law has been described as "an entity possessing international rights and duties and having the capacity to maintain its rights by bringing international claims." I. BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 60 (3d ed. 1979). The traditional view is that only states and some international organizations have international personality, and thus the capacity to make claims in respect of breaches of international law, to enter into treaties and other agreements valid on the international plane, and to enjoy privileges and immunities from national jurisdictions. *Id.* at 60. See also *Reparations for Injuries suffered in the service of the United Nations*. 1949 I.C.J. 179.

¹⁰ Stone, *Should Trees Have Standing? Revisited*, supra note 83, at 5-6. Of particular relevance to this article is *Sierra Club v. Morton* 405 U.S. 727 (1971), in which the Supreme Court required that "the party seeking review be himself among the injured." 405 U.S. at 734-35. Stone's thesis was accepted in part, however, in the dissenting opinion of Justice Douglas, who wrote that "the critical question of 'standing' would be simplified . . . if we allowed environmental issues to be litigated . . . in the name of the inanimate object about to be spoiled, defaced or invaded...." 405 U.S. at 741.

¹¹ See e.g., Outer Continental Shelf Lands Act Amendments of 1978, 43 U.S.C. 1813(b)(3) (1982); Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1321(j)(5) (1982); Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9607(f) (1982).

¹² Nordic Convention on the Protection of the Environment, Feb. 19, 1974 (entered into force Oct. 5, 1976), 1092 U.N.T.S. 279 (1978) *reprinted in* 13 I.L.M. 591 (1974).

¹³ Single European Act, February 17, 1986, *reprinted in* 25 I.L.M. 506. The amended EEC treaty provides in Article 130 that action by the Community shall have the following objectives:

- to preserve, protect and improve the quality of the environment;
- to contribute towards protecting human health;
- to ensure a prudent and rational utilization of natural resources.

¹⁴ Amedeo Postiglione, *A More Efficient International Law on the Environment and Setting up an International Court for the Environment Within the United Nations*, 20 ENVTL. L. 321, 323-26 (1990). Copyright 1990. Reprinted by permission.

¹⁵ Geoffrey Palmer, *New Ways to Make International Environmental Law*, 86 AM. J. INT'L L. 259, 260-64, 277-80, 282 (1992). Copyright 1992. Reprinted by permission.