10 Principles of international environmental law

Among the earliest international environmental agreements were the Regulations adopted by the Arbitral Tribunal established to resolve the dispute between the USA and Great Britain over the exploitation of fur seals in the Pacific. The USA had sought to prevent British vessels from overexploiting Pacific fur seals in international waters of the Bering Sea. The Regulations adopted by the Tribunal provided for the 'proper protection and preservation' of fur seals outside jurisdictional limits, which prohibited killing during certain seasons, limited methods and means of fur sealing, and included exceptions for indigenous activities. These Regulations have served as an important precedent for the subsequent development of international environmental law.[1]

Since the 1893 award adopted by the Tribunal, international environmental law has come a long way, and a basic structure of institutions, principles and standards is now in place. The international community's recognition that environmental problems transcend national boundaries has resulted in the development of the important new field of international environmental law. It recognizes that *ad hoc*, disparate and reactive policy responses by individual states or local communities cannot effectively address the growing range of environmental problems faced by the international community. These have grown exponentially with advances in technology, industrialization and scientific understanding. As a consequence environmental law – itself a relatively new field – has necessarily grown from a body of national or bilateral rules into an area increasingly governed by regional and global obligations.

Overexploitation of natural resources, loss of biological diversity, ozone depletion, climate change, acid rain, deforestation, desertification, air and marine pollution, toxic and other waste and a population explosion are but some of the threats currently facing the planet. At the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in June 1992, poverty and international debt were added to the official list of the root causes of global environmental degradation, further expanding the issues properly considered to be concerns for international environmental law. Each of these areas requires international measures, and hence a central role for international law and organization. Indeed it is already clear that the combination of scientific evidence about what *needs* to be done, public pressure over what *should* be done, and political action as to what *can* be done, has already led to an explosion of new international laws addressing environmen-

tal issues. They have gained increasingly wide acceptance, are increasingly broad in their scope and sophisticated in their approach, and penetrate issues which, until recently, were thought to lie beyond the range of environmental legislation and activism.

This part of the book is divided into three parts: section 1 (Introduction) briefly describes the context of the subject, its historic development, the primary sources of obligation, the institutional arrangements, and the traditional legal order within which environmental challenges fail to be addressed. Section 2 identifies the basic principles of international environmental law, including general principles and specific topics which have been addressed. Section 3 addresses compliance, including implementation, enforcement and dispute settlement.

1 Introduction

1.1 The international legal order

International law and organizations provide the central basis for international cooperation and collaboration between the various members of the international community in their efforts to protect the local, regional and global environment. At each level the task becomes progressively more complex as new actors and interests are drawn into the legal process: whereas just two states, representing the interest of local fishing communities, negotiated the early fisheries conventions in the middle of the nineteenth century, more than 150 states negotiated the 1992 Climate Change Convention and in so doing represented a comprehensive range of economic and industrial interests.

In both cases, however, the principles and rules of public international law, together with the international organizations that have been established thereunder, are intended to serve similar functions. The overall objective of the international legal order is to provide a framework within which the various members of the international community may cooperate, establish norms of behaviour and resolve their differences. The proper functions of international law are legislative, administrative and adjudicative functions. The legislative function serves as the basis for the creation of legal principles and rules which impose binding obligations requiring states and other members of the international community to conform to certain norms of behaviour and to follow certain required practices. In relation to the environment these obligations place limits upon the activities which may be conducted or permitted because of their actual or potential impact upon the environment. The impact might be felt within the borders of a state, or across the boundaries of two or more states, or in areas beyond the jurisdiction and control of any state.

The administrative function of international law allocates tasks to the various actors to ensure that the standards imposed by the principles and

rules of international environmental law are carried out. The adjudicative function of international law aims, in a limited way, to provide mechanisms or fora to allow the pacific settlement of differences or disputes which arise between members of the international community involving the use of natural resources or the conduct of activities which will impact upon the environment.

1.2 Sovereignty and resources

The international legal order thus regulates the activities of an international community which comprises states, international organizations and a broad range of non-governmental actors. States continue to play the primary and dominant role in the international legal order, both as the principal creators of the rules of international law and the principal holders of rights and obligations under those rules. As the dominant actor in the international legal order states are sovereign and equal, which means that they have equal rights and duties as members of the international community, notwithstanding differences of an economic, social, political or other nature. The sovereignty and equality of states means that each has jurisdiction, which is prima facie, exclusive over its territory and the natural resources found there. Additionally each state has a duty not to intervene in the area of exclusive jurisdiction of other states.

The sovereignty and exclusive jurisdiction of the 190 or so states over their territory means, in principle, that they alone have the competence to develop policies and laws in respect of the natural resources and the environment of their territory, which comprises:

- land within its boundaries, including the subsoil
- internal waters, such as lakes, rivers and canals
- territorial sea, which is adjacent to the coast, including its seabed and subsoil
- airspace above its land, internal waters and territorial sea, up to the point at which the legal regime of outer space begins.

Additionally states have more limited sovereign rights and jurisdiction over other areas including: a contiguous zone adjacent to their territorial seas; the continental shelf, its seabed and subsoil; certain fishing zones; and 'exclusive economic zones'.

As a result of these arrangements certain areas are left to fall outside the territory of any state and in respect of which no state has exclusive jurisdiction. These areas, which are sometimes referred to as the global commons, include the high seas and its seabed and subsoil, outer space, and, according to a majority of states, the Antarctic. The atmosphere is also considered to be a part of the global commons.

This apparently straightforward international legal order apparently worked satisfactorily as an organizing structure until technological developments permeated national boundaries. The structure does not coexist comfortably with an environmental order which consists of a biosphere of interdependent ecosystems which do not respect artificial territorial boundaries between states. As an ecological matter, if not a legal one, many natural resources and their environmental components are shared, and the use by any one state of the natural resources within its territory will invariably have consequences for the use of natural resources and their environmental components in another state.

This is self-evident where, for example, a river runs through two or more countries, or living resources migrate between two or more sovereign territories. What is less evident, and has only become apparent in recent years, is that apparently innocent activities in one country, such as the release of chlorofluorocarbons, can have significant effects upon the environment in areas beyond national jurisdiction with consequential harmful effects within the territory of a state. Ecological interdependence therefore poses a fundamental problem for international law, and explains why international cooperation and the development of shared norms of behaviour in the environmental field is indispensable: the challenge for international law in the world of sovereign states is to reconcile the fundamental independence of each state with the inherent and fundamental interdependence of the environment. A further matter arises as a result of existing territorial arrangements which leave certain areas outside any state's territory: how can the protection of areas beyond the national jurisdiction of any state be addressed?

1.3 International actors

Although states remain far and away the most important actors, the history of international environmental law reflects the central role played by international organizations and non-governmental actors in the legal order and its associated processes. The environmental field provides clear evidence that international law is gradually moving away from the view that international society comprises only a community of states, and is increasingly extending its scope to encompass the persons (both legal and natural) within and among those states. This feature is similar to the human rights field, where non-governmental actors and international organizations also have an expanded role. This new reality is now reflected in many international legal instruments, especially the Rio Declaration on environment and development and Agenda 21 adopted at UNCED, which recognize and call for the further development of the role of international organizations and non-governmental actors in virtually all aspects of the international legal process which relates to environment and development.

These various actors have different roles and functions, both as subjects and objects of international environmental law. These functions and roles include, principally: participating in the lawmaking process; monitoring implementation, including reporting; and ensuring enforcement of obligations. The extent to which the different actors contribute to that process turns upon the extent of its international legal personality and the rights and obligations granted to it by general international law as well as the specific rules established by particular treaties and other rules. The Rio Declaration and Agenda 21, as well as an increasing number of international environmental agreements, envisage an expanded role for international organizations and non-governmental actors in virtually all aspects of the international legal process.

1.3.1 States States are the primary and principal subjects of international law. It is still states which create, adopt and implement international legal principles and rules, create international organizations and permit the participation of other actors in the international legal process. There are currently 181 member states of the United Nations (UN), and another dozen or so are not. Broadly speaking they are divided into developed and developing countries. Developed countries include the 24 member states of the OECD and the 11 states which previously formed part of the 'Soviet' bloc. The latter are currently referred to as 'economies in transition'. The rest of the world, comprising some 155 states, are the developing states which form the Group of 77. The Group of 77 often works as a single negotiating bloc within the framework of the UN. Within the UN system states are also arranged into regional groupings, usually for the purpose of elections to UN bodies. The five groupings are Latin America and the Caribbean Group; African Group, Asia Group; Western European and others group; and Central and Eastern European Group.

Frequently in environmental negotiations these rather simple distinctions tend to break down as states pursue what they perceive to be their vital national interests, including their strategic alliances, an issue which may be unrelated to environmental matters. The UNCED negotiations illustrated the extent of the differences which often existed between and among developed states and developing states on the particularly contentious issues: atmospheric emissions, conservation of marine mammals, protection of forests, institutional arrangements and financial resources.

1.3.2 International organizations The international organizations involved in environmental matters make up a complex and unwieldy network at the global, regional, subregional and bilateral levels. It is unlikely that any international organization today will not have some responsibility over international

environmental matters. The decentralized nature of international organizations in the environmental field makes it difficult to assess their role by reference to any functional, sectoral or geographic criteria. To help understand their activities and their interests they can, however, be divided into three general categories: global organizations under the auspices of, or related to, the UN and its specialized agencies; regional organizations outside the UN system; and organizations established by environmental and other international agreements.

International organizations perform a range of different functions and roles in the development and management of international legal responses to environmental issues and problems. International organizations fulfil each, or a combination, of roles of a judicial, legislative and administrative nature. The actual functions of each institution will depend to a very large extent upon the powers granted to it by its constituent instrument as subsequently interpreted and applied by the practice of the organization and the parties to it. Apart from very specific functions required of particular organizations, five separate but interrelated legal functions and roles are performed by international organizations.

First, they provide a forum for general cooperation and coordination between states on matters of international environmental management. Second, they play an informational role: they receive and disseminate information, facilitate information exchange, and provide for formal and informal consultation between states and between states and the organization. A third function is the contribution of international organizations to the development of international legal obligations, including 'soft law'. International organizations develop policy initiatives and standards, and may even adopt rules which establish binding obligations or which might reflect rules of customary law, including in relation to the development of procedural standards and the establishment of new and subsidiary institutional arrangements.

Once environmental and other standards and obligations have been established, institutions increasingly play a role in ensuring the implementation of and compliance with those standards and obligations. This may take a number of forms, including receiving information from parties or other persons on an informal and *ad hoc* basis, or it may entail the regular receipt and consideration of reports or periodic communications from parties to international environmental treaties as a means of reviewing progress in implementation. Assisting in implementation can also take place through the provision of formal or informal advice on technical, legal and administrative or institutional matters, including capacity-building. A fifth function is to provide an independent forum, or mechanism, for the settlement of disputes, usually between states.

1.3.3 Non-governmental actors (NGOs) Non-governmental actors have historically played an important role in developing international environmental law, and continue to play an influential role in a variety of different ways. They can identify issues which require international legal action; they may frequently participate as observers in international organizations and in treaty negotiations; and they can use a variety of efforts to ensure the national and international implementation of, and compliance with, standards and obligations which have been adopted at regional and global level. In the past two decades at least six different types of NGO have emerged as actors in the development of international environmental law: the scientific community; non-profit environmental groups and associations; private companies and business concerns; legal organizations; the academic community; and individuals. The Rio Declaration and Agenda 21 affirm the important partnership role of non-governmental organizations and call for their 'expanded role'.[2]

1.4 Defining the environment in international law

Legal definitions of the 'environment' reflect scientific categorizations and groupings, as well as political acts which tend to incorporate cultural and economic considerations. A scientific approach tends to divide environmental issues into 'compartments': these include the atmosphere, atmospheric deposition, soils and sediments, water quality, biology and humans. These scientific definitions are transformed by the political process into the legal definitions found in treaties, and although the term 'environment' cannot be said to have a generally accepted usage as a term of art under international law, recent agreements have tended to identify the various environmental media which are included in the term with a fair degree of consistency. Although the 1972 Stockholm Declaration does not include a definition of the environment, Principle 2 refers to the natural resources of the earth as including 'air, water, land, flora and fauna and ... natural ecosystems'. Those treaties which do refer to the environment and seek to include some form of working definition tend to adopt broad definitions. Under the 1991 Espoo Convention and the 1992 Transboundary Watercourses Convention the 'environment' which is defined by reference to impacts, includes 'human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors'.[3]

1.5 Sources of international environmental law

International law can be defined as those rules which are legally binding on states and other members of the international community in their relations with each other. The sources from which the binding rights and obligations of states and other members of the international community arise include:

- bilateral or multilateral treaties
- binding acts of international organizations
- rules of customary international law
- judgements of international courts or tribunals.

Additionally rules of 'soft law' which are not binding play an important role, by pointing to the likely future direction of formally binding obligations, by informally establishing acceptable norms of behaviour and by 'codifying' or reflecting rules of customary law.

In practice the most important sources are binding international agreements in the form of *treaties* (also referred to as conventions, protocols, agreements and so on) which can be adopted bilaterally (between two states), regionally (between states in a particular region geographically or politically defined) or globally (participation is open to all states). With more than 180 states now in existence, the number of bilateral environmental agreements runs into the thousands, supplemented by dozens of regional agreements and a smaller, but increasing, number of global treaties. European (in particular EC) and other industrialized countries have adopted a large body of regional environmental rules which frequently provide a basis for regional and global measures adopted in other parts of the world. Regional treaties are less well-developed in Africa, the Caribbean and Oceania, and virtually non-existent in Asia and the Americas. All industrial activity is, however, prohibited by treaty in the Antarctic.

The second principal source of international obligation arises from acts of international organizations. Almost all international environmental agreements establish institutional organs with the power to adopt certain acts, decisions or other measures. Such acts of international organizations, sometimes referred to as secondary legislation, can provide an important source of international law; they may be legally binding in themselves, or if they are not legally binding *per se* they may amend existing obligations, or they can authoritatively interpret treaty obligations. Non-binding acts, frequently referred to as soft law, can also, sometimes, contribute to the development of customary law. Binding acts of international organizations derive their legal authority from the treaty on which their adoption was based, and can therefore be considered as part of treaty law; some of the more far-reaching international decisions affecting the use of natural resources have been adopted in the form of acts of international organizations rather than by treaty. Many environmental treaties allow the institutions a choice of adopting acts with or without binding legal effects they establish. Those acts which do not have binding legal consequences could, however, subsequently be relied upon as reflecting a rule of customary international law.

The primary role of international environmental obligations adopted by treaty and acts of international organizations should not obscure the important, albeit secondary, role which is played by customary international law. Customary law rules fulfil a number of functions, by creating binding obligations and by contributing to the codification of obligations in the form of treaty rules and other binding acts. The significance of customary law lies in the fact that as a general matter it establishes obligations for all states (or all states within a particular region) except those which have persistently objected to a practice and its legal consequences. Establishing the existence of a rule of customary international law is made difficult by the need to provide evidence of consistent state practice, which practice will rarely provide any detailed guidance as to the precise context or scope of any particular rule. Article 38(1)(b) of the Statute of the International Court of Justice identifies the two elements of customary international law: state practice and *opinion juris* (the belief that practice is required by law).

These sources of binding obligation are supplemented by non-binding sources of 'soft law', reflected in guidelines, recommendations and other non-binding acts adopted by states and international institutions. These can provide evidence of state practice which might support the existence of a rule of customary international law, and often reflect trends which lead to the development of binding rules. The most important sources of 'soft law' are the 1972 Declaration of Principles of the 1972 Stockholm Conference, the 1982 World Charter for Nature and the 1992 Rio Declaration, which reflect 'to the extent any international instrument can do so, the current consensus of values and priorities in environment and development'.

The case law of international courts and tribunals, and arguments presented to such bodies, identify some general principles and rules of international environmental law. The importance of arbitral awards, in particular, in the development of international environmental law cannot be understated. Mention has already been made of the Pacific Fur Seal Arbitration, and before states had adopted many 'international statutes' important principles had been elaborated by Arbitral Tribunals in the *Trail Smelter Case* (concerning transboundary air pollution) and the *Lac Lanoux Arbitration* (concerning the use of a shared river). Judgments of the International Court of Justice have also contributed to the *corpus* of international environmental law, particularly in the *Icelandic Fisheries Cases* (on fisheries conservation) and the *Nuclear Tests Cases* (on the legality of atmospheric nuclear tests). The Court is currently faced with two potentially important environmental cases: the *Grabcikovo–Nagymaros Project Case* (concerning the construction of a dam on the Danube River) and the *World Health Organization Advisory Opinion* (concerning the legality of nuclear weapon use).

1.6 History

The development of international environmental law has occurred over four periods, responding to particular factors which influence legal developments. The emergence of principles and rules has often followed a catalysing event, such as an oil pollution or nuclear accident (the Torrey Canyon, Amoco Cadiz, Exxon Valdez and Chernobyl accidents each resulted in new international rules), or an initiative proposed by one or more governments, international organizations or non-governmental organizations. The principal factors influencing legal developments include industrial and technological developments that lead to increased demands on finite natural resources; improved scientific understanding of natural processes which have led to a greater recognition of ecological interdependence and the fact that many natural resources do not respect artificial, international legal boundaries; and individual accidents or incidents. More recently some states have sought to justify international measures by arguing that disparities in national environmental standards may lead to certain countries' industries not having to integrate environmental costs into production costs and thereby gaining competitive advantage in international markets. Until recently it was evident that international environmental law had arisen without a coordinated legal and institutional framework. The 1972 Stockholm Conference and then UNCED attempted to create such a framework.

1.6.1 To 1945 The first distinct period began with nineteenth-century bilateral fisheries treaties and the Pacific fur seal arbitration and concluded with the creation of the new UN family of international institutions in 1945. This period might be characterized as one in which states first acted internationally upon their understanding that the process of industrialization and development required limitations to be placed on the exploitation of certain natural resources (flora and fauna) and the adoption of appropriate legal instruments. National laws predated these international measures. Early efforts at international environmental regulation focused on international agreements to conserve wildlife, especially fisheries, birds and seals. International institutional arrangements were limited: until the UN was created in 1945 there was no international forum in which to raise environmental concerns, and most of the agreements adopted in this initial period did not create arrangements to ensure that legal obligations were complied with or enforced. Many initiatives grew from private activities by private citizens, an early harbinger of the more intensive activism of non-governmental organizations which marks international negotiations today.

The agreements which were adopted nevertheless established a pattern of precedents which are still relied upon today. In 1872 Switzerland proposed an international regulatory commission for the protection of birds, which led to

the first multilateral birds' convention in 1902.[4] 1900 saw the first multilateral wildlife conservation agreement, in Europe's African colonies.[5] In 1909 the first treaty was adopted to prevent pollution of freshwaters.[6] 1916 heralded the first (bilateral) agreement to protect migratory birds,[7] and in 1940 the Americas became the home of the second regional arrangement to conserve wildlife generally.[8] These introductory, but rather vague and unenforceable, international rules reflected a growing awareness that the exploitation of natural resources could not proceed unchecked, that industrialization and technological developments brought with them pollution and associated problems, and that international measures were needed. Shortly before the Second World War the emerging consciousness was summarized thus:

> We have accustomed ourselves to think of ever expanding productive capacity, of ever fresh spaces of the world to be filled with people, of ever new discoveries of kinds and sources of raw materials, of continuous technical progress operating indefinitely to solve problems of supply. We have lived so long in what we have regarded as an expanding world, that we reject in our contemporary theories of economics and of population the realities which contradict such views. Yet our modern expansion has been effected in large measure at the cost of an actual and permanent impoverishment of the world.[9]

It was the creation of the UN in 1945 that began to put in place institutional arrangements to provide a more coherent basis for global action.

1.6.2 The creation of the UN: 1945–72 The UN introduced a second period, which culminated with the 1972 UN Conference on the Human Environment. Over nearly three decades a range of international organizations with competence in environmental matters were created, and legal instruments were adopted to address particular sources of pollution and the conservation of general and particular environmental resources. These included oil pollution, nuclear testing, wetlands, the marine environment and its living resources, the quality of freshwaters and the dumping of waste at sea.

The UN provided a forum for the discussion of the consequences of all this technical progress, and introduced a period characterized by two features: international organizations became involved with environmental issues, and those issues began to address the causes of pollution and environmental degradation. The connection was made on the relationship between economic development and environmental protection. However the UN Charter did not, and still does not, address environmental protection or the conservation of natural resources. Other members of the UN family, including the Food and Agriculture Organization (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the General Agreement on Tariffs

and Trade (GATT), were granted a limited mandate over these matters. In 1949 the UN convened its first environmental conference, on the Conservation and Utilization of Resources. The Conference, which presaged the 1972 Stockholm Conference and the 1992 UNCED, addressed six main issues: minerals, fuels and energy, water, forests, land, and wildlife and fish. The main topics addressed included world resources and shortages (including their interdependence, use and conservation); the development of new resources by applied technology; education for conservation; the position of less-developed countries; and the integrated development of river basins.[10] Discussions also focused on the relationship between conservation and use, on the need to develop an appropriate standard to ensure conservation in human effort to meet human need, and on the relationship between conservation and development, but no recommendations or action plan were adopted.

The Conference was significant also because it recognized the UN's competence over environmental and natural resource issues. In 1954 the General Assembly convened a major Conference on the Conservation of the Living Resources of the Sea,[11] which led to the conservation rules adopted in the 1958 Geneva Conventions.[12] The following year it adopted the first of many resolutions on atomic energy and the effects of radiation,[13] which led to the 1963 Nuclear Test Ban Treaty[14] and, ultimately, the political context for Australia and New Zealand to bring to the International Court of Justice a case calling on France to stop all atmospheric nuclear tests.[15] These years also saw the adoption of the first global conventions on oil pollution prevention,[16] high seas intervention for clean-up,[17] and liability and compensation.[18] Other global agreements addressed high seas fishing and conservation and the protection of wetlands.

Noteworthy regional developments included the 1959 Antarctic Treaty limiting parties to peaceful activities in that region and prohibiting nuclear explosions or the disposal of radioactive waste; the EC's first act of environmental legislation, in 1967; the 1968 African Nature Convention, which aimed at the 'conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people'[19] land, shortly before the Stockholm Conference, the first treaty to prohibit the dumping of a wide range of hazardous substances at sea.

By 1972 there existed an emerging body of rules establishing environmental obligations at the regional and global levels, and international organizations were beginning to address international environmental issues. These treaty and institutional developments were, however, adopted in a piecemeal fashion, and no international organization had overall responsibility for coordinating international environmental policy and law, and few had a specific environmental mandate.

1.6.3 Stockholm and beyond The third period ran from the 1972 Stockholm Conference and concluded with UNCED. During this period the UN attempted to put in place a system for putting the task of addressing a growing range of environmental issues onto a more coordinated and coherent footing. A raft of regional and global conventions addressed new environmental issues, and new techniques of regulation were employed.

The 1972 Conference, convened by the General Assembly,[20] adopted three non-binding instruments: a resolution on institutional and financial arrangements; a declaration of 26 guiding principles; and an action plan setting forth 109 recommendations for more specific international action.[21] These represented the international community's first effort at developing a coherent strategy for the development of international policy, law and institutions to protect the environment. According to one commentator

> Stockholm enlarged and facilitated means toward international action previously limited by inadequate perception of environmental issues and by restrictive concepts of national sovereignty ... There were significant elements of innovation in (1) the redefinition of international issues, (2) the rationale for cooperation, (3) the approach to international responsibility, and (4) the conceptualization of international organizational relationships.[22]

Although the infusion of new international law was not dramatic, the trends leading to Stockholm were reinforced, particularly in relation to marine pollution, transboundary air and water pollution, and protection of endangered species. For international law the significant developments proved to be the creation of the United Nations Environment Programme (UNEP); the establishment of coordinating mechanisms among existing institutions; the definition of a framework for future actions to be taken by the international community; and the adoption of a set of general principles to guide such action, including Principle 21. UNEP has subsequently been responsible for the establishment and implementation of its Regional Seas Programme, including some 30 regional treaties, as well as important global treaties addressing ozone depletion, trade in hazardous waste and biodiversity.

Stockholm catalysed other global treaties adopted under the UN's auspices. These addressed, for the first time on global scale, the dumping of wastes at sea;[23] pollution from ships;[24] trade in endangered species;[25] and the protection of world cultural heritage.[26] The most important agreement, over time, may be the 1982 United Nations Convention on the Law of the Sea (UNCLOS). This establishes a unique, comprehensive framework for the establishment of global rules for the protection of the marine environment and marine living resources, including detailed and important institutional arrangements and provisions on environmental impact assessment, technology transfer and liability.[27] Its provisions have provided an influential basis

for text subsequently adopted, even prior to its entry into force in November 1994.

Stockholm was also followed by other important regional developments, including environmental protection rules in the EC, and the creation of an Environment Committee at the OECD. New regional agreements addressed, in a more coherent and comprehensive fashion, the protection of migratory species;[28] the protection of habitats (as opposed to species);[29] land transboundary air pollution.[30]

Also in this period economic and financial institutions began to address environmental issues. In 1971 the GATT established a Group on Environmental Measures and International Trade (although it did not meet until 1991), and that organization began to be faced with countries adopting environmental measures which might affect international trade. In the face of increased public and governmental pressure, the World Bank and regional development sought to integrate environmental considerations into their loan-making processes. This led to the establishment of an Environment Department in the World Bank and the adoption of environmental impact assessment requirements in most multilateral development banks. The 1990 Articles of Agreement establishing the European Bank for Reconstruction and Development reflect changing times and values, including environmental obligations in that organization's fundamental objectives.[31] In 1990 the parties to the Ozone Convention created a Multilateral Fund to help developing countries meet certain incremental costs associated with implementing that agreement, and in 1991 the World Bank, UNEP and UNDP established the Global Environmental Facility to provide financial resources to support projects which benefited the global commons. Later that year the GATT decided to reactivate its long-dormant Group on Environmental Measures and International Trade. In the run-up to UNCED treaties were adopted to address an ever extending range of subjects, applying new techniques and approaches for environmental impact assessment;[32] the transboundary impacts of industrial accidents;[33] and the protection and use of international watercourses. Significantly the UN Security Council declared that ecological issues could constitute threats to international peace and security, and the UN General Assembly prohibited the use of driftnets.

'Soft law' instruments also proliferated, and three have particularly influenced new international laws: the 1978 UNEP Draft Principles on Shared Natural Resources, the 1981 Montevideo Programme of the UNEP Group of Legal Experts, and the 1982 World Charter for Nature. Non-governmental efforts resulted in comprehensive efforts which influenced binding legal developments. Particularly noteworthy was the work of the World Commission on Environment and Development which produced the Brundtland Report ('Our common future') and the accompanying Legal Principles and Recommendations on Environmental Protection and Sustainable Development prepared by an Experts Group on Environmental Law. Collaboration between IUCN, UNEP and WWF produced the 1980 World Conservation Strategy and its 1991 follow-up, 'Caring for the earth: a strategy for sustainable living'.[34]

By 1990, when preparations for UNCED formally began with General Assembly resolution 44/228, there existed a solid body of rules of international environmental law. States were increasingly subject to limits on the right to allow or carry out activities which harmed the environment. New standards were in place, a range of techniques sought to implement those standards, and environmental issues were intersecting with economic matters, especially trade and development lending. Perhaps most significantly, as part of the global bargain in the move towards global instruments, developing countries had succeeded in establishing the principle that financial resources should meet some of the costs of implementing obligations, and it had been accepted that not all countries should be bound by the same standards. New institutions addressed regional and global environmental issues, and old institutions were reforming themselves to begin to integrate environmental considerations issues into their activities. In spite of these relatively impressive achievements, environmental matters remained a peripheral matter for the international community.

1.6.4 UNCED and beyond UNCED launched a fourth period for the 'greening' of international law, which might be characterized as the period of integration, requiring environmental concerns to be integrated into and fully taken account of by all relevant activities. In December 1987 the UN General Assembly had endorsed the Brundtland Report,[35] and the following year called for a global conference on environment and development.[36] UNCED was formally proposed in December 1989 by General Assembly Resolution 44/228, and after four preparatory negotiating sessions 176 states, several dozen international organizations and several thousand NGOs converged on Rio de Janeiro for two weeks in June 1992. The purpose of the conference was to elaborate strategies and measures to halt and reverse the effects of environmental degradation in the context of strengthened national and international efforts to promote sustainable and environmentally sound development in all countries. UNCED adopted three non-binding instruments: the Rio Declaration on Environment and Development (the Rio Declaration),[37] a Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forest (the Forest Principles); and Agenda 21.[38] Two treaties were also opened for signature at UNCED: the Convention on Biological Diversity,[39] and the United Nations Framework Convention on Climate Change.[40]

It is still too early to fully judge UNCED's contribution to the progressive development of international law. Certainly it will lead to more international laws, but whether they will support or undermine efforts to protect the environment remains to be seen.

Nevertheless UNCED heralded a new stage of international environmental lawmaking. The UN General Assembly adopted five follow-up resolutions giving effect to UNCED recommendations, including negotiations for a convention on drought and desertification; the convening of a conference on the sustainable development of small island states; the establishment of the Commission on Sustainable Development; and a conference on straddling and highly migratory fish stocks.[41] Post-UNCED agreements updated earlier 'first generation' marine pollution agreements,[42] and introduced new rules on liability for oil pollution and for environmental damage generally.[43] New treaties are likely on nuclear safety and liability, desertification and drought, and the prevention of industrial disasters, and many existing agreements are being updated and modernized in the light of UNCED's new principles. The early entry into force of the Climate Change and Biodiversity Conventions suggested that such political will as existed at UNCED to adopt the instruments had been carried forward into the next phase.

2 Making international environmental law

How international law is made or brought about is important to understanding the nature of the existing regime. This section examines how international environmental policy and law is developed, under what circumstances and in what fora it is conceived.

2.1 Creating treaties

As noted before treaties are the most important source of international environmental law. There are no rules prescribing their form or how they should be developed, but the 1969 Vienna Convention on the Law of Treaties lays down rules for treaties concluded after 1980 on such matters as entry into force, reservations, interpretation, termination and invalidity. Treaties go by a variety of different descriptions, such as conventions, protocols, covenants, pacts or acts, but there is no legal significance associated with these different terms.

Negotiation of treaties has recently been following an increasingly standardized process. Often the need for a treaty is initially promoted by an international organization or a NGO. Negotiation formally begins within the framework of an existing international organization or with the establishment of an independent single purpose organization, often called an Intergovernmental Negotiating Committee (INC). Formal negotiations are often preceded by informal negotiations, where the parameters are determined and the preliminary positions of states are investigated. The initiative for these informal discussions and the formal negotiations most often comes from an international organization such as UNEP. Negotiations can take many years, for example, the negotiations for UNCLOS began in the 1960s, formally commenced in 1973 and were not concluded until 1982. In order to accelerate the process, negotiators are normally separated into several working groups which address separate issues simultaneously. Recent negotiations have also tended to allow substantial input from the NGO community, with some cases a NGO draft being used as the basic negotiating text for the INC (that is the 1991 Madrid Protocol to the Antarctic Treaty and the CBD).

The negotiation of a treaty is concluded by the adoption of the text of the treaty by the representatives of the relevant states. Unanimity in adoption of a treaty is not, however, always required. Indeed the custom for international treaties in some areas is for a two-thirds' majority of negotiating states to consent to the draft text. Each negotiation adopts its own rules of procedure which outline how adoption is to take place.

The full obligations or commitments in a treaty, however, do not become legally binding until a treaty has 'entered into force', although adoption does impose limited obligations on the parties. Traditionally a treaty did not come into force until all the negotiating states expressed their consent. This may be altered by agreement and it is now more usual to find that the treaty enters into force when it has been consented to by a specified number of states or states having certain characteristics. In such cases, however, the treaty is binding only between those states which have consented, though states which have adopted a treaty are expected, pending their consent, not to do anything which undermines its objects and purposes.

Consent may be expressed a number of ways, with the permitted ways of becoming a party to a particular treaty always being outlined in the text of the treaty itself. 'Signature' and 'ratification' are the most frequent means of expressing consent. The signature is that of the delegation negotiating the treaty and is sometimes the act of adoption as well. Ratification refers to the legislative and executive measures that a country is required by its constitution to undertake to be legally bound by a treaty (that is Act of Parliament). Another common way that a state can become a party to a treaty is by accession. Accession is the term used to refer to countries who join the treaty after it has entered into force. Accession is, however, only possible if it is provided for in the treaty or by agreement of all the parties to the treaty.

Treaties do not necessarily lay down clear or detailed rules capable of being acted upon without further clarification or elaboration; more often they are no more than a 'framework', laying down only very general requirements or guiding principles. The frequently cited prototypes are UNEP's Regional Seas Treaties and the 1985 Vienna Convention. The original text of the 1976

Barcelona Convention on the Protection of the Mediterranean Sea, the first Regional Sea Treaty, contained only the vaguest of guiding principles. These have subsequently been developed into much more specific and binding legal obligations through its accompanying protocols on cooperation in combating oil spills, dumping of wastes, protection of the marine environment from land-based sources of pollution, and protection of specially sensitive areas. In truth nearly all modern treaties are framework treaties. For example both of the treaties signed at UNCED are based upon the framework approach and envisage further protocols on a wide range of matters in order to develop the normative content of the convention.

2.1.1 Biodiversity convention The multilateral negotiations for the CBD were typical of modern treaty development. Negotiations for the CBD began formally in 1987 with UNEP Governing Council Decisions 14/26 and 15/34, which called upon UNEP to set up a series of expert group meetings. Started in November 1988, the initial sessions were referred to as meetings of the 'Ad Hoc Working Group of Experts on Biological Diversity'. By mid-1990 sufficient progress had been made, including the completion of studies on various aspects of the issues, for several working groups to be established. For example the Sub-Working Group on Biotechnology was established to prepare terms of reference on biotechnology transfer. Other working groups examined issues such as *in situ* and *ex situ* conservation of wild and domesticated species; access to genetic resources and technology, including biotechnology; new and additional financial support; and safety of release or experimentation on genetically modified organisms.

The Governing Council of UNEP then created an 'Ad Hoc Working Group of Legal and Technical Experts' in mid-1990 to prepare a 'new international legal instrument for the conservation and sustainable use of biological diversity'. The legal and technical experts considered the reports of the various working groups in drafting the convention. The Executive Director of UNEP prepared the first formal draft Convention on Biological Diversity, which was considered in February 1991, by an 'Intergovernmental Negotiating Committee'. The first INC meeting was also known as the third session of the Ad Hoc Working Group of Legal and Technical Experts. Four subsequent sessions of the INC were held in the intervening two years, culminating in the adoption of the final text of the treaty in Nairobi, Kenya on 22 May 1992. On 29 September 1993, the Secretariat received the thirtieth ratification, which was the required number of ratifications for the Convention to enter into force, and the Convention entered into force three months later.

2.2 Institutions

After treaties the most important source of new international environmental policies and rules are the acts of international organizations. Not only do they often initiate multilateral negotiations for new treaties, they also produce policy, guidelines, codes of practice and resolutions which are largely voluntary and non-binding in strictly legal terms. These types of instrument are often referred to as 'soft' law. Despite the voluntary nature of many of these instruments, their role is important from a legal viewpoint as there is growing evidence that they have considerable influence on state practice and, in any event, they often eventually evolve into hard law. The important role that international organizations play in the development of policy and law was officially recognized at UNCED. Agenda 21 for instance not only devoted an entire chapter to the role of international organizations but also called for the establishment of the CSD to ensure that the UN and its agencies implement its obligations.

Although soft law is elusive and hard to define, it has an important contribution to make in establishing a new legal order in a dynamic field such as international environmental law. Soft law's advantage over hard law, and hence its importance, arises from its flexibility. The soft law approach allows states to tackle a problem collectively at a time when they do not want to completely shackle their freedom of action. With environmental matters this may be either because scientific evidence is not conclusive or complete but a precautionary attitude is required, or because the economic costs are uncertain or overburdensome. Such an approach does enable states to assume obligations that they would not otherwise assume, because these are expressed in vaguer terms, or conversely, in soft law form enable formulation of obligations in a precise and restrictive manner that would not be acceptable in a binding treaty. This flexibility is vital in securing the necessary compromises to develop policy and law in today's diverse international community.

International organizations also develop international environmental policy indirectly as a consequence of providing a permanent forum where negotiation of further rules and policy occurs. They thus facilitate and shape the compromises necessary to develop policy and law in a world consisting of different states with divergent interests and values. Their influence in this regard is through the provision of support services such as legal and scientific advice or secretarial services. For instance international organizations will often prepare the initial drafts of negotiating texts, drawing up preliminary agendas and commenting on proposals, and in this way they not only aid negotiations but have a substantive input into negotiations. In this sense they make a valuable contribution as part of the lawmaking process although they are not themselves technically involved in the process. The availability of

their administrative machinery is an important part of the lawmaking process and should not be underestimated.

Most international organizations are involved in supervising, monitoring and prompting implementation of their codes and sometimes conventions. This is done more by reminder and comment than through active or binding enforcement measures. The key tasks that they perform in this context are those of collecting information and data, receiving reports on treaty implementation by states, facilitating independent monitoring and inspection and acting as a forum for reviewing the performance of states or for the negotiation of further measures and regulations. Supervision of this kind also often entails the negotiation and elaboration of detailed rules, standards, or practices, usually as a means of giving effect to the more general provisions of the treaty under which they are conducted. Not only does this give the treaties a dynamic character and allow the parties to respond to new problems or priorities, it is also a form of lawmaking. In some instances, this rule-making can have a legal significance beyond the immediate convention under which they were promulgated. For example the standards set by the IMO in safety and oil pollution discharges are accepted and implemented by countries not bound by them.

Recent developments foresee an even greater role in policy development and lawmaking. Both the Antarctic Mineral Resources Commission and the International Seabed Authority were delegated considerable power to manage the resources under their control. Crucially they both had the power to make binding decisions based upon a majority decision as opposed to relying upon unanimity. As experience with the international fishery commissions has illustrated, the latter type of voluntary agreement has proven to be incapable of making the tough decisions necessary for efficiently utilizing common property or arresting the 'tragedy of the commons'. Even though the Antarctic Mineral Resources Commission never came into existence and the future of the International Seabed Authority is uncertain, they indicate the type of power and control international organizations may be given in the future.

As we shall see international organizations also act as dispute resolution mechanisms which create rules and develop the law through clarification by 'judicial' interpretation of many of the vague rules of a convention. Finally, they provide a forum in which state practice, the basis of customary international law, can be developed and manifest itself

2.2.1 UN environmental programme One of the more important and active international organizations for developing international environmental law over the last two decades has been UNEP. Created in 1972 to implement the results of the UNCHE, UNEP first spelt out its objectives for the development of international environmental law in 1975 when it stated that its

intentions were: to contribute towards the development and codification of a new body of international law to meet new requirements generated by environmental concerns based on the Stockholm Declaration; to facilitate cooperation in developing the law on state responsibility in accordance with the principles of the Stockholm Declaration; to contribute to development of international law at national and regional levels; to promote protection of the international commons and their regulation from an environmental viewpoint; to establish guidelines and procedures for avoidance and settlement of disputes; and to study institutional structures related to the environment with the aim of devising efficient new mechanisms or improving old ones.

Central to their efforts to develop international environmental law has been the Programme for the Development and Periodic Review of Environmental Law, better known as the 'Montevideo Programme'. The Programme can be grouped loosely into three categories: (1) conclusion of international agreements; (2) development of international principles, guidelines and standards; and (3) provision of international assistance for national legislation and administration. Under each one of these headings, UNEP has developed a considerable body of documentation and a number of treaties. These include: the Regional Seas Treaties, the 1979 Bonn Convention, the 1985 Vienna Convention and the 1989 Basle Convention. Various guidelines have also been produced including: the 1978 Principle of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States; the 1985 Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-based Sources; the 1987 Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Waste; and the 1987 Goals and Principles of Environmental Impact Assessment. UNEP has also provided considerable assistance in the drafting of national environmental legislation for both developed and developing countries.

Even though the normative content of the UNEP instruments tends to be weak and many are replete with ambiguities and contradictions, some of these instruments have developed into binding regimes. Notable examples of this hardening include the development of over 40 separate protocols under the Regional Seas Programme; the 1985 Vienna Convention which has been developed into one of the leading environmental treaties through several accompanying protocols, most notably the 1987 Montreal Protocol; and the transformation of the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Waste into the 1989 Basle Convention.

Although many of UNEP's initiatives have not so far been implemented effectively and despite the fact that it is not possible to judge whether they would have come about in the absence of UNEP, UNEP has undoubtedly

played an important role in their development and influenced their substantive content.

2.3 *Conference of the parties*

All effective treaties provide a mechanisms whereby the parties can meet and consider how the purposes of the treaty are being met. Often these meetings are known as the Conference of the Parties or the COP. The COPs are the principal forum where the often general obligations found in many treaties are developed into meaningful commitments. They also provide for flexibility and adaptability within a convention. In a modern treaty COPs are held at regular intervals, typically every two years. The powers delegated to these bodies normally include: keeping under review the implementation of the convention; establishing the form and the intervals for the information transmittals required by the convention; considering such information as well as reports submitted by any subsidiary body; considering and, if necessary, adopting amendments to the convention, its annexes and protocols; establishing subsidiary bodies as deemed necessary; and coordinating the secretariat, the subsidiary bodies and executive bodies of other relevant conventions. Essentially COPs act as the legislative arm of a convention and, consequently, are the formal source of much international environmental policy and law.

Whereas early COPs were rather private affairs, involving only government delegations, excluding the public and receiving very little media attention, currently, most important COPs attract considerable attention from a wide range of interests and allow considerable public involvement in their decision-making process. For example, at the Eighth COP to CITES in 1992, there were over 1000 registered participants representing some 140 NGOs and a further 586 members of the press.

The importance of the role performed by the COP is perhaps most graphically illustrated by the absence of an effective COP, such as with the 1968 African Convention. Without a proper COP mechanism it has achieved very little in its 25-year history.

2.3.1 The Antarctica Treaty The important role of a properly functioning COP in developing policy and law and the politics involved in arriving at COP decisions are illustrated by the experience of the Antarctic Treaty System and its COP, the Antarctic Treaty Consultative Party Meetings (ATCMs). The 1959 Antarctica Treaty as originally adopted contained few concrete commitments and developed no institutional structure for its implementation (that is no convention 'secretariat' was established). In the absence of any institutional structure the Treaty has been almost entirely managed by the biennial meetings of its 'COP', the ATCMs. The purpose of these meetings,

outlined in Article IX is 'to exchange information, consult on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

(a) use of Antarctica for peaceful purposes only;
(b) facilitation of scientific research in Antarctica;
(c) facilitation of international scientific co-operation in Antarctica;
(d) facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;
(e) questions relating to the exercise of jurisdiction in Antarctica;
(f) preservation and conservation of living resources in Antarctica.

ATCMs occur at a conference hosted and organized by one of the Consultative Parties and usually last for about two weeks. The first such meeting occurred in 1960. Although they used to occur every two years, since 1991 they have been held on an annual basis. The most recent was the XIXth ATCM held in Seoul in May 1995. The terms of the Treaty are developed through a variety of legal instruments which include ATCM or SATCM Recommendations, protocols to the Treaty or separate conventions. The most commonly used instruments are the ATCM Recommendations which are made consensual basis. To date there have been over 200 Recommendations made on a wide variety of subjects including; environmental protection, meteorology, telecommunications, transport and logistics, tourism and exchange of information. In addition to these regular meetings, special meetings are called from time to time to consider special issues; the most recent of these special ATCMs (SATCM) occurred in April 1991 in Madrid to finalize the Protocol on Comprehensive Environmental Protection for Antarctica.

The extent to which the ATCM has developed a detailed and elaborated Article X(f) is a paradigm of policy and rule-making by a COP. From this general obligation an elaborate management regime has been developed through additional recommendations, protocols and further conventions to provide comprehensive protection for the environment in Antarctica.

The development of Article X(f) began at the very first ATCM where rules governing the conduct of scientists working in the area, which had been developed by the Scientific Committee on Antarctic Research (SCAR), were issued to all Antarctic expeditions. These ideas were further discussed at the second ATCM (Recommendation II–II) and were developed into the Agreed Measures For The Conservation Of Antarctic Fauna And Flora (Recommendation III–XI).

As further threats to Antarctica became known, the ATCM has been the mechanism through which new regulations have been developed to control them. For instance when Norway expressed renewed interest in commercial

exploitation of seals in 1964, it was suggested at the IIIrd ATCM in 1964 that national governments should regulate pelagic sealing on a voluntary basis. At the next ATCM a further step was taken with the Consultative Parties adopting Interim Guidelines for the Voluntary Regulations of Antarctic Pelagic Sealing (Recommendation IV–XXI). Finally, in 1972, the Consultative Parties adopted the Convention for the Conservation of Antarctic Seals, establishing a regime of protection for six species of Antarctic seals most threatened by sealing.

Similarly, when both Japan and the USSR began investigating the possibility of harvesting krill on a commercial scale in the late 1960s, the ATCM once again provided the framework within which a regime was developed to control and manage the marine resource. Negotiations were commenced at the IXth ATCM at London in 1977. After seven separate meetings and consultations the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was adopted. CCAMLR was an innovative document in that it contained a management regime based upon an ecological approach as opposed to a political one. This ecosystem approach meant that, instead of the jurisdictional boundaries of the Convention being determined by political parameters, it was defined by reference to the 'Antarctic Convergence', the natural biological frontier of the Antarctic marine ecosystem (which occurs where the warmer waters flowing south meet the Antarctic water). It also meant that unlike most other fishery agreements, which set quotas based upon maximum sustainable yields of the target species only, under CCAMLR equal consideration has to be given to the likely effects on non-target species and the marine ecosystem as a whole.

When the possibility of mineral exploitation arose, the Consultative Parties began negotiations for a treaty to regulate the development of the mineral resources of Antarctica in 1977 at the IXth ATCM. Recommendation (IX-3) established a moratorium on mineral resource activity in Antarctica (dependent on the 'timely conclusion of a convention on mineral resources activity') and the negotiations for an Antarctic Minerals Convention were commenced. By 1988 negotiations were completed and the Convention on the Regulation of Antarctic Mineral Resource Activities was adopted. The Convention created a regime proscribing all mineral resource activity unless and until the person who proposed such an activity proved, by extensive studies, that the activity in question would not cause damage to the Antarctic environment. Like CCAMLR, CRAMRA contained many innovative techniques never seen before at international level. Its most radical aspect was the amount of authority given to the Commission to manage Antarctica, mentioned before.

Many environmentalists felt that CRAMRA would stimulate mining interests as a result of the legal certainty which CRAMRA brought to mining rights in Antarctica. They argued that as the world's last pristine terrestrial

environment, commercial exploitation of Antarctica was unthinkable: Antarctica should be preserved as a world park. As a result of intense political lobbying, the following ATCM, the XVth, was dominated by the fate of CRAMRA and environmental issues in general. The fate of CRAMRA was finally sealed by Recommendation (XV–7 and XV–8) which established a SATCM to consider the various proposals submitted by the Consultative Parties to declare Antarctica a world park.

The SATCM established at the XVth ATCM, over the course of a single year, negotiated a protocol to the Treaty which developed the disparate elements of the Antarctic Treaty System into a comprehensive environmental protection regime. The form and content of the Protocol were heavily influenced by NGOs with many of the government delegations containing NGO representatives.

The ATCM mechanism has not only developed a comprehensive regime for the protection of flora and fauna in Antarctica but has developed similarly comprehensive regulations governing every aspect of man's activities in the region. The comprehensiveness of this legal regime is probably the best example of international regulation of an international resource, and it is possibly one of the only examples of the successful international regulation of an international resource. The reasons for this are many and varied. The success of the system is, however, due in part to the fact that the Antarctic Treaty System has shown remarkable flexibility and adaptability in allowing the Antarctic Treaty System to meet the changing demands of its constituents. This dynamism has been due to the effectiveness of the Treaty's conference of the parties in developing the necessary policy and rules at an acceptable speed and within an acceptable fora for all the Consultative Parties: a success all the more remarkable given the absence of a secretariat for the Treaty.

The legal techniques developed by the ATCM have also influenced developments outside the ambit of Antarctica. The ecosystem approach first seen in CCAMLR has been adopted in the 1985 ASEAN Convention and is seen also in the Biodiversity Convention. In this sense the ATCM has therefore not only developed international law and policy by fleshing out the guiding principles of one treaty but it also has had a wider impact on the body of law as a whole.

The rise and fall of CRAMRA also illustrates how COPs have changed over recent years, becoming not only important sources of law and policy but also an important source of accountability. In addition the manner in which these rules and policy have been made illustrates the important role that NGOs and scientific bodies can have in their development.

2.4 Standing committees

Increasingly modern conventions are streamlining the decision-making process of the COPs. For example at most COPs several working groups are established to deal simultaneously with matters on the agenda. Only after agreement has been reached in the working group will the matter be presented to the plenary of the COP for formal approval. Another method beginning to emerge is the delegation of matters to a standing committee consisting of a restricted number of parties which will meet between the COP sessions. The Implementation Committee of the Montreal Protocol is an important example of a standing committee, with the authority to consider implementation of the Protocol. Furthermore the work of this Committee may have a wider effect in that it will be used as a precedent to help clarify similar obligations in other contexts.

The Multilateral Fund under the Montreal Protocol is also managed by a committee of elected members of the parties, known as the Executive Committee. In this case the Committee is made up of 14 members (seven from developing countries and seven from developed counties). Each Committee member represents a constituency of parties to the Protocol. Importantly decisions are made on the basis of a double majority, whereby it must be passed by members representing a majority of constituents and more than 50 per cent of the contributions of donors. The Committee is empowered to develop and monitor the implementation of specific operational guidelines and administrative arrangements for the purpose of achieving the objects of the Multilateral Fund under Article 10 of the Montreal Protocol. Even though its work will be primarily about financial matters and project approval, its interpretation of the meaning of 'incremental costs' has not only developed the meaning of Article 10 of the Montreal Protocol, but also has had important consequences for the other conventions using this term such as the CBD and the CCC. Furthermore without the requirement of unanimity in decision making, this will mean that the policy developed by the Committee will probably be innovative and, therefore, provide an important source of precedents for other fora.

This technique is most developed in the 1944 Chicago Convention on International Civil Aviation. Under Articles 37 and 54 of the Convention, international standards on aircraft noise and engine emissions have been developed by the Council of the International Civil Aviation Organization (ICAO). The ICAO is made up of 33 elected representatives of the parties to the Convention. Standards are adopted in the ICAO by a two-thirds' majority. Once adopted they become mandatory, without the need for ratification, for those states which do not notify the ICAO of their intention not to accept them. The authority of the ICAO is unparalleled in the environmental sphere and is probably the closest thing to an international legislature that exists today.

2.5 Secretariat

Although the COP is the repository of most of the formal authority to develop new rules and policy, the secretariat can also contribute to the development and application of policy. If the COP can be likened to the legislative arm of a convention then the secretariat is its executive. The influence of the secretariat in developing law is similar to that of an international organization, only more focused.

Secretariat functions normally include such matters as: making arrangements for sessions of the COP and its subsidiary bodies and providing the support for these conferences; compiling and transmitting reports submitted to it; helping the parties, particularly developing country parties, to compile the information required by the provisions of the convention; preparing reports on its activities and presenting this to the COP; and ensuring the necessary coordination with the international organizations or the secretariats of other conventions.

As with international organizations secretariats provide continuity and a forum through which exchange can occur. They also have an important influence on the activities of the COP in that they coordinate and organize the meetings of the COP, establish agendas, and, in some instances, can be delegated power to enact legislation.

An important example of lawmaking by a secretariat is found in the World Heritage Convention. Under this Convention the World Heritage Centre, the Secretariat of the Convention, is authorized to pronounce Operational Guidelines which develop the general commitments of the Convention into specific obligations. For instance, although the Convention provides that an area must be of 'outstanding natural beauty' for it to be a World Heritage Site, it is the guidelines that set out the precise features that a site must possess in order to be listed. Other examples of similar powers can be found in the development of international health regulations by the World Health Organization, the development of standard meteorological practices and procedures by the World Meteorological Organization or the development of international food standards of the Codes Alimentarius Commission.

2.6 Scientific/technical panels

The administrative structure of many modern environmental conventions consists not only of a secretariat but also contains scientific and technical panels, often referred to as the 'subsidiary bodies'. These subsidiary bodies are the engines for the development of policy. Although they come in many different guises, they are often either a permanent technical committee of an organization such as UNEP, the FAO or the IMO or an independent body established to help the convention itself (that is the IPCC for the CCC). A convention may have one or more subsidiary bodies. Ostensibly they are politically

independent although this is rarely the case in practice. Their main function is to provide advice on a range of aspects: technical; scientific; policy; implementation; legal; and financial matters. Ultimately they are established to develop recommendations for the secretariat or the COP. They either meet at regular intervals or are in permanent session. They are normally open to participation by all parties. Typically they are constituted of government representatives competent in the relevant field of expertise. The work that they carry out is vital for effectiveness of a convention. In effect they provide the intellectual input to the secretariat. Typical responsibilities include: providing assessments of the relevant state of scientific knowledge; preparing scientific assessments on the effects of measures taken in the implementation of the convention; identifying innovative, efficient and state-of-the-art technologies and know-how and advice on the ways and means of promoting development and/or transferring such technologies; providing advice on relevant scientific research; and responding to scientific, technological and methodological questions that the COP may pose.

These bodies have a research, advisory and coordinating role rather than a managerial or lawmaking one. Though they have no regulatory role, they do come to conclusions and make recommendations, drawing attention to management and legislative needs, indicating whether species or pollutants should be added to regulatory annexes. In this indirect way they make a significant contribution to the development of policy and law.

2.6.1 SCAR and the Antarctic Treaty System One of the longest standing examples of such a panel is found in the work of SCAR within the ATS. SCAR is a scientific committee charged with the initiation, promotion and coordination of scientific activity in Antarctica. SCAR was established contemporaneously and in parallel with the Antarctic Treaty. SCAR operates with a small secretariat, and holds regular meetings at which overall activities and priorities are discussed. Much of the detailed scientific coordination is handled through its permanent working groups of which there are 11, covering everything from biology to solid earth geophysics. SCAR operates in consultative party countries through national committees. Through these, and by direct relations with the agencies managing national scientific activities in Antarctica, national scientific expertise is harnessed. Members of its working groups need to be able to bring relevant professional knowledge to their deliberations and should not be appointed on political grounds or merely to attain a national presence.

SCAR has acted as a valuable vehicle for the development of policy and rules for the conservation of Antarctica. The agreed measures were initially prepared in consultation with the SCAR Working Group on Biology. Countries seeking membership of SCAR, which is usually a precursor to consultative

party status under the Treaty, are required to give an undertaking that they will comply with the principles of protection of the environment recommended by SCAR. The development of the 1991 Madrid Protocol to the Antarctic treaty was heavily influenced by SCAR's Working Group on Biology and a Group of Specialists on Environmental Affairs and Conservation. SCAR's reports have also regularly been acted upon. Examples include: I–8 Conservation of Fauna and Flora, VIII–3 SSSIs; VIII–1 Man's Impact on the Antarctic Environment; VIII–13 Antarctic Environment; IX–5 Man's Impact on the Antarctic Environment; XIV Environmental Impact Assessment. The Antarctic Seals Convention invites SCAR to make recommendations on humane methods of killing and capture, which are required to be practised by those taking seals (section 5). Furthermore the Convention requires that the parties must notify SCAR annually of any steps that they have taken to implement the Convention during the previous year.

2.7 NGOs and private concerns

NGOs have proliferated in the last 20 years and are now a standard feature of many international environmental meetings. They make a vital contribution to the development of international environmental policy and law. Although the effectiveness of NGOs varies greatly, as a whole they have become increasingly effective. This has largely been achieved through their observer status at international and regional organizations and COPs. They are also a source of considerable numbers of scientific and technical papers presented to the COP which in some instances can be tabled directly, but in most cases have to be adopted by a party before they can be submitted formally.

Increasingly they are coordinating their activities in order to be more effective. For example at many COPs, NGOs meet daily to coordinate their policies and actions. At the INC meetings of the CCC or the CBD, not only were there daily coordination meetings but, prior to the COP, there were week-long conferences of the environmental NGOs to coordinate their policies and activities for the forthcoming INC. Some well-known examples of policy or legal developments directly attributable to NGOs are: the moratorium on whaling under the International Whaling Commission; the 1991 Protocol on Comprehensive Environmental Protection for Antarctica; and the listing of elephants on Appendix I of CITES.

The role played by NGOs was widely recognized at UNCED. Agenda 21 devoted a chapter to the role of NGOs and called upon the states and international organizations to improve access for NGOs to the processes of policy making and lawmaking.

2.7.1 The World Conservation Union (IUCN) The activities of one of the most important NGOs, The World Conservation Union (IUCN), illustrates

the role that NGOs play in developing policy and law. The IUCN has participated in the drafting of many conventions on nature conservation. It even initiated the preparation of CITES and the CBD. CITES had its origins in an IUCN Resolution in 1963, before being concluded in 1973 and the CBD had its origin in an IUCN Resolution in 1981. Other treaties in which the IUCN has been involved in the elaboration or preparatory texts include: the 1968 African Convention; the 1986 Apia Convention; the 1979 Bonn Convention; and the 1985 ASEAN Convention.

The IUCN has also played an important role in the implementation of numerous conventions. It provided the secretariat for the CITES, until this was taken over by UNEP. The World Heritage Convention expressly provides for IUCN assistance in the deliberations of its World Heritage Committee, on which it has consultative status. It also provides that the Committee should call upon the IUCN to implement its programmes and projects. Finally the World Heritage Convention provides that UNESCO should utilize the services of IUCN to prepare documentation for the Committee and for the execution of its decisions.

The IUCN was the principal architect of both versions of the World Conservation Strategy. It also contributed to the drafting of the World Charter for Nature, the initiative for which came from the President of Zaire, who proposed its elaboration, first at the 1975 IUCN General Assembly in Kinshasa. The original text was drafted by the Legal Commission of the IUCN and then examined by the General Assembly of the IUCN before being transmitted to the UN where it was adopted by the General Assembly in 1982.

3 Basic principles of international environmental law

The relationship between environmental protection and international law has thus been transformed in recent years. Previously marginal, international environmental issues are now a central concern of the UN, GATT and other international institutions, and to all governments. Scientific and political concern about global and regional environmental issues is reflected in an increase in the number of international agreements and acts relating to the protection of the environment. At any time negotiations are in progress for different instruments in different fora, making it virtually impossible for all but the most highly resourced states to maintain effective, and consistent, negotiating positions.

Despite these impressive achievements there is reason to doubt the impact of this body of law on actual governmental and human behaviour. Limited implementation and enforcement suggests that international environmental law remains in its formative stages. Lawmaking is decentralized, with legislative initiatives being developed in literally dozens of different intergovernmental organizations at the global, regional and subregional level. Coordination

between the initiatives is inadequate, leading to activities which are often duplicative and sometimes inconsistent. Moreover the lawmaking process tends to be reactive and somewhat *ad hoc* in nature, often depending upon the vagaries of political, economic and scientific events and findings.

Although no single international legal instrument establishes binding rules or principles of global application, the pattern of state behaviour has given rise to an emerging set of guiding principles and minimum standards of acceptable behaviour in relation to particular environmental resources. These principles and standards are considered in the following sections.

3.1 General principles

Several general principles and rules of international law have emerged, or are emerging, specifically in relation to environmental matters, as reflected in treaties, binding acts of international organizations, state practice and soft law commitments. They are general in the sense that they are potentially applicable to all members of the international community across the range of activities, which they carry out or permit to be carried out, and in respect of the protection of all aspects of the environment.

According to one view, principles and rules

> point to particular decisions about legal obligations in particular circumstances, but they differ in the character of the direction they give. Rules are applicable in an all-or-nothing fashion ... [A principle] states a reason that argues in one direction, but does not necessitate a particular decision ... All that is meant, when we say that a particular principle is a principle of our law, is that the principle is one which officials must take into account, if it is relevant, as a consideration inclining in one way or another.[44]

3.1.1 Sovereignty over natural resources and the responsibility not to cause damage to the environment of other state or to areas beyond national jurisdiction The rules of international environmental law have developed in pursuit of two principles which pull in opposing directions: that states have sovereign rights over their natural resources, and that states must not cause damage to the environment. These objectives are now reflected in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, and provide the foundation of international environmental law. The first element (sovereignty) reflects the pre-eminent position of states as primary members of the international legal community. It is tempered by the second element (environmental protection), however, which places limits on the exercise of sovereign rights. In an environmentally interdependent world, where activities in one state are almost inevitably likely to produce effects in other states or in areas beyond national jurisdiction (such as the high seas), this aspect of Principle 21 and Principle 2 reflect changing international legal values. In the

form presented by Principle 21 and Principle 2, the responsibility not to cause damage to the environment of other states or of areas beyond national jurisdiction has been accepted as an obligation by all states; without prejudice to its applications on a case-by-case basis, Principle 21 is widely recognized to reflect customary international law, placing important international legal limitations on the right of states in respect of activities carried out within their territory or under their jurisdiction. The emergence of the responsibility of states not to cause environmental damage in areas outside their jurisdiction has historical roots which pre-date the Stockholm Conference. These relate to the obligation of all states 'to protect within the territory the rights of other states, in particular their right to integrity and inviolability in peace and war',[45] and the principle endorsed by the Arbitral Tribunal in the much cited *Trail Smelter* case, which stated that 'no state has the right to use or permit the use of territory in such a manner as to cause injury by fumes in or to the territory of another of the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[46]

Saying that Principle 21 and Principle 2 reflect customary international law is not the critical issue however, and actually does not get anyone very far in support of a claim they might assert. Principle 21 and Principle 2 indicate the need to address other questions which need to be asked. What is environmental damage? What is the extent of environmental damage which is prohibited (any damage, or just damage which is serious or significant)? What is the standard of care applicable to the obligation (absolute, strict or fault)? What are the consequences of a violation (including appropriate reparation)? What is the extent of any liability (including measure of damages)? In practice few international claims have been brought alleging violations. More probably the significance of Principle 21 and Principle 2 lies in its reflection of a broad acceptance of the need to accept and adopt limits, and it has served as a basis for the adoption of many international agreements.

Closely related to the obligation not to cause damage to the environment of other states or of areas beyond the limits of national jurisdiction is the obligation to ensure that damage to certain environmental media does not occur. This obligation, sometimes referred to as the preventive principle, can be distinguished from the second element of Principle 21 and Principle 2 in two ways. First, the latter arise from application of respect for principle of sovereignty, whereas the preventive principle seeks to minimize environmental damage (and the protection of the environment) as an objective itself. This important difference of underlying rationale is related to the second difference: the preventive principle may require a state to prevent damage to the environment *within its own jurisdiction*,[47] including by taking appropriate regulatory, administrative or other measures. The preventive principle requires action to be taken at an early stage and, if possible, before damage has actually occurred, and is supported for a broad range of environmental objectives by extensive domestic and international legislation. It has been described as being of 'overriding importance in every effective environmental policy, since it allows action to be taken to protect the environment at an earlier stage. It is no longer primarily a question of repairing damage after it has occurred'.[48]

3.1.2 Good neighbourliness and international cooperation The principle of 'good neighbourliness', as enunciated in Article 74 of the UN Charter for social, economic and commercial matters, has been extended to environmental matters by rules promoting international environmental co-operation. It applies particularly where activities carried out in one state might have adverse effects on the environment of another state or in areas beyond national jurisdiction. The commitment to environmental cooperation is reflected in many international agreements and is supported by state practice. In general terms the obligation includes commitments to implement treaty objectives, or to improve relations outside a treaty or in relation to certain tasks. In specific terms the obligation can require information sharing, notification, consultation or participation rights in certain decisions, the conduct of environmental impact assessments, and cooperative emergency procedures, particularly where activities might be ultrahazardous. The construction of nuclear power plants on borders is an example where cooperatively obligations are particularly well-developed.

The extent to which this obligation has been complied with is a central issue in the dispute between Hungary and Slovakia over the construction of the Grabcikovo Dam and the proposed diversion of the Danube River, which was referred to the International Court of Justice in 1993. Hungary has claimed that Czecho–Slovakia (now just Slovakia) has violated its obligation to cooperate in good faith in the implementation of principles affecting transboundary resources, including the obligation to negotiate in good faith and in a spirit of cooperation, to prevent disputes, to provide timely notification of plans to carry out or permit activities which may entail a transboundary interference or a significant risk thereof, and to engage in good faith consultations to arrive at an equitable resolution of the situation.

3.1.3 Sustainable development An emerging principle requires states to ensure that they develop and use their natural resources in a manner which is sustainable. Although the ideas underlying the concept of 'sustainable development' have a long history in international legal instruments, the term has only recently begun to be used in international agreements. The ideas underlining 'sustainability' date at least to the Pacific Fur Seal Arbitration in 1893,

when the USA asserted a right to ensure the legitimate and proper use of seals and to protect them, for the benefit of mankind, from wanton destruction.

What 'sustainable development' means in international law today is, however, a more complicated matter. Where it has been used it appears to refer to at least four separate but related objectives which, taken together, might comprise the legal elements of the concept of 'sustainable development' as used in the Brundtland Report.[49] First, as invoked in some agreements it refers to the commitment to preserve natural resources for the benefit of present and future generations. Second, in other agreements sustainable development refers to appropriate standards for the exploitation of natural resources based upon harvests for use; examples include use which is 'sustainable', or 'prudent, or 'rational', or 'wise' or 'appropriate'. Third, yet other agreements require an 'equitable' use of natural resources, suggesting that the use by any state must take account of the needs of other states and people. And a fourth category of agreements require that environmental considerations be integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives.

The instruments adopted at UNCED reflect each of these four objectives, and translate them in Agenda 21 and the Rio Declaration into more specific proposals and principles to govern human activity.

3.1.4 Precautionary principle The precautionary principle only emerged in international legal instruments in the mid-1980s, although it had previously been relied upon in some domestic legal systems. It aims to provide guidance to states and the international community in the development of international environmental law and policy in the face of scientific uncertainty and is, potentially, the most radical of environmental principles. It has generated considerable controversy. Some of its supporters invoke it to justify pre-emptive international legal measures to address potentially catastrophic environmental threats such as ozone depletion or climate change.[50] Opponents, on the other hand, have decried the principle for allowing overregulation and clamping down on a range of human activities. The core of this emerging legal principle, which has now been endorsed in a number of agreements, is reflected in Principle 15 of the Rio Declaration, which provides, *inter alia*, that 'Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'.

3.1.5 Polluter-pays principle The polluter-pays principle refers to the requirement that the costs of pollution should be borne by the person or persons

responsible for causing the pollution and the consequential costs. The precise meaning, international legal status, and effect of the principle, remains open to question since international practice based upon the principle is limited. It is doubtful whether it has achieved the status of a generally applicable rule of customary international law, except perhaps in relation to states in the EC, the UN/ECE and the OECD. It has nevertheless attracted broad support and relates closely to the development of rules on civil and state liability for environmental damage, on the permissibility of state subsidies, and the growing acknowledgement by developed countries of the 'responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment', as well as the financial and other consequences that flow from this acknowledgment.[51] Supporting instruments include Principle 14 of the Rio Declaration, OECD Council Recommendations,[52] the EC Treaty and related instruments,[53] and the 1992 Agreement establishing the European Economic Area.[54]

3.1.6 Common but differentiated responsibility This principle has emerged from the application of the broader principle of equity in general international law, together with the recognition that the special needs of developing countries must be taken into account in the development, application and interpretation of rules of international environmental law if they are to be encouraged to participate in global environmental agreements. The principle is reflected in a handful of international environmental agreements, and is applicable in the Climate Change Convention to require parties to protect the climate system 'on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities'. The principle of common but differentiated responsibility includes two important elements. The first expresses the common responsibility of states to protect certain environmental resources. The second element relates to the need to take account of differing circumstances, particularly in relation to each state's *contribution* to the creation of a particular environmental problem and its *ability* to respond to, prevent, reduce and control the threat. In practical terms the application of the principle of common but differentiated responsibility has certain important consequences. It entitles, or possibly requires, all concerned states to participate in international response measures aimed at addressing environmental problems. And it leads to the adoption and implementation of environmental standards which impose different commitments for states.

3.2 Topics and rules

As international environmental law has developed standards in relations to specific rules and topics have been adopted to address an ever widening range

of environmental resources. These standards tend to address particular resources, of which the most important have been, in roughly chronological order: flora and fauna; water quality; air quality; hazardous substances; and waste. Agenda 21, which was adopted at UNCED, identifies the priority environmental issues and divides them into two categories: those relating to the protection of various environmental media, and those relating to the regulation of particular activities or products. The first category addressed the priority needs for the protection and conservation of particular environmental media. These are:

- the protection of the *atmosphere*, in particular by combating climate change, depletion of the ozone layer and ground level and transboundary air pollution
- protection of *land resources*, by combating desertification and drought and protecting mountain ecosystems)
- halting *deforestation*
- the conservation of *biological diversity*
- the protection of *freshwater resources*
- the protection of *oceans and seas* (including coastal areas) and *marine living resources*.

The second category of major issues identified the products of human technological and industrial innovation which are considered to be particularly harmful to the environment and which require international regulation. These are:

- the management of *biotechnology*
- the management of *toxic chemicals*, including their international trade
- *agricultural* practice
- the management of *hazardous wastes*, including their international trade
- the management of *solid wastes* and sewage-related issues
- the management of *radioactive wastes*.

The difficulty with an approach which regulates sector by sector is that it has tended to transfer harm from one environmental medium to another, or to substitute one form of harm for another. Thus the prohibition on the dumping of radioactive wastes at sea may result in harm to land-based resources resulting from long-term storage. Efforts to address this problem of regulatory approach have led to the emergence of the concept of integrated pollution control, which requires states and other persons to consider and minimize the impact of activities on all environmental resources at each stage of the processes which make up that activity.

3.2.1 Protection of flora and fauna The protection of flora and fauna was the subject of the earliest international environmental regulation and there are now widely accepted standards which prohibit interference with, in particular, endangered species. Important global instruments regulate wetlands,[55] trade in endangered species and, most recently, the conservation of biodiversity generally (also regulating the sustainable use of the components of biodiversity and the sharing of benefits arising out of the use of genetic resources). However efforts to adopt a forests' convention at UNCED proved to be fruitless in the face of sustained opposition from many developing countries. Regional rules adopted in Africa and the Americas are among the earliest examples of international environmental law. Apart from early fisheries conservation agreements, including the regulations adopted by the tribunal in the Pacific fur seal arbitration, regional conservation agreements were adopted as early as 1900 in Africa and 1940 for the Americas. Subsequent arrangements have been put in place in East Africa;[56] South East Asia;[57] Europe including the EC; the South Pacific;[58] and the Caribbean.

Acts adopted by international organizations have contributed significantly to the development of this area of international law. Notable examples include the 1982 decision by the International Whaling Commission to adopt a moratorium on commercial whaling, and the 1985 decision of the parties to the 1972 London Dumping Convention to adopt a moratorium on the dumping of radioactive waste at sea.

3.2.2 Protection of the marine environment International law to prevent pollution of oceans and seas is now relatively well-developed at the global and regional levels. At the global level the 1982 UN Convention on the Law of the Sea, which enters into force in November 1994, establishes a comprehensive framework to address marine pollution from various sources, including dumping at sea; from land-based sources; from vessels; and from offshore installations, such as oil rigs. Apart from the instruments on intervention and liability and compensation for oil pollution, detailed obligations for these sources of marine pollution have been adopted both prior to and after UNCLOS. At the global level agreements regulate the dumping of waste at sea; on protection of the environment during salvage operations;[59] and oil pollution preparedness and response.[60] However no global agreement regulates pollution from land-based sources, which is particularly worrying since pollution from this source accounts for more than 70 per cent of the total.

At the regional level early instruments addressed dumping from ships[61] and pollution from land based sources.[62] These have since been supplemented by an extensive network of conventions adopted under the UNEP Regional Seas Programme which was initiated in 1975 and now includes programmes covering 10 regional seas: the Caribbean, East Asian, Eastern

African, Kuwaiti, Mediterranean, Red Sea and Gulf of Aden, South Asian, South Pacific, South-East Pacific, and West and Central Africa. More than 120 coastal states now participate in this UNEP Programme, and framework conventions and supplementary protocols are in force for eight regions: Caribbean, Kuwaiti, Mediterranean, Red Sea and Gulf of Aden, South-East Pacific, South Pacific, and West and Central Africa.[63] Additional commitments have been adopted for the EC and Antarctic regions.

3.2.3 Protection of freshwater resources Freshwater resources include rivers, lakes and groundwaters. Many individual rivers and river systems are now subject to special rules governing their use and the maintenance of the quality of their waters. Noteworthy examples include the Rhine in Europe, the Zambezi in Africa, and the River Plate in South America, each of which has been subject to treaty protection for many years. More recently efforts have been made to develop rules which apply to all rivers in a particular region, or to all rivers globally. Lakes have also been subject to protective regimes, especially in North America[64] and other areas where acid rain deposits have threatened long-term damage. Protection of groundwaters remains less well-developed in international law.

3.2.4 Air quality International law for the protection of the atmosphere addresses transboundary air pollution, ozone depletion and climate change. International measures now place limits on permissible atmospheric emissions of certain substances for many states, which have important implications for production patterns and, particularly, energy use.

A new area of international regulation, the first instrument was the regional 1979 UNECE Convention on Long-Range Transboundary Air Pollution, which has since been supplemented with protocols on sulphur dioxide,[65] nitrogen oxides[66] and volatile organic compounds.[67] The transboundary air pollution model has since been relied upon in the global efforts to protect the ozone layer with the framework 1985 framework Convention for the Protection of the Ozone Layer,[68] as supplemented by a 1987 Protocol subsequently amended in 1990 and 1992.[69] The 1992 framework Convention on Climate Change is also of global application. It entered into force in March 1994, aiming to limit emissions by developed countries of carbon dioxide and other greenhouse gases, and creating a framework for cooperation and general commitments to ensure that greenhouse gas concentrations in the atmosphere do not lead to dangerous anthropogenic interference with the climate system.

3.2.5 Waste Binding international regulation of waste management is currently limited to regulating or prohibiting trade in certain wastes, as well as the provisions prohibiting the disposal at sea of certain hazardous wastes.

These measures encourage waste prevention and minimization by increasing costs, and are likely precursors to measures which might limit industrial wastes produced, including packaging.

Three recent instruments establish regulations and prohibitions on trade in hazardous waste. The only global instrument is the 1989 Basle Convention,[70] which aims to control traffic and trade in hazardous wastes by requiring importing countries to be notified of, and grant consent for, shipments before they occur (prior informed consent). The 1990 ACP–EEC Fourth Lomé Convention goes beyond Basle by prohibiting exports and imports between the EEC and certain African, Caribbean and Pacific countries.[71] And the 1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, which also prohibits imports, redefines 'hazardous waste' to include all substances the use of which is banned in the exporting country.[72] Global regulation of radioactive waste movements is governed by a non-binding 1990 IAEA Code of Practice, which establishes regulatory guidelines and is far less stringent than any of the three agreements.[73]

3.2.6 Hazardous substances The management of hazardous substances other than waste, including chemicals and pesticides, is not yet subject to any binding global legal instruments. Within the past few years, however, a large body of detailed, non-binding regulations and other instruments dealing with management of hazardous substances, including in particular international trade and chemical safety at work.[74] The OECD has developed a broad range of recommended practices which address product registration, dealer licensing, classification, packaging, labelling, advertising, international trade and transport.

3.3 Legal techniques

This section sets out the different legal techniques which are being used to implement environmental principles and standards at the regional and global level. Apart from the widespread reliance upon prohibitions and statutory regulations, including quality standards, the emerging, modern techniques relied upon in international environmental law include:

- environmental impact assessment requirements
- improving access to and dissemination of environmental information
- liability for environmental damage
- other economic approaches, including trade and competition rules, financial resources and intellectual property rights
- improved enforcement procedures and dispute settlement machinery.

These techniques supplement the general regulatory approach of setting standards and then ensuring that they are enforced (sometimes referred to as 'command and control'). This approach frequently regulates or prohibits activities, and recently the use of prohibitions has increased. Whereas a few years ago outright prohibitions established by international law were trade related, the 1987 Montreal Protocol and its 1990 Amendments marked the first time that the international community adopted measures to ban outright, within a specified time frame, the production and use of certain chemicals harmful to the ozone layer. The 1991 Environmental Protocol to the Antarctic Treaty extends the prohibition approach to commercial activity within a defined geographic region.

The regulatory approach is also taking new directions in unlikely areas such as advertising and corporate accounting. With regard to advertising, of particular note is the 1989 EC Directive on the pursuit of television broadcasting activities, which establishes minimum standards for, *inter alia*, television programme and advertising content, and provides that 'television advertising shall not ... encourage behaviour prejudicial to the protection of the environment'.

3.3.1 Environmental impact assessment Environmental impact assessment (EIA) requires developers or regulators to assess the likely environmental impact of an activity before it is carried out with a view to determining whether the activity should be permitted. It generally requires alternatives to be considered, and provides a mechanism for ensuring that information on projects is disseminated and that citizens are allowed to participate in the decision-making process. EIA requirements are becoming an established feature of international environmental law. While no single global treaty establishes EIA obligations of general application, several regional or subject specific agreements include EIA provisions. Examples include the 1982 UNCLOS, the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources, the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities,[75] and the 1992 Biodiversity Convention. EIA is also endorsed, as a national instrument, by the Rio Declaration.

Detailed modalities governing the conduct of EIAs have been adopted in 1985 by the EC,[76] and in a 1991 UN Economic Commission for Europe Convention, which adopts more stringent requirements, particularly in relation to the mitigation of transboundary impacts. It is also now increasingly common for multilateral development banks to incorporate EIA requirements into their project approval procedures.[77]

3.3.2 Environmental information There is now broad recognition of the importance of ensuring broad and early access to information on matters

relating to the environment. Environmental information objectives include improving the informational base upon which decisions are made, influencing the behaviour of consumers and other actors, and ensuring full participation of citizens in decision-making processes. A range of international mechanisms and techniques have been developed including:

- imposing international reporting requirements on international actors
- establishing international rights of access to information on the environment
- establishing independent international observation and monitoring programmes.

With varying degrees of success most international environmental agreements require state parties to provide certain information to national authorities, to other parties, or to international. The objective of improved public access to information on the environment is now reflected in various instruments adopted by the OECD,[78] EC[79] and, to a lesser extent, the World Bank.[80] The EC legislation, which has been followed by provisions in the other agreements, is intended to ensure free access throughout the EC to, and dissemination of, environmental information held by public authorities, to ensure greater environmental protection, and to remove disparities in member state laws which might create unequal conditions of competition. The legislative rationale is, therefore, both environmental and economic.

3.3.3 Liability for environmental damage Liability for environmental damage is one way of integrating environmental costs into production processes. International treaties can impose liability upon a state or, as is more frequently the case, directly on the private actor engaged in the activity which cause environmental harm (these provide for civil liability rules at the national level). The early conventions of the 1960s, which established the liability of nuclear operators for certain damage resulting from nuclear accidents, were among the first to identify private corporations expressly in international agreements.[81] However they only established liability for damage to people and property, and it is only more recently that civil liability for environmental damage has been provided for in international instruments. Since then the number of international conventions establishing the liability of private actors has increased significantly and seems set to develop further. Recent instruments have addressed civil liability for environmental and other damage resulting from transport of dangerous goods[82] and from hazardous activities generally. Existing agreements are being amended in the light of new environmental concern, and new liability rules can be expected for waste trade and the Antarctic.

Developments in relation to state liability have proceeded more slowly, and to date no treaty rules of general applicability establish the liability of states for environmental damage, although specific treaties regulate liability for damage caused by space objects and in the Antarctic.

3.3.4 Other economic approaches, including trade and competition rules, financial resources and intellectual property rights The limited effectiveness of traditional 'command-and-control' regulatory approaches has led to some support for the principle of increasing reliance upon economic and fiscal measures to protect the environment. Recent agreements and other international acts, including the Rio Declaration, encourage the use of such measures and there are some signs that the growing interdependence of international economic and environmental law may provide a framework for their increased use.

Economic agreements Environmental issues have progressively permeated regional and global trade and economic cooperation arrangements. The GATT, EC and Canada–USA Free Trade Agreement have each had to address the situation where one state unilaterally adopts environmental protection measures which have the effect of limiting or prohibiting trade. In the GATT context the additional issue has arisen as to the compatibility of trade measures adopted by international environmental agreements (such as CITES and the 1987 Montreal Protocol) with the GATT. Although their institutions and tribunals have reached different conclusions on the appropriate balance between trade and environmental objectives, the general tendency has been to recognize that environmental requirements can, in certain circumstances, justify limitations on free trade. This issue is set to become increasingly contentious despite the *modus vivendi* which was reached at UNCED, and encapsulates all the conflicts surrounding the proper place of environmental concerns in an international legal order which seeks to accommodate the sometimes differing priorities of developed and developing countries. This led to the insertion of new provisions on environmental protection in the North American Free Trade Agreement (NAFTA).

Trade and competition rules Multilateral prohibitions on trade in respect of endangered species and certain plant types have a long history pre-dating the GATT, dating back to at least 1940. Recently the use of trade prohibitions has been extended beyond nature protection to cover hazardous wastes and substances, such as those which deplete the ozone layer. More recently the 1987 Montreal Protocol and its 1990 Amendments adopt trade prohibitions and restrictions to limit production and consumption by non-parties, by:

- prohibiting the import of controlled substances from any state which is not a party to the Protocol
- providing for the eventual prohibition on the import from any non-party state of products *containing* controlled substances
- providing for the possible prohibition on the import from any non-party state of products *produced with*, but not containing, controlled substances.

Complex legal questions have been raised about the compatibility of measures such as these with free trade obligations under the rules of the EC, GATT and NAFTA. This has resulted in cases recently being brought before dispute settlement bodies, leading to conclusions as to the appropriate balance to be struck between free trade objectives and environmental protection objectives.

Economic instruments Many recent intergovernmental statements and declarations have called for the international use of economic and fiscal instruments as a tool of international environmental protection. Economic and fiscal policy instruments identified as potentially useful include taxes, emission charges and tradable emission permits. Many recent statements and declarations have endorsed the use of economic and fiscal instruments, but to date no binding international legal instruments establish or support taxes, charges or tradable permits. The most important development (which indicates the imminent introduction of laws making use of economic and fiscal instruments at the international level) is the EC Commission's proposal for a Community-wide tax 'based on an energy component and on a component based on carbon content', which is designed to limit use of fossil fuels to combat climate change.[83]

Like pricing and taxation policy, international regulation of subsidies and public investment remain at an early stage of development, with little tangible evidence of hard law outside the EC context. The EC has taken something of a lead in developing the law relating to subsidies to accommodate environmental needs, and the issue seems set to be addressed by the GATT following the Uruguay Round.

Financial resources The use of financial resources provided by the public sector to encourage environmentally beneficial activities and projects has become an increasingly important topic in international environmental law. It entails two essential aspects. First, ensuring that the multilateral development and lending institutions incorporate environmental considerations into their activities. And second, ensuring the availability of international public sector funds to assist poorer countries in meeting the costs associated with increasingly stringent international environmental protection requirements.

With regard to the former, all the multilateral development banks have recognized the need to address and integrate environmental concerns, and to varying degrees have adopted measures to achieve that objective. With regard to the latter, the most significant development in recent years has been the linkage made between the provision of financial resources by developed countries and the fulfilment of treaty commitments by developing countries. The 1990 Montreal Protocol amendment was the first agreement to make the fulfilment by developing countries of their obligations dependent upon the provision of finance by developed countries, and led to the establishment of a Multilateral Fund to meet certain incremental costs which arose under the Convention.

The Global Environment Facility was established in 1990 to provide grants or concessional loans on an additional basis to enable them to implement programmes that protect the global commons. The Facility is capitalized at over $1 billion, and is administered through a tripartite arrangement between the World Bank, UNEP and UNDP. The GEF allocates resources to projects addressing ozone depletion, climate change, biodiversity and the protection of international waters. Under the Climate Change and Biodiversity Conventions it will meet certain incremental costs incurred by developing countries in fulfilling their obligations. Other regional institutions, such as the EBRD, have also undertaken to commit a significant proportion of its funds in Central and Eastern Europe to 'environmental' projects.

Improved enforcement procedures and dispute settlement machinery Finally, there is also now a recognition that it is not sufficient to adopt international environmental principles, standards and techniques: they must be implemented domestically by states and international institutions and enforced where non-compliance occurs, and tribunals and other bodies given an effective mandate to provide fora to address and settle disputes. Efforts to develop such mechanisms, including the potential role of NGOs and international secretariats in supplementing governmental efforts, are considered in the next section.

4 Compliance

Ensuring compliance by states and other members of the international community with their international environmental obligations has become a matter of increasing concern in recent years. This is evident from the attention which the issue of compliance received during the preparations for UNCED, and in the negotiation and implementation of recent environmental agreements, including in particular the 1987 Montreal Protocol, the 1992 Climate Change Convention and the 1992 OSPAR Convention. The response to those concerns has resulted in initiatives to develop existing mechanisms for implementation, enforcement and dispute settlement, and to develop new mechanisms.

Compliance has become increasingly important for several reasons. First, the nature and extent of international environmental obligations has been transformed in recent years as states take on more environmental commitments, under treaty and other obligations, which are increasingly stringent and with which they must comply. Second, the growing demands and needs of states and those subject to their jurisdiction for access to natural resources, coupled with a finite, and perhaps even shrinking, available resource base provide the conditions for increasing conflict over access to natural resources. And third, as international environmental obligations increasingly address fundamental economic interests and needs, states which do not comply with their environmental obligations are perceived to gain unfair, and perhaps unlawful, economic advantage from their environmentally harmful activities in relation to those states which are complying with their obligations.

Non-compliance limits the overall effectiveness of those treaties, undermines commitments which have been made under the international legal process, and can lead to conflict between states and instability in the international order. At UNCED, and in relation to the treaties mentioned above, attention has focused as much on the need to devise mechanisms to *prevent* disputes as on the development and application of procedures to resolve them peacefully when they arise. Recent efforts have also sought to ensure that, where possible, enforcement and the settlement of disputes are addressed in a non-contentious and non-adversarial manner.

Non-compliance can occur in a number of different ways, including the failure to give effect to substantive norms (for example to limit atmospheric emission of sulphur dioxide or greenhouse gases as required by treaty or to allow transboundary emissions of hazardous substances or gases in violation of any rules of customary law); the failure to fulfil procedural requirements which may be required by international law (for example to carry out an environmental impact assessment or consult with a neighbouring state on the construction of a new plant); or the failure to fulfil an institutional obligation (for example to submit an annual report to an international organization). From an international legal perspective, compliance raises at least three separate, but closely related, questions which relate to implementation, enforcement, and conflict resolution (or 'dispute settlement'). These are:

- What formal or informal steps must a state or international organization take to implement its international legal obligations?
- What legal or natural person may seek, or has the right, to enforce the international environmental obligations of a state or international organization?

- What techniques, procedures and institutions exist under international law to resolve conflicts or settle disputes over alleged non-compliance with international environmental obligations?

Over the years a range of techniques have been adopted to improve compliance, drawing upon developments in general international law. Since the *Pacific Fur Seal* arbitration of 1893, environmental disputes have since arisen, and been submitted to international dispute resolution arrangements, in the context of a variety of different issues, including: transboundary air pollution;[84] the diversion of the flow of international rivers;[85] conservation of fisheries resource;[86] the adoption of import restrictions in the name of environmental protection requirements to enforce domestic conservation standards; and responsibility for rehabilitation of mined lands.[87]

4.1 Implementation

States implement their international environmental obligations in three phases. First, by adopting national implementing legislation, policies and programmes; second, by ensuring that such national environmental legislation, policies and programmes are complied with by those subject to its jurisdiction and control; and third, by fulfilling any obligations to the relevant international organizations, such as reporting the measures taken to give effect to international obligations.

4.1.1 National law Once a state has accepted an international environmental obligation it will usually need to develop, adopt or modify relevant national legislation, or give effect to national policies, programmes or strategies by administrative or other means. Some treaties expressly require parties to take appropriate measures to ensure the implementation of obligations,[88] or 'to take appropriate measures within its competence to ensure compliance with [the] Convention and any measures in effect pursuant to it'.[89] Others require parties to designate a competent national authority or focal point for international liaison purposes on domestic implementation.[90] The 1982 UNCLOS requires states to enforce their laws and regulations in accordance with the Convention and implement applicable international rules and standards.[91] Treaty obligations which have not been implemented into national law will generally be difficult to enforce in national courts, although the EU has developed particular rules on this matter.

4.1.2 National compliance Once implemented into national law, the party to an international agreement must ensure that it is complied with by those within its jurisdiction and control. Some treaties expressly require this,[92] while others require the application of sanctions or punishment for violations.[93] Ensuring national compliance is a matter for the public authorities of each state. Recognizing that public authorities in many countries may not be particularly well-suited to ensuring compliance, either because of a lack of resources or a lack of commitment, and recognizing also the role which non-governmental actors can play in ensuring compliance, more and more states are allowing private enforcement of national environmental obligations before national courts through 'citizen suits'. Principle 10 of the Rio Declaration declares that '[e]ffective access to judicial and administrative proceedings, including redress and remedy, shall be provided'. The 1993 Council of Europe Civil Liability Convention, which addresses rules of civil liability for damage caused by waste, was the first international agreement to elaborate upon the rules governing access to national courts to allow enforcement of environmental obligations in the public interest.[94]

The question of which state may or must ensure implementation is difficult where the environmental obligation relates to the protection of a shared natural resource or the global commons. Some treaties allocate enforcement obligations to particular states. For marine pollution the 1982 UNCLOS includes detailed rules on the division of national enforcement responsibilities between the flag state, port state, or coastal states depending on where the pollution incident occurred.[95] Analogous jurisdictional provisions have been adopted in respect of activities on the moon and in the Antarctic.[96] In the absence of specific treaty provisions the rules governing enforcement jurisdiction for their environmental media remain subject to the general rules of international law concerning enforcement jurisdiction.

Given the failure of many states to implement their international obligations because of lack of financial and other resources, an important recent development is the linkage which has been made between the national implementation by developing countries of their treaty obligations and the provision to them of financial assistance by developed countries. The 1990 Amendments to the 1987 Montreal Protocol established an important precedent by establishing a mechanism to 'meet all agreed incremental costs' of developing country parties 'to enable their compliance with the control measures of the Protocol'.[97] The Climate Change Convention and Biodiversity Conventions also require developed country parties 'to meet the agreed full costs incurred by developing country parties in complying with their' reporting requirements and the 'agreed full incremental costs' needed by developing country parties for implementing their substantive obligations under the Convention.[98]

4.1.3 Reporting The third element of national compliance arises as a consequence of the requirement that states must usually report the measures which they have adopted to give effect to their international obligations to the

relevant international institution responsible for implementing a particular treaty or other international act. The information to be reported will vary with each treaty or other obligation, but typically can include statistical information on production, imports and exports; information on the grant of permits or authorizations; including criteria; information on implementation measures which have been adopted; details of any relevant decisions which may have been taken by national authorities; scientific information; and information on breaches or violations by persons under the jurisdiction or control of the party.

These reports may be required on an annual or biannual basis, or according to some other time frame.[99] They provide a means for the international institution and the other parties to assess the extent to which, and how, parties are implementing their obligations. Many states are unable to fulfil even the basic obligation to provide a regular report. A report prepared for the United States Committee on Environment and Public Works recently considered, *inter alia*, six environmental treaties which require parties to submit periodic reports, and found wide variations in compliance with reporting requirements.[100] Under the Biodiversity and Climate Change Conventions financial resources will be made available to meet the incremental costs of developing countries of fulfilling their reporting requirements, and this should go some way towards improving compliance.

4.2 *International enforcement*

Once evidence has become available that a state, or a party to a treaty, has failed to implement an environmental obligation established by international law, the question arises as to which entities or persons may seek to enforce that international environmental obligation on the plane of international law. Enforcement means the right to take measures to ensure the fulfilment of international legal obligations or to obtain a determination by an international body that such obligations are not being fulfilled. The options which are available include international enforcement by states, by an international organization (including its secretariat), or by non-governmental actors. In practice international enforcement usually involves a combination of the three.

4.2.1 Enforcement by states States have the primary role in enforcing rules of international environmental law. To be in a position to enforce a rule of international environmental law a state must, in the words of the International Law Commission, be an 'injured state'. This in turn means, according to Article 5 of the International Law Commission's Draft Articles on State Responsibility, that it is 'a state a right of which is injured by the act of another state'.[101]

For environmental injuries two situations need to be distinguished. The first involves the situations where one state is permitting activities which cause damage to the environment of another state. The second situation is where one state is permitting or causing damage to the environment in an area beyond national jurisdiction.

In situations involving damage to its environment a state will usually be able to argue that it is an 'injured state' and that it has standing to bring an international claim. In the Trail Smelter case the USA successfully claimed that it had, under the principles of international law as applied between it and Canada, a right not to be subjected to the harmful consequences of transboundary air pollution from sulphur emissions in Canada, and that as an 'injured state' it was entitled to bring a claim against Canada for having violated its rights.

Not all cases will be as straightforward as the Trail Smelter case, however. In the Nuclear Tests' cases, brought by Australia and New Zealand against France calling on the latter to halt its atmospheric nuclear testing in the South Pacific region, the claim raised an additional and rather more complicated legal question than the allegation of a violation of sovereignty by the deposit of radioactive fallout in its territory: did Australia and New Zealand have the right to bring a claim to the International Court of Justice on the basis of a violation of an obligation owed to all members of the international community to be free from nuclear tests generally or which were in alleged violation of the freedom of the high seas? As a general matter, where one party to a treaty or agreement believes that another party is in violation of its obligations under that treaty or agreement, it will have the right to enforce the obligations of the party alleged to be in violation, even if it has not suffered material damage.[102]

For alleged breaches of treaty obligations, the right of a state to enforce obligations will usually be settled by the terms of the treaty. Thus the EC Treaty allows a member state which considers that any other member state has failed to fulfil an EC obligation, including an environmental obligation, to bring the matter before the European Court of Justice.[103] Although this right has been relied upon on numerous occasions to threaten court proceedings, it appears to have resulted in a decision by the European Court of Justice on only one occasion, when France successfully brought proceedings against the UK for unlawfully having enforced domestic legislation setting a minimum mesh size for prawn fisheries.[104] The situation in general international law is less well-developed, although there may be a move in the direction taken by the EC under some recent environmental treaties. Thus a failure by one party to the 1987 Montreal Protocol to fulfil its obligations under that treaty would entitle any other party to the Protocol to seek to enforce the obligation by invoking the non-compliance or dispute settlement mechanisms under the Protocol, without having to show that it had suffered

environmental damage as a result of the alleged failure. The 1989 Basle Convention similarly provides that any party 'which has reason to believe that another party is acting or has acted in breach of its obligations' under the Convention may inform the secretariat and the party against whom the allegations are made.[105] Most other environmental treaties are less explicit, establishing dispute settlement mechanisms which will settle the question of enforcement rights in accordance with the provisions available under that treaty or related instruments. Some treaties specifically preclude their application to the global commons. The 1991 Espoo Convention, for example, precludes parties from requesting an environmental impact assessment or other measures in respect of harm to the global commons.

Whether a state has, in the absence of a specific treaty right such as the Montreal Protocol, a general legal interest in the protection of the environment in areas beyond its national jurisdiction such as to allow it to exercise rights of legal protection on behalf of the international community as a whole (sometimes referred to as *actio popularis*) is a question which remains difficult to answer in the absence of state practice. The matter has been considered in passing by the International Court of Justice on at least two occasions, and by some of the judges in a third case. The matter remains inconclusive, although the tendency seems to favour the right of a state to bring an action in its capacity as a member of the international community to prevent significant damage from occurring to the environment in areas beyond its national jurisdiction.

The unwillingness of states to enforce obligations concerning the protection of the environment is evidenced by many examples. Perhaps the most notorious is the failure of any state to seek to enforce compliance by the former USSR with its international legal obligations arising out of the consequences of the accident at the Chernobyl nuclear power plant in 1986. Where the mere attempt to enforce obligations can establish a precedent which could subsequently bind the enforcing state, an increased enforcement role for international organizations, or other members of the international community, is increasingly being considered.

4.2.2 Enforcement by international organizations While international organizations play an important legislative role in the development of international environmental law, their executive function in its enforcement is limited. States have been unwilling to transfer too much, if any, enforcement powers to international organizations and their secretariats, although there are some indications that this reluctance is being replaced by a limited willingness to grant more powers to international organizations.

Early examples of limited enforcement roles granted to international organizations include the right of the River Danube Mixed Commission to

'work out agreed measures' for the regulation of fishing in the Danube,[106] the right of certain international fisheries institutions to 'recommend' international enforcement measures or systems,[107] and the right of the International Commission for the Protection of the Rhine against Pollution to regularly compare draft national programmes of parties to ensure that 'their aims and means coincide'.[108] The CITES Secretariat, where it is satisfied that information it has received indicates that certain endangered species are being affected adversely by trade in specimens, may communicate that information to the relevant party or parties, which may then lead to the matter being reviewed by the next conference of the parties and 'which may make whatever recommendations it deems appropriate'.[109]

Developments in relation to the protection of the marine environment and the Antarctic environment foresee an enhanced enforcement role for international organizations. Under the 1971 Oil Pollution Fund Convention, the Fund may take enforcement proceedings before the national courts of Parties.[110] The 1982 UNCLOS also introduces innovative arrangements by endowing some of its institutions with a range of enforcement powers. Thus the Council of the International Seabed Authority has the power to 'supervise and coordinate the implementation' of Part XI of UNCLOS and 'invite the attention of the Assembly to cases of non-compliance'; to institute proceedings on behalf of the Authority before the Seabed Disputes Chamber in case of non-compliance; to issue emergency orders 'to prevent serious harm to the marine environment arising out of activities in the Area'; and to direct and supervise inspectors to ensure compliance.[111] And the Antarctic Mineral Resources Commission, which would have been established under the 1988 CRAMRA, would have been required to draw to the attention of all parties any activity which affects the implementation of the objectives and principles of CRAMRA or the compliance by any party with its obligations and any measures in effect pursuant to it, as well as of any activities by a state which is not a party which affects the implementation of the objectives and principles of the Convention.[112] It would also 'ensure the effective application' of the provisions in the Convention concerning, *inter alia*, notification, reporting of mineral prospecting, and keeping 'under review the conduct of Antarctic mineral resource activities with a view to safeguarding the protection of the Antarctic environment in the interest of all mankind'.[113]

The 1992 OSPAR Convention also goes some way towards establishing a role for the Commission it creates in ensuring compliance with obligations. Under Article 23, which is entitled 'Compliance', the Commission has two functions. First, it must 'assess' the compliance by parties with the Convention and the decisions and recommendations adopted thereunder on the basis of the reports submitted by the parties. Second, when appropriate the Commission may:

> decide upon and call for steps to bring about full compliance with the Convention, and decisions adopted thereunder, and promote the implementation of recommendations, including measures to assist a Contracting Party to carry out its obligations.[114]

The EC Commission is required to ensure compliance by the EC member states of their environmental obligations under the EC law. Article 155 of the 1957 EEC Treaty requires the Commission to ensure that the provisions of the Treaty and the measures taken by the institutions are applied, and Article 169 of the EC Treaty provides that:

> If the Commission considers that a Member state has failed to fulfil an obligation under this Treaty, it shall deliver a reasoned opinion on the matter after giving the state concerned the opportunity to submit its observations.

In environmental matters the EC Commission has made frequent and often controversial use of its powers under Article 169. In 1982 the EC Commission commenced 16 infringement proceedings against member states under Article 169; by 1990 the number had risen to 217 infringement proceedings.[115]

4.2.3 Enforcement by non-governmental actors According to traditional rules of public international law non-governamental actors are not international legal persons except within the limited confines of international human rights law and its associated fields. In practice they play a central role in the development and application of international environmental law. In the enforcement process the role of environmental organizations can be formal or informal, and their primary role continues to be at the national level, through political means or by recourse to administrative or judicial procedures for enforcing national measures adopted by a state in implementing its international treaty and other obligations. Increasingly, however, non-governmental organizations are playing a role in enforcement of international obligations at the transboundary level and in other international contexts.

Many early environmental agreements sought to recognize and encourage their role, particularly where individuals were the victims of pollution or environmental damage in a transboundary context. These sought either to establish principles or rules governing equal access to national courts by victims of transfrontier pollution, or to establish the jurisdiction of courts in the event of transboundary incidents. The 1976 OECD Council Recommendation on Equal Right of Access in Relation to Transfrontier Pollution identified the constituent elements of a system of equal right of access,[116] including rights relating to access to information and participation in hearings and enquiries and 'recourse to and standing in administrative and judicial procedures' to prevent pollution, have it abated, and/or obtain compensation for the damage caused. These general rights were further elaborated the following

year by a slightly more detailed OECD Council recommendation for the Implementation of a Regime of Equal Right of Access and Non-Discrimination in Relation to Transfrontier Pollution.[117]

The non-binding OECD instruments are supplemented by a range of treaty and other binding obligations which address equal access or the jurisdiction of courts over transboundary disputes. The 1974 Nordic Environmental Protection Convention allows any person who is affected or may be affected by a nuisance caused by environmentally harmful activities in another contracting state to bring before the appropriate court or Administrative Authority of that state the permissibility of such activities, including the question of measures to prevent damage and compensation.[118] An enforcement role for individuals is also envisaged by a number of the treaties establishing international rules on civil liability.

The other category of conventions assuring a role for individual enforcement of environmental laws are those establishing private international law rules allocating jurisdiction to national courts over a range of civil and commercial matters, including disputes arising out of the law of tort. These generally allow the victim a choice of courts. Under Article 5(3) of the 1968 Brussels Convention on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters (1968 Brussels Convention) it is provided that jurisdiction in matters 'relating to tort, delict or quasi-delict' is conferred on the courts of the place 'where the harmful event occurred'. In *Handelskwekerij GJ Bier* v. *Mines de Potasses d'Alsace* the European Court of Justice was asked for the first time to interpret the meaning of the words 'where the harmful event occurred' in a case in which the defendant was alleged to have discharged over 10 000 tonnes of chloride every 24 hours into the Rhine River in France but the damage was suffered by Dutch horticultural businesses in The Netherlands.[119] The Dutch plaintiffs wished to bring proceedings in The Netherlands rather than in France, and on an Article 177 preliminary reference request from the Appeal Court of The Hague the matter was referred to the European Court of Justice. The European Court held that Article 5(3) should be interpreted 'in such a way as to acknowledge that the plaintiff has an option to commence proceedings either at the place where the damage occurred or the place of the event giving rise to it'.

At the international level the formal opportunities for non-governmental actors to play an enforcement role are extremely limited. Under some of the regional human rights treaties individual victims, including non-governmental organizations, may bring complaints directly to an international body. Non-governmental organizations and individuals have played a particularly active role in supporting the enforcement role of the EC Commission, usually by submitting complaints to that institution concerning the non-implementation by member states of their environmental obligations. In 1991 more than 400

complaints were received by the EC Commission concerning non-compliance with environmental obligations, leading to a number of formal investigations by the Commission.

4.3 International conflict resolution (settlement of disputes)

A range of processes' and mechanisms' are available at the international level to assist in the pacific settlement of environmental disputes arising over non-implementation of international obligations. Article 33 of the United Nations Charter identifies the traditional mechanisms for the pacific settlement of disputes:

> the parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

These different techniques can be divided into two broad categories: diplomatic means according to which of the parties retain control over the dispute in so far as they may accept or reject a proposed settlement (negotiation, consultation, mediation, conciliation); and legal means which result in legally binding decisions for the parties to the dispute (arbitration and judicial settlement). Recourse to regional arrangements and international organizations as mediators and conciliators provide something of a middle way: the legal consequences of any decision taken by the institution will depend on the treaty establishing the institution. Many of the earliest environmental treaties did not provide for any dispute settlement mechanisms, whether of a diplomatic or legal nature, or of a voluntary or mandatory character. Initially the trend was towards the use of informal and non-binding mechanisms, such as negotiation and consultation, supplemented by the use of more formal mechanisms, such as conciliation, arbitration and judicial settlement. More recently there has been a move towards the development of new techniques which aim at establishing non-contentious mechanisms which allow the intervention of a third party in an international context. The practice of the most recent treaties has been to provide parties with a range of options for dispute settlement and encouraging implementation. A recent example of this approach, which is intended to provide maximum flexibility, is the 1992 Climate Change Convention, which envisages at least three mechanisms to assist in dispute resolution or non-implementation: a subsidiary body for implementation, which is intended to provide assistance in implementation; a multilateral consultative process for the resolution of questions regarding implementation in a non-confrontational way; and the settlement of remaining disputes in more traditional ways by reference

to negotiation, or submission to arbitration or the International Court of Justice, or to international conciliation.[120]

4.3.1 Negotiation and consultation The technique of negotiation has been used to resolve a wide range of environmental disputes. In the *Fisheries Jurisdiction Case* the International Court of Justice held that the objective of negotiation should be:

> the delimitation of the rights and interests of the Parties, the preferential rights of the coastal state on the one hand and the rights of the Applicant on the other, to balance and regulate equitably questions such as those of catch-limitation, share allocations and 'related restrictions concerning areas closed to fishing, number and type of vessels allowed and forms of control of the agreed provisions'.[121]

The International Court also set out conditions establishing the basis for the conduct of future negotiations: they should be conducted 'on the basis that each must in good faith pay reasonable regard to the legal rights of the other ... thus bringing about an equitable apportionment of the fishing resources based on the facts of the particular situation, and having regard to the interests of other states which have established fishing rights in the area. It is not a matter of finding simply an equitable solution, but an equitable solution derived from the applicable law'.[122]

Environmental treaties refer, more or less as a matter of standard practice, to the need to ensure that parties resort to negotiation and other diplomatic channels to resolve their disputes before making use of other more formal approaches. Since negotiations of this type invariably take place behind closed doors it is difficult to identify specific examples involving the successful resolution of claims and disputes by negotiation. One example was the settlement between Canada and the USSR concerning damage caused by the disintegration over Canada of Cosmos 954, a nuclear-powered satellite launched by the USSR. The negotiated settlement was agreed to in the context of the USSRs consideration of the question of damage 'in strict accordance with the provisions' of the 1972 Space Liability Convention to which both countries were parties.[123]

Consultation between states is also encouraged by environmental treaties as a technique to avoid and resolve disputes and potential disputes between states. In the *Lac Lanoux Case* the arbitral tribunal held that France had a duty to consult with Spain over certain projects likely to affect Spain's interests, and that in this context:

> the reality of the obligations thus undertaken is incontestable and sanctions can be applied in the event, for example, of an unjustified breaking off of the discussions, abnormal delays, disregard of the agreed procedures, systematic refusals to take

into consideration adverse proposals or interests, and, more generally, in cases of violation of the rules of good faith.[124]

Specific examples of environmental treaties requiring consultation relate to numerous diverse situations, including the following non-exhaustive list: development plans which may affect the natural resources of another state; measures to prevent pollution of coastlines from oil pollution incidents on the high seas; prior to the grant of permission for ocean dumping in emergency situations; pollution from land-based sources of certain substances; on the permissibility of environmentally harmful activities; and generally problems in applying a treaty or the need for and nature of remedial measures for breaches of obligation.

4.3.2 Mediation, conciliation and international institutions Where negotiation and consultation fail, a number of environmental treaties provide for the use of mediation[125] or conciliation[126] to resolve disputes. Mediation and conciliation involve the intervention of a third person. In the case of mediation the third person is involved as an active participant in the interchange of proposals between the parties to a dispute, and may even offer informal proposals of his or her own. In the case of conciliation, the third person assumes a more formal role and often investigates the details underlying the dispute and makes formal proposals for the resolution of the dispute.

Early examples of conciliation include the role of the International Joint Commission established by Canada and the USA in the 1909 Boundary Waters Treaty,[127] which fulfils a combination of quasi-judicial, investigative and recommendatory, and coordinating functions. GATT Dispute Settlement Panels perform a similar function. Under the 1985 Vienna Convention and the 1992 Biodiversity Convention, conciliation will be used if the parties to the dispute have not accepted compulsory dispute settlement procedures by arbitration or the International Court of Justice.[128]

The political organs of international institutions and regional agencies also play an important role in the settlement of disputes. Such organs may either be granted an express mandate to consider disputes between two or more parties to the treaty, or, as is more usually the case, seek to resolve disputes between parties absent a specific mandate to do so.

Some treaties established specialized subsidiary bodies to deal with compliance issues and disputes relating to non-compliance. An important model is the non-compliance procedure established under the 1987 Montreal Protocol and conducted under the auspices of an Implementation Committee first established by the Second Meeting of the Parties to the 1987 Montreal Protocol.[129] Under the non-compliance procedure any party which has reservations about another party's implementation of its obligations under the

Protocol may relate its concerns in writing to the secretariat, with corroborating information. The secretariat will then determine with the assistance of the party alleged to be in violation whether it is unable to comply with its obligations under the Protocol, and will transmit the original submission, its reply and other information to the Implementation Committee. The functions of the Implementation Committee, which now consists of 10 parties (originally five parties) elected by the Meeting of the Parties on the basis of equitable geographical distribution for a two-year period, is to receive, consider and report on submissions made by any party concerning reservations regarding another party's implementation of its obligations under the Protocol, and any information or observations forwarded by the secretariat in connection with the preparation of reports based on information submitted by the parties pursuant to their obligations under the Protocol. The Committee may, at the invitation of the party concerned, undertake information-gathering in the territory of that party, and will also maintain an exchange of information with the Executive Committee of the Multilateral Fund related to the provisions of financial and technical cooperation to developing country parties. The Committee is to try to secure 'an amicable resolution of the matter on the basis of respect for the provisions of the Protocol' and report to the Meeting of the Parties, which may decide upon and call for steps to bring about full compliance with the Protocol. The Fourth Meeting of the Parties also adopted an indicative list of measures that might be taken by a Meeting of the Parties in respect of non-compliance, which comprise:

(a) appropriate assistance;
(b) issuing cautions; and
(c) suspension (in accordance with the applicable rules of international law concerning the suspension of the operation of a treaty) of specific rights and privileges under the Protocol.[130]

Resort to the non-compliance procedure is without prejudice to the dispute settlement provisions available under Article 11 of the 1985 Vienna Convention.

4.3.3 Arbitration International arbitration has been described as having 'for its object the settlement of disputes between states by judges of their own choice and on the basis of respect for the law. Recourse to arbitration implies an engagement to submit in good faith to the award'.[131] Arbitral awards have played an important role in the development of international environmental law, and three in particular have contributed to the development of substantive rules on environmental protection and use of natural resources: the 1893 *Fur Seal Arbitration*, the 1941 *Trail Smelter Arbitration*, and the 1957 *Lac Lanoux Arbitration*.

Several environmental treaties establish detailed provisions, including annexes or protocols, providing for the submission of disputes to arbitration at the instigation of one party to the dispute[132] or both parties to the dispute.[133] And yet other treaties refer simply to the possibility of submitting disputes to arbitration without providing any details on the establishment of such a body or its working arrangements.[134]

4.3.4 International courts The settlement of international disputes may also be referred to an international court, which is a permanent tribunal competent to deliver a legally binding decision. In relation to environmental disputes four international courts have played, and are likely to continue to play, a role: the International Court of Justice, the European Court of Justice, the courts established under the various regional human rights treaties, and the courts and tribunals established under the UN Convention on the Law of the Sea.

4.3.5 International Court of Justice The International Court of Justice, sometimes referred to as the World Court or The Hague Court, is the principal judicial organ of the UN. It was established as a successor (although not formally the legal successor) to the Permanent Court of International Justice in 1945. Jurisdiction of the International Court of Justice over a particular dispute depends on whether the Court has been invoked in a contentious case between two or more states, or to give advisory opinions on questions of law at the request of states or certain international organizations.[135]

Many environmental treaties provide for possible recourse to the International Court of Justice (ICJ) to settle disputes. Occasionally they establish the compulsory jurisdiction of the International Court,[136] but more usually the reference of a dispute to the Court requires the consent, in each case, of all parties to the dispute.[137] In recent years the practice has developed in environmental treaties of allowing parties at the time of signature, ratification or accession, or at any time thereafter, to accept compulsory dispute settlement by recourse to arbitration or to the ICJ.[138] Few parties accept this option.

Contentious environmental cases could also get to the ICJ under Article 36(2) of the Statute (the 'Optional Clause') under which parties to the Statute of the Court may declare that they recognize the compulsory jurisdiction of the Court, in relation to other states accepting the same obligation, in all legal disputes concerning the interpretation of a treaty, any question of international law, the existence of any fact which, if established, would constitute a breach of an international obligation; and the nature or extent of the reparation to be made for the breach of an international obligation.[139] Acceptance of the jurisdiction of the Court under Article 36(2) may be made unconditionally, or on condition of reciprocity, or for a limited period of time.[140]

Additionally the practice of the Court has been to accept reservations or conditions to declarations made under the Optional Clause.

As set out in the text the Court has had an opportunity to consider several environmental issues, and in July 1993 it established a seven-member Chamber for Environmental Matters. This decision was taken in view of the developments in the field of environmental law which have taken place in the last few years and the need to be prepared to the fullest possible extent to deal with any environmental case falling within its jurisdiction.

The UN Charter also allows the General Assembly or the Security Council to request the ICJ to give an advisory opinion on any legal question, and allows other organs of the UN and specialized agencies authorized by the General Assembly to request advisory opinions of the Court on legal questions arising within the scope of their activities.[141] Advisory opinions are not binding in law upon the requesting body, although in practice they are accepted and acted upon by that body. Although no legal question on an environmental issue has been the subject of a request for an Advisory Opinion, this route could provide a useful and non-contentious way of obtaining independent international legal advice on environmental matters. If it considers that the circumstances so require, the International Court of Justice also has the power to indicate interim measures of protection to preserve the rights of the parties to a dispute.[142] The irreparability of environmental damage will make interim measures particularly important in cases concerning environmental protection. In the *Nuclear Tests Cases* the Court indicated interim measures of protection, asking that the parties to ensure that no action should be taken which might aggravate or extend the dispute or prejudice the rights of another party, and calling on France to 'avoid nuclear tests causing the deposit of radio-active fall-out on Australian territory'.[143]

4.3.6 European Court of Justice The European Court of Justice is the judicial institution of the EC and is required to ensure that in the interpretation and application of the EEC Treaty 'the law is observed'.[144] In 1988 a Court of First Instance was created. Environmental cases reach the European Court and/or the Court of First Instance in a number of ways. The most frequent route is under Article 169 of the EC Treaty, and since 1980 the EC Commission has brought more than 40 cases to the ECJ alleging the failure of a member state to comply with its EEC environmental obligations, in which it is usually successful. Under Article 170 of the EC Treaty a member state which believes another member state has breached its obligations has a similar right to bring a matter before the ECJ.

The ECJ has also considered environmental questions on the basis of its jurisdiction under Article 177, the 'preliminary reference procedure'. Under this provision the national courts of the EC member states may refer to the

ECJ questions concerning, *inter alia*, the interpretation of the EC Treaty and the validity and interpretation of acts of the EC institutions, provided that a decision on the question is necessary to enable the national court to give a ruling on the question. Preliminary references from national courts to the ECJ are used when a dispute before the national courts raise a complex question or questions of EEC law or where the dispute turns on the EEC point and no appeal lies against the decision of the national court. The Article 177 procedure has been used on several occasions to allow the EC to rule on matters of an environmental nature.

4.3.7 Human Rights Courts The human rights courts established under the various regional human rights conventions (the European Court of Human Rights and the Inter-American Court of Human Rights) may also have jurisdiction over environmental matters, although so far only the European Court of Human Rights appears to have had an opportunity to address environmental issues. The European Court has jurisdiction over all cases concerning the interpretation and application of the European Convention provided that the party or parties concerned by the case have accepted its compulsory jurisdiction or, failing that, with their consent.[145] The Court may only deal with a case after efforts by the Commission to achieve a friendly settlement have failed.[146]

4.3.8 UNCLOS Part XV of the 1982 UNCLOS contains detailed provision on compulsory dispute settlement, allowing states at the time of signature, ratification or accession or at any time thereafter to choose one or more of the following to decide disputes under UNCLOS: the International Tribunal for the Law of the Sea (established in accordance with Annex VI of UNCLOS), the ICJ; an arbitral tribunal (constituted in accordance with Annex VII); and a special arbitral tribunal (constituted in accordance with Annex VIII).[147] A state which does not designate one of these means is deemed to have designated arbitration in accordance with Annex VII.[148]

4.3.9 UNCED Whereas the 1972 Stockholm Conference did not really address the compliance issue, the subject was clearly an important one for UNCED. Agenda 21 goes a little further in recognizing the limitations of existing arrangements, including the inadequate implementation by parties of their obligations, the need to involve international institutions and environmental organizations in the implementation process, and the existence of important gaps in the dispute settlement mechanisms. Chapter 39 of Agenda 21 addresses some of the needs. The whole of the international community is called upon to ensure 'the full and prompt implementation of legally binding instruments',[149] and parties to international agreements are instructed to 'consider procedures and mechanisms to promote and review their effective, full and prompt implementation', including through the establishment of 'efficient and practical reporting systems on the effective, full and prompt implementation of international legal instruments' and consideration of the ways in which international bodies might contribute towards the further development of such mechanisms.[150] The role of international institutions is recognized. UNEP is called upon to promote the implementation of international environmental law,[151] UNDP will play a lead role in support of the implementation of Agenda 21 and capacity-building at the country, regional, interregional and global levels;[152] and the UN Commission on Sustainable Development will 'consider, where appropriate, information regarding the progress made in the implementation of environmental conventions which could be made available by the relevant Conferences of the Parties'.

With regard to dispute settlement, the international community is called upon to study and consider:

> the broadening and strengthening of the capacity of mechanisms, *inter alia* in the United Nations system, to facilitate, where appropriate and agreed by the parties concerned, the identification, avoidance and settlement of international disputes in the field of sustainable development, duly taking into account existing bilateral and multilateral agreements for the settlement of such disputes.[153]

The functions of the UN Commission on Sustainable Development will include reviewing progress in the implementation of Agenda 21 commitments and 'to consider, where appropriate, information regarding the progress made in the implementation of environmental conventions, which could be made available by the relevant Conferences of the Parties'.[154]

Notes

1. (*Great Britain* v. *United States*), 1 Moore's International Arbitration Awards 755 (1893).
2. Chapter 38, paras 38.42 to 38.44.
3. Art. 1(vii) and Art. 1(2).
4. Convention to Protect Birds Useful to Agriculture, Paris, 19 March 1902, IV *IPE* 1615.
5. Convention destinee a assurer la conservation des diverses especes animales vivant a l'état sauvage en Afrique qui sont utiles a l'homme ou inoffensive, London, 19 May 1900, IV *IPE* 1607.
6. Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, 11 January 1909, XI *IPE* 5704.
7. Convention Between the United States and Great Britain for the Protection of Migratory Birds in the United States and Canada, Washington, 7 December 1916, IV *IPE* 1638.
8. Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, Washington, 12 October 1940, 161 *UNTS* 193.
9. C.O. Sauer, 'Destructive exploitation in modern colonial expansion', *International Geographical Congress*, Amsterdam, Vol. III, Sect. IIIC, 494.
10. *Ybk UN* 1948–9, 481–2.
11. UN General Assembly resolution 900(IX) 14 December 1954. The Conference Report is at VIII *IPE* 3969.

12. Convention on the High Seas, Geneva, 29 April 1958, 450 *UNTS* 82; Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, 29 April 1958, 559 *UNTS* 285; Convention on the Continental Shelf, Geneva, 29 April 1958, 499 *UNTS* 311.
13. UN General Assembly resolution 912(2), 3 December 1955.
14. Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Moscow, 5 August 1963, 480 *UNTS* 43.
15. Nuclear Test Cases (Australia v. France), 1974 *ICJ Reps* xxx; (New Zealand v. France), 1974 *ICJ Reps* 457.
16. International Convention for the Prevention of Pollution of the Sea by Oil, London, 12 May 1954, 327 *UNTS* 3.
17. International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage, Brussels, 29 November 1969, 9 *ILM* 25 (1970).
18. International Convention on Civil Liability for Oil Pollution Damage, Brussels, 29 November 1969, 973 *UNTS* 3; International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Brussels, 18 December 1971, 11 *ILM* 284 (1972).
19. African Convention on the Conservation of Nature and Natural Resources, Algiers, 15 September 1968, 1001 *UNTS* 4.
20. UN General Assembly resolution 2398 (XXIII), 3 December 1968.
21. *Report of the U.N. Conference on the Human Environment, U.N. Doc.* A/CONF. 48/14 at 2–65, and Corr. 1 (1972); 11 *ILM* 1416 (1972). For an excellent account of the Conference and the Declaration see Louis B. Sohn, 'The Stockholm Declaration on the Human Environment', 14 *HarvILJ*. 423 (1973).
22. Caldwell, L. [CITE], 55, 60.
23. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972, 1046 *UNTS* 120.
24. International Convention for the Prevention of Pollution by Ships, London, 2 November 1973, 12 *ILM* 1319, 1434 (1973); Protocol Relating to the Convention for the Prevention of Pollution by Ships, London, 17 February 1978, 17 *ILM* 246 (1978).
25. Convention on International Trade in Endangered Species, Washington, 3 March 1973, 993 *UNTS* 243.
26. Convention for the Protection of World Cultural and Natural Heritage, Paris, 16 November 1972, 11 *ILM* 1358 (1972).
27. United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, 21 *ILM* 1261 (1982).
28. Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979, 19 *ILM* 15 (1980).
29. Convention on the Conservation of European Wildlife and Natural Habitats, Berne, 19 September 1979, *UKTS* 56 (1982), Cmnd. 8738.
30. Convention on Long-Range Transboundary Air Pollution, Geneva, 13 November 1979, 18 *ILM* 1442 (1979).
31. Agreement Establishing the European Bank for Reconstruction and Development, London, 29 May 1990, 29 *ILM* 800 (1990).
32. Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25 February 1991, 30 *ILM* 802 (1991).
33. Convention on Transboundary Effects of Industrial Accidents, Helsinki, 17 March 1992, 31 *ILM* 1330 (1992).
34. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17 March 1992, 31 *ILM* 1312 (1992).
35. UN General Assembly resolution 42/187, 11 December 1987.
36. UN General Assembly resolution 43/196, 20 December 1988.
37. 31 *ILM* 801 (1992).
38. 31 *ILM* 812 (1992).
39. 31 *ILM* 822 (1992).
40. 31 *ILM* 849 (1992).

41. UN General Assembly resolutions 47/188, 47/189, 47/192 and 47/191, 22 December 1992.
42. Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22 September 1992, 31 *ILM* 750 (1992).
43. Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21 June 1993, 32 *ILM* 674 (1993).
44. R. Dworkin, *Taking Rights Seriously*, 24, 26 (1977).
45. Permanent Court of Arbitration, Palmas Case (1928), 2 H.C.R. p. 84, at p. 93.
46. *United States v. Canada*, 3 RIAA, p. 1907 (1941); citing Eagleton, *Responsibility of States*, 1928, p. 80.
47. See Judge N. Singh, Foreword, in D. Munro and H. Lammers, *Environmental Protection and Sustainable Development: Legal Principles and Recommendations*, 1986, xi–xii.
48. L. Kramer, *EEC Treaty and Environmental Protection*, (1990), 61.
49. Original Hungarian Application, 22 October 1992, paras. 27, 29 and 30, in P. Sands, R. Tarasofsky and M. Weiss, *Basic Documents in International Environmental Law* (1994), xx.
50. See e.g. the support for the precautionary principle by low lying AOSIS countries in the climate change, which is put as follows: 'For us the precautionary principle is much more than a semantic or theoretical exercise. It is an ecological and moral imperative. We trust the world understands our concerns by now. We do not have the luxury of waiting for conclusive proof, as some have suggested in the past. The proof, we fear, will kill us.' Ambassador Robert van Lierop, Permanent Representative of Vanuatu to the United Nations and Co-Chairman of Working Group 1 of the INC/FCCC, Statement to the Plenary Session of the INC/FCCC, 5th February 1991, at 3.
51. 1992 Rio Declaration, Principle 7.
52. OECD Council Recommendation C(72)128 on 'Guiding Principles Concerning International Economic Aspects of Environmental Policies', 26th May 1972; 14 *ILM* 236 (1975); Council Recommendation C(74)223, 14 November 1974, 14 *ILM* 234 (1975); OECD Council Recommendations on the Application of the Polluter-Pays Principle to Accidental Pollution (C(89)88 (Final), 25 July 1989, 28 *ILM* 1320.
53. Council Recommendation 75/436/Euratom, ECSC, EEC of 3 March 1975, Annex, para. 2; *OJ* L 169, 29.6.1987, p. 1; Treaty establishing the European Community (as amended), Art. 130r(2).
54. Agreement on the European Economic Area, 20 May 1992, Art. 73(2).
55. Convention on Wetlands of International Importance, Ramsar, 2 February 1972, 996 *UNTS* 245.
56. 1985 Nairobi Protocol concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region, 21 June 1985, *IELMT* 985: p. 47.
57. 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources, Kuala Lumpur, 9 July 1985, 15 *EPL* 64 (1985).
58. Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Noumea, 24 November 1986, 26 *ILM* 38 (1987).
59. International Convention on Salvage, London, 28 April 1989, *IJECL* 300.
60. International Convention on Oil Pollution Preparedness, Response and Co-operation, London, 30 November 1990, 30 *ILM* 733 (1991).
61. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo, 15 February 1972, 932 *UNTS* 3.
62. Convention for the Prevention of Marine Pollution from Land-Based Sources, Paris, 4 June 1974, 13 *ILM* 352 (1974).
63. See generally, UNEP, Status of Regional Agreements Negotiated in the Framework of the Regional Seas Programme, Ref. Point 2, August 1990.
64. Agreement between the United States and Canada Concerning the Water Quality of the Great Lakes, Ottawa, 15 April 1972, 11 *ILM* 694 (1972).
65. Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at Least Thirty Percent, Helsinki, 8 July 1985, 27 *ILM* 707 (1987).

66. Protocol Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, Sofia, 31 October 1988, 28 *ILM* 214 (1988).
67. Protocol on the Control of Emissions of Volatile Organic Compounds and their Transboundary Fluxes, Geneva, 18 November 1991, 31 *ILM* 568 (1992).
68. Vienna, 22 March 1985, 26 *ILM* 1529 (1987).
69. Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, 26 *ILM* 1550 (1987); amended in 1990 and 1992.
70. Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basle, 22 March 1989, 28 *ILM* 649 (1989).
71. Lome, 15 December 1989, 29 *ILM* 783 (1990). Articles 39 and 40.
72. Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, Bamako, 30 January 1991, 30 *ILM* 775 (1991).
73. IAEA Doc. GC(XXXIV)/920, 27 June 1990, 1 *YbkIEL* 537 (1990).
74. Convention Concerning Safety in the Use of Chemicals at Work, Geneva, 24 June 1990, 1 *YbkIEL* 295 (1990).
75. Wellington, 2 June 1988, 27 *ILM* 868 (1988), Articles 4, 15, 26, and 53.
76. 1985 Council Directive 85/337 on the Assessment and Effects of Certain Public and Private Projects on the Environment, *OJ* 1985 L175/1.
77. See e.g. World Bank Operational Directive 4.00, Annex A: Environmental Assessment, 21 September 1989. Other MDBs requiring EIA include the European Investment Bank; the European Bank for Reconstruction and Development; the African Development Bank; the Asian Development Bank; the Caribbean Development Bank; and the Inter-American Development Bank.
78. Council Decision-Recommendation Concerning the Provision of Information to the Public and Public Participation in Decision-Making Processes Related to the Prevention of, and Response to, Accidents Involving Hazardous Substances, 28 *ILM* 277 (1988).
79. EC Council Directive on Freedom of Access to Information on the Environment, 7 June 1990, *OJ* 1990 L158/56.
80. Operational Directive 14.70 on Involving Non-Governmental Organizations in Bank Supported Activities (1990).
81. OECD Convention on Third Party Liability in the Field of Nuclear Damage, Paris, 29 July 1960, 956 *UNTS* 251; Convention on Civil Liability for Nuclear Damage, Vienna, 29 May 1963, 1063 *UNTS* 265.
82. Convention on Civil Liability for Damage Caused during Carriages of Dangerous Goods by Road, Rail and Inland Navigation Vessels, Geneva, 10 October 1989.
83. Communication from the Commission to the Council: A community strategy to limit carbon dioxide emissions and to improve energy efficiency, EC Commission Doc. XI/626/91, 22 September 1991, paras. 19 to 28, at para. 25.
84. Trail Smelter Arbitration (*Canada* v. *United States*) (1941).
85. Lac Lanoux Arbitration (*France* v. *Spain*) (1957). Gabcikovo-Nagymaros Project Case (*Hungary/Slovakia*).
86. Fisheries Jurisdiction case (*United Kingdom* v. *Iceland*) (1974).
87. Certain Phosphate Lands in Nauru case (*Nauru* v. *Australia*) (1992).
88. 1972 London Convention, Art. VII(1); 1989 Basle Convention, Art. 4(4).
89. 1988 CRAMRA, Art. 7(1).
90. 1989 Basle Convention, Art. 5.
91. 1982 UNCLOS, Arts. 213, 214, 216, 222 and 235(2).
92. 1972 Oslo Convention, Art. 15(1); 1973 CITES, ART. VIII(1); 1974 Paris Convention, Art. 12.
93. 1972 London Convention, Art. VII(2); 1989 Basle Convention, Art. 4(4).
94. Art. 10.
95. 1982 UNCLOS, Arts. 217 to 220.
96. 1969 Moon Treaty, Arts. 12(1) and 14(1); 1988 CRAMRA, Art. 8(10).
97. Art. I(T) replacing Art. 10 of the 1987 Montreal Protocol.
98. 1992 Climate Change Convention, Art. 4(3) (the Convention states that the 'extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties' of their financial commitments, Art. 4(7)); 1992 Biodiversity Convention, Arts. 20(1) to (4).

99. See e.g. 1992 Climate Change Convention, requiring initial reports to be submitted within six months of entry into force by OECD countries, within three years of entry into force or upon the availability of financial resources by developing countries, and at their discretion by least-developed countries: Art. 12(5).
100. See United States General Accounting Office, *International Environment: International Agreements Are Not Well Monitored*, Report to Congressional Requesters, GAO/RCED-92–43 (1992).
101. ILC Draft Articles on State Responsibility, Pt 2, Art. 5(1) Report of the ILC to the United Nations General Assembly, UN Doc. A/44/10 (1989), 218.
102. See e.g. *The Wimbledon* (1923) PCIJ, Series A, No 1.
103. 1957 EEC Treaty, Art. 170.
104. Case 141/78 *France* v. *United Kingdom* (1979) ECR 2923.
105. 1989 Basle Convention, Art. 19; the information is then to be submitted to the Parties.
106. 1958 Danube Fishing Convention, Art. 12(1).
107. 1982 Convention for the Conservation of Salmon in the North Atlantic Ocean, Art. 4(2).
108. 1976 Rhine Chemical Convention, Art. 6(3).
109. 1973 CITES, Art. XIII.
110. 1971 Oil Pollution Fund Convention, Art. 2(2).
111. 1982 UNCLOS, Art. 162(2)(a), (u), (v), (w) and (z).
112. Art. 7(7) and (8).
113. Art. 21(1)(f) and (x).
114. Art. 23(b).
115. See EC Commission, *Eighth Report to the European Parliament on the Enforcement of Community Law* (1991).
116. OECD C(76)55 (Final), 18 May 1976.
117. OECD Doc. C (77) 28 (Final), 23 May 1977.
118. 1974 Nordic Environmental Protection Convention, Art. 3.
119. Case 21/76, [1976] *ECR* 1735.
120. 1992 Climate Change Convention, Arts. 10, 13 and 14. See also 1985 Vienna Convention, Art. 11; 1989 Basle Convention, Art. 20; 1992 Biodiversity Convention, Art. 27 and Annex II.
121. Icelandic Fisheries Case (*United Kingdom* v. *Iceland*) 31.
122. *Ibid.*, 33.
123. By a Protocol dated 2 April 1981 the USSR agreed to pay, and Canada agreed to accept, Canadian $3 000 000 in a final settlement of the claim.
124. Lac Lanoux Arbitration, see above.
125. 1968 African Nature Convention, Art. XVIII (referring disputes to the Commission of Mediation, Conciliation and Arbitration of the OAU); 1982 UNCLOS, Art. 284 and Annex V, Section 1; 1985 Vienna Convention, Art. 11(2).
126. 1974 Paris LBS Convention, Art. 21 (conciliation by the Commission); 1985 Vienna Convention, Art. 11(4) and (5) (providing for the establishment of a conciliation commission); 1992 Biodiversity Convention, Art. 27(4) and Annex II, Part 2; 1992 Climate Change Convention, Art. 14(5) to (7).
127. 1909 Boundary Waters Treaty, especially Arts. VIII and IX.
128. 1985 Vienna Convention, Art. 11; 1992 Biodiversity Convention, Art. 27.
129. See Decision II/5 (Non-compliance), Report of the Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/OzL.Pro.2/3, 29 June 1990; see now Decision IV/5 and Annexes IV and V, adopting the non-compliance procedure; Report of the Fourth Meeting of the Parties, UNEP/OzL.Pro.4/15, 25 November 1992, 32 *ILM* 874 (1993).
130. Fourth Meeting of the Parties to the 1987 Montreal Protocol, Decision IV/5.
131. 1907 Hague Convention on the Pacific Settlement of International Disputes, Art. 37.

132. MARPOL 73/78, Art. 10 and Protocol II; 1988 CRAMRA, Arts. 55 to 59 and Annex; 1992 OSPAR Convention, Art. 32(2).
133. 1980 CCAMLR Art. XXV and Annex; 1983 Cartegena Convention, Art. 23 and Annex; 1986 Noumea Convention, Art. 26 and Annex.
134. 1985 Vienna Convention, Art. 11.
135. In relation to contentious cases it is important to recall that 'only states may be parties in cases before the Court', United Nations Charter, Art. 34(1).
136. 1963 Vienna Convention, Optional Protocol Concerning the Compulsory Settlement of Disputes, Art. I (not in force).
137. 1959 Antarctic Treaty, Art. XI(2); 1974 Baltic Convention, Art. 18(2).
138. 1985 Vienna Convention, Art. 11(3); 1989 Basle Convention, Art. 20(3); 1992 Climate Change Convention, Art. 14(2); 1992 Biodiversity Convention, Art. 27(3); 1992 Industrial Accidents Convention, Art. 21; 1992 Watercourses Convention, Art. 22.
139. Statute ICJ, Art. 36(2). As of 1 January 1992 51 states have accepted the Optional Clause.
140. Art. 36(3).
141. Art. 96. ECOSOC, the Trusteeship Council and 15 of the specialized agencies have been authorized by the General Assembly, as has the IAEA, the Interim Committee of the General Assembly and the Committee for Applications for Review of the UN Administrative Tribunal. UNEP and UNCSD have not been so authorized by the General Assembly.
142. Statute ICJ, Art. 41.
143. (*Australia* v. *France*), Order re Interim Measures, ICJ Rep 1973, 99; (*New Zealand* v. *France*), Order re Interim Measures, ICJ Rep 1973, 135.
144. 1957 EEC Treaty, Art. 164. The ECJ also has competence in relation to the interpretation and application of the 1950 ECSC and 1957 Euratom.
145. 1950 ECHR Arts. 44, 45 and 48. All the Parties to the Convention have accepted the compulsory jurisdiction of the Court. Protocol No. 2 to the Convention confers upon the Court competence to give advisory opinions: Strasbourg, 6 May 1963, in force 21 September 1970.
146. Art. 47.
147. 1982 UNCLOS, Art. 287(1).
148. Art. 287(3).
149. Agenda 21, Chapter 39, para. 39.3(c).
150. Para. 39.7.
151. Para. 38.22(h).
152. Para. 38.24 and 38.25(a).
153. Para. 39.3(h).
154. GA Res. 47/191 (institutional arrangements to follow up the UNCED), 22 December 1992, paras. 3(c) and (h).