

PART II

Principles and rules establishing standards

General principles and rules

Introduction

This chapter describes the general principles and rules of international environmental law as reflected in treaties, binding acts of international organisations, state practice, and soft law commitments. These principles 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 authorise and in respect of the protection of all aspects of the environment. From the large body of international agreements and other acts, it is possible to discern general rules and principles which have broad, if not necessarily universal, support and are frequently endorsed in practice. These are:

1. the obligation reflected in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, namely, that states have sovereignty over their natural resources and the responsibility not to cause transboundary environmental damage;
2. the principle of preventive action;
3. the principle of co-operation;
4. the principle of sustainable development;
5. the precautionary principle;
6. the polluter-pays principle; and
7. the principle of common but differentiated responsibility.

In the absence of judicial authority and in view of the conflicting interpretations under state practice, it is frequently difficult to establish the parameters or the precise international legal status of each general principle or rule. The application of each principle in relation to a particular activity or incident, and its consequences, must be considered on the facts and circumstances of each case, having regard to several factors including: the source of the principle; its textual content and language; the particular activity at issue; the environmental and other consequences of the activity; and the circumstances in which it occurs (including the actors and the geographical region). Some general principles or rules reflect customary law, others may reflect emerging legal obligations, and yet others might have a less developed legal status. In each

case, however, the principle or rule has broad support and is reflected in extensive state practice through repetitive use or reference in an international legal context.

Of these general principles and rules, Principle 21/Principle 2 and the co-operation principle are sufficiently well established to provide the basis for an international cause of action; that is to say, to reflect an international customary legal obligation the violation of which would give rise to a free-standing legal remedy. The same may now be said generally in respect of the precautionary principle in the European context, and perhaps also more globally in respect of particular activities or subject areas. The status and effect of the other principles is less clear, although they may bind as treaty obligations or, in particular contexts, as customary obligations. Whether they give rise to actionable obligations of a general nature is open to question. Finally, the principles and rules described in this chapter should be distinguished from the general principles described in chapter 4,¹ as well as the substantive rules establishing environmental standards (i.e. air and water quality, conservation of biodiversity) and rules establishing techniques for implementing those standards (i.e. environmental impact assessment, participation in decision-making, access to information, economic instruments).

Principles and rules

References to principles and rules of general application have long been found in the preambular sections of treaties and other international acts, and in the jurisprudence of international courts and tribunals. More recently, however, principles of general or specific application have been incorporated into the operative part of some treaties. Article 3 of the 1992 Climate Change Convention lists 'Principles' intended to guide the parties '[i]n their actions to achieve the objective of the Convention and to implement its provisions'. Article 3 of the 1992 Biodiversity Convention introduces the text of Principle 21 of the Stockholm Declaration as the sole 'Principle'. The EC Treaty, as amended in 1986, 1992 and 1997, sets forth principles and rules of general application in Article 174(2) (formerly Article 130r). Other treaties follow a similar approach.²

What consequences flow from the characterisation of a legal obligation as a legal principle or a legal rule? This question has hardly been addressed in detail by international courts and tribunals, and apparently not at all in the context of environmental principles. The Umpire in the *Gentini* case, in 1903 adopted

¹ See chapter 4, pp. 150–2 above.

² See e.g. 1992 OSPAR Convention, Art. 2 (General obligations); 1992 Baltic Convention, Art. 3 (Fundamental principles and obligations); 1992 Watercourses Convention, Art. 2 (General provisions); 1992 Industrial Accidents Convention, Art. 3 (General provisions).

the following distinction, which may provide some guidance about the legal effect of principles and their relationship to rules:

A 'rule' . . . 'is essentially practical and, moreover, binding . . . [T]here are rules of art as there are rules of government' while principle 'expresses a general truth, which guides our action, serves as a theoretical basis for the various acts of our life, and the application of which to reality produces a given consequence'.³

In this sense, positive rules of law may be treated as the 'practical formulation of the principles', and the 'application of the principle to the infinitely varying circumstances of practical life aims at bringing about substantive justice in every case'.⁴ This view suggests that 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.⁵

This distinction finds some support in the practice of international courts⁶ and allows the conclusion that principles 'embody legal standards, but the standards they contain are more general than commitments and do not specify particular actions', unlike rules.⁷ The fact that legal principles, like rules, can have international legal consequences has focused attention on their content while being elaborated in recent treaties. The negotiations of the 1992 Climate Change Convention reflected differing views on the need to adopt a section on 'Principles' at all: generally, developing countries supported the inclusion of principles, whereas developed countries opposed them. The US and some other 'common law' delegations were concerned that the requirements included in Article 3 might be subject to the Convention's dispute settlement provisions or create specific commitments beyond those set out in Article 4 and elsewhere. Although the US failed in their efforts to have the whole of Article 3 deleted, or for the text to be amended to make clear that Article 3

³ *Gentini case (Italy v. Venezuela) M.C.C. (1903)*, J. H. Ralston and W. T. S. Doyle, *Venezuelan Arbitrations of 1903 etc. (1904)*, 720, 725, cited in B. Cheng, *General Principles of Law as Applied by International Courts and Tribunals* (1953), 376.

⁴ *Ibid.*, 376. ⁵ R. Dworkin, *Taking Rights Seriously* (1977), 24, 26.

⁶ Case C-2/90, *EC Commission v. Belgium* [1993] 1 CMLR 365, where the ECJ relied on the principle that environmental damage should as a priority be rectified at the source (EC Treaty, Art. 130r(2)) and the principles of self-sufficiency and proximity (in the Basel Convention) to help it justify a conclusion: *ibid.*, paras. 34–5; see chapter 19, p. 990, n. 235 below.

⁷ D. Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary', 18 *Yale Journal of International Law* 451 at 501 (1993).

could not be subject to the dispute settlement provisions, the US amendments were accepted to limit the application of principles to informing obligations under the Convention. A similar concern to limit the scope of application of a principle was reflected by the UK declaration made upon signature of the 1992 Biodiversity Convention, declaring the understanding that 'Article 3 of the Convention . . . sets out a guiding principle to be taken into account in the implementation of the Convention', implying that no legal consequences arose outside the Convention, and that within the Convention Article 3 did not give rise to a rule in the sense proposed by the Umpire in the *Gentini* case or by Professor Dworkin. It is far from clear, however, that the plain meaning of Article 3 supports the UK's understanding, particularly when the text is compared to Article 3 of the Climate Change Convention, and in particular the introductory 'chapeau' which seeks to limit the effect of the principles identified thereunder.

The international community has not adopted a binding international instrument of global application which purports to set out the general rights and obligations of the international community on environmental matters. No equivalent to the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights or the International Covenant on Economic, Social and Cultural Rights has yet been adopted, and none appears imminent. Any effort to identify general principles and rules of international environmental law must necessarily be based on a considered assessment of state practice, including the adoption and implementation of treaties and other international legal acts, as well as the growing number of decisions of international courts and tribunals.⁸ The efforts of governmental and non-governmental lawyers in assessing the evidence which supports the existence of principles and rules has provided some guidance, and has influenced subsequent international law-making. The 1978 UNEP Draft Principles and the 1986 WCED Legal Principles have supplemented the 1972 Stockholm Declaration and influenced the 1992 Rio Declaration, which continues to reflect 'to the extent any international instrument can do so, the current consensus of values and priorities in environment and development'.⁹ Since UNCED, further guidance may be obtained from the International Law Commission's Draft Articles on Prevention of Transboundary Harm from Hazardous Activities (2001), and the International Law Association's New Delhi Declaration of Principles of International Law Relating to Sustainable Development (2002).¹⁰

⁸ On sources of state practice, see chapter 4, pp. 123–52 above (especially, pp. 143–7).

⁹ I. Porras, 'The Rio Declaration: A New Basis for International Co-operation', 1 RECIEL 245 (1992).

¹⁰ Rather less assistance is to be derived from the Institut de Droit Internationale's Resolution on the Environment (1997), www.idi-ii.org/idiE/resolutions/E1997_str_02_en.pdf; see

Sovereignty over natural resources and the responsibility not to cause damage to the environment of other states or to areas beyond national jurisdiction

B. Bramsen, 'Transnational Pollution and International Law', 42 *Nordisk tidsskrift for International Ret* 153 (1972); L. K. Caldwell, 'Concepts in Development of International Environmental Policies', 13 *Natural Resources Journal* 190 (1973); M. S. McDougal and J. Schneider, 'The Protection of the Environment and World Public Order: Some Recent Developments', 45 *Mississippi Law Journal* 1085 (1974); G. Handl, 'Territorial Sovereignty and the Problem of Transnational Pollution', 69 *AJIL* 50 (1975); A. Adede, 'United Nations Efforts Toward the Development of an Environmental Code of Conduct for States Concerning Harmonious Utilisation of Shared Natural Resources', 43 *Albany Law Review* 448 (1979); OECD, *Legal Aspects of Transfrontier Pollution* (1977). A. L. Springer, *The International Law of Pollution: Protecting the Global Environment in a World of Sovereign States* (1983); 'Corpus of Principles and Rules Relative to the Protection of the Environment Against Transfrontier Pollution Established by the French Speaking Section' in Centre for Studies and Research in International Law and International Relations, Hague Academy of International Law, *La Pollution Transfrontière et le Droit International* (1985), 27; World Commission on Environment and Development, *Our Common Future* (1987); R. D. Munro and J. Lammers, *Environmental Protection and Sustainable Development: Legal Principles and Recommendations* (1987); Shimizu, 'Legal Principles and Recommendations on Environmental Protection and Sustainable Development', 14 *Nippon Seikyo Kenkyusho-Kiyo* 13 (1990); F. Perrez, 'The Relationship Between Permanent Sovereignty and the Obligation Not to Cause Transboundary Environmental Damage', 26 *Environmental Law* 1187 (1996); N. Schrijver, *Sovereignty Over Natural Resources* (1997); F. Perrez, *Co-operative Sovereignty: From Independence to Interdependence in International Environmental Law* (2000).

The rules of international environmental law have developed within the context of two fundamental objectives pulling 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 set out in Principle 21 of the Stockholm Declaration, which provides that:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the

P. Sands, 'The New "Architecture of International Environmental Law" (or "The Law Professor and the Strange Case of the Missing Green Glasses")' *RBDI* 512 (1997). See also the IUCN Covenant on Environment and Development (2000).

responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Principle 21 remains the cornerstone of international environmental law; twenty years after its adoption, states negotiating the Rio Declaration were unable to improve significantly upon, develop, scale back or otherwise alter the language in adopting Principle 2. At UNCED, two words were added to recognise that states have the right to pursue 'their own environmental *and developmental* policies'. Principle 21 and Principle 2 each comprise two elements which cannot be separated without fundamentally changing their sense and effect: the sovereign right of states to exploit their own natural resources; and the responsibility, or obligation, not to cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. Taken together (state practice since 1972 has assiduously avoided their de-coupling), they establish the basic obligation underlying international environmental law and the source of its further elaboration in rules of greater specificity. That Principle 21 reflects customary law is now confirmed by the ICJ's 1996 Advisory Opinion on *The Legality of the Threat or Use of Nuclear Weapons*.

Sovereign rights over natural resources

The principle of state sovereignty allows states within limits established by international law to conduct or authorise such activities as they choose within their territories, including activities which may have adverse effects on their own environment. This fundamental principle underlies the first part of Principle 21/Principle 2. The extension of the sovereignty principle into environmental affairs pre-dates the Stockholm Declaration and is rooted in the principle of permanent sovereignty over natural resources as formulated in various resolutions of the UN General Assembly regularly adopted after 1952.¹¹ These resolutions were closely related to arrangements between states and foreign private companies for the exploitation of natural resources, particularly oil and minerals, in developing countries. They addressed the need to balance the rights of the sovereign state over its resources with the desire of foreign companies to ensure legal certainty in the stability of its investment.¹² A landmark resolution was adopted by the UN General Assembly in 1962, when it resolved that the 'rights of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development of the well-being of the people of the state concerned'.¹³ The resolution reflects the right to permanent sovereignty over national resources as an international

¹¹ See e.g. UNGA Res. 523 (VI) (1950); Res. 626 (VII) (1952); Res. 837 (IX) (1954); Res. 1314 (XIII) (1958); Res. 1515 (XV) (1960).

¹² See chapter 19 below. ¹³ UNGA Res. 1803 (XVII) (1962).

legal right, and has been accepted by some international tribunals as reflecting customary international law.¹⁴

By the 1970s, limits to the application of the principle of state sovereignty over natural resources were emerging as the international community recognised a need to co-operate to protect the environment. In 1972, before the Stockholm Conference, the UN General Assembly declared that 'each country has the right to formulate, in accordance with its own particular situation and in full enjoyment of its national sovereignty, its own national policies on the human environment'.¹⁵ The relationship between permanent sovereignty over natural resources and responsibilities for the environment was formally recognised by Principle 21.

The importance placed by states on the principle of permanent sovereignty over natural resources is also reflected by its frequent invocation, in various forms, in international environmental agreements and during their negotiation. The 1933 London Convention affirmed that all animal trophies were 'the property of the Government of the territory concerned'.¹⁶ The 1971 Ramsar Convention emphasised that the inclusion of national wetland sites in its List of Wetlands did 'not prejudice the exclusive sovereign rights of . . . the party in whose territory the wetland is situated'.¹⁷ The 1983 International Tropical Timber Agreement recalled 'the sovereignty of producing members over their natural resources'.¹⁸ Recent treaties also refer to the sovereign rights of states over natural resources in their territory: the Preamble to the 1989 Basel Convention recognised that 'all states have the sovereign right to ban the entry or disposal of foreign hazardous wastes and other wastes in their territory'. The Preamble to the 1992 Climate Change Convention reaffirmed 'the principle of sovereignty of states in international co-operation to address climate change'. The 1992 Biodiversity Convention more specifically reaffirmed that states have 'sovereign rights . . . over their natural resources', and that 'the authority to determine access to genetic resources rests with the national governments and is subject to national legislation'.¹⁹

Sovereignty and extra-territoriality

The sovereign right to exploit natural resources includes the right to be free from external interference over their exploitation. This aspect of Principle 21/Principle 2 is brought into question in disputes over the extra-territorial application of environmental laws of one state to activities taking place in areas beyond its

¹⁴ *Texaco Overseas Petroleum Co. and California Asiatic Oil Co. v. Libya*, 53 ILR 389 (1977), para. 87; *Kuwait v. American Independent Oil Co.*, 21 ILM 976 (1982).

¹⁵ UNGA Res. 2849 (XXVI) (1971). ¹⁶ Art. 9(6). ¹⁷ Art. 2(3).

¹⁸ Art. 1. See now 1994 International Tropical Timber Agreement, Art. 1.

¹⁹ Art. 15(1). Cf. the 1983 FAO Undertaking on Plant Genetic Resources and the 1989 Agreed Interpretation, recognising that plant genetic resources are a 'common heritage of mankind': chapter 11, p. 551 below.

national jurisdiction, either within the jurisdiction of another state or in activities beyond national jurisdiction. In 1893, the arbitral tribunal in the *Fur Seals Arbitration* rejected a claim by the US to be entitled to protect fur seals in areas beyond the three-mile limit of the territorial sea and the right to interfere in the internal affairs of other states to secure the enjoyment of their share in the 'common property of mankind'.²⁰ Nearly one hundred years later, the US banned the import of yellow-fin tuna caught by Mexican vessels, in Mexico's exclusive economic zone and on the high seas, with purse-seine nets the compliance of which with US environmental protection standards could not be proved. This 'extra-jurisdictional' application of US environmental standards was rejected by a GATT panel as being contrary to the GATT, holding that a country 'can effectively control the production or consumption of an exhaustible natural resource only to the extent that the production or consumption is under its jurisdiction' and that to allow the 'extra-jurisdictional' application of its environmental law would allow the US to 'unilaterally determine the conservation policies' of Mexico.²¹ More recently, however, the WTO's Appellate Body has taken a broader approach, and recognised the existence of a 'sufficient nexus' between migratory and endangered populations of sea-turtles located in Asian waters and the United States to allow the latter to claim an interest in their conservation.²² The traditional and absolute prohibition on extra-territorial (or extra-jurisdictional) application of national environmental laws recognised by the earlier decisions is consistent with the principle of absolute sovereignty over natural resources. Those decisions do not rest easily, however, with a more modern conception of an ecologically interdependent world in which limits are placed on the exercise of sovereignty or sovereign rights, an approach with which the Appellate Body seemed sympathetic.

In the absence of generally accepted international standards of environmental protection and conservation, states with strict national environmental standards may seek to extend their application to activities carried out in areas beyond their territory, particularly where they believe that such activities cause significant environmental damage to shared resources (such as migratory species, transboundary watercourses, or air quality and the climate system) or affect vital economic interests. For 'shared natural resources' such as the high seas and atmosphere it will often be difficult, if not impossible, to draw a clear line between natural resources over which a state does and does not have sovereignty or exercise sovereign rights. In such circumstances, it is unlikely that the principle of territorial sovereignty, or permanent sovereignty over natural

²⁰ Chapter 11, pp. 561–6 below. ²¹ Chapter 19, p. 956 below.

²² *Shrimp/Turtle case*, para. 133 (the decision is difficult to square with the Appellate Body's claim that it was not 'pass[ing] upon the question of whether there is an implied jurisdictional limitation in Article XX(g), and, if so, the nature or extent of that limitation'). See further chapter 19, pp. 961–73 below.

resources, can provide much assistance in allocating rights and responsibilities of states over environmental policy.

The permissibility of the extra-territorial application of national laws remains an open question in international law. The PCIJ has stated that 'the first and foremost restriction imposed by international law upon a state is that – failing the existence of a permissive rule to the contrary – it may not exercise its power in any form in the territory of another state outside its territory except by virtue of a permissive rule derived from international custom or from a convention'.²³ However, in the same case the PCIJ went on to state that 'international law as it stands at present' does not contain 'a general prohibition to states to extend the application of their laws and the jurisdiction of their courts to persons, property and acts outside their territory' and that the territoriality of criminal law was 'not an absolute principle of international law and by no means coincides with territorial sovereignty'.²⁴ Subsequent state practice, as well as decisions of international tribunals, has not determined precisely the circumstances in which a state may take measures over activities outside its territory in relation to the conservation of shared resources. In the *Fisheries Jurisdiction* case, Spain challenged the application and enforcement by Canada of its fisheries conservation legislation in areas beyond its exclusive economic zone, but the ICJ declined jurisdiction, and the case did not reach the merits phase.²⁵ The right of states to exercise jurisdiction, either by legislation or adjudication, over activities in other states, or in areas beyond national jurisdiction, which are harmful to the environment at the global, regional or local level, could be justified on several grounds. First, corporations carrying on activities abroad might be subject to the environmental laws of their state of registration or incorporation, by application of the 'nationality' principle of jurisdiction. International law does not, according to Oppenheim, prevent a state from exercising jurisdiction within its own territory over its nationals (including corporations) who reside in a foreign state, although the power to enforce such laws depends upon the nationals being in the territorial jurisdiction or having assets therein against which judgment can be enforced.²⁶ The application of the 'nationality' principle is likely to cause difficulty, however, since the foreigner abroad might be subject to the concurrent jurisdiction of the home state of registration or incorporation and the host state in which it carries out its activities, with the home state having more stringent rules of environmental

²³ *Lotus case (France v. Turkey)*, PCIJ Ser. A, No. 10, 19–20 ²⁴ *Ibid.*

²⁵ Chapter 5, p. 201 above; chapter 11, pp. 567–8 below.

²⁶ Oppenheim, vol. I, Part 1, 462. In application of this approach, see *Dow Chemical Co. v. Alfaro*, 768 SW 2d 674 at 681 (Texas 1990), where a Texan court held that Costa Rican farm workers were entitled to bring a claim for injuries caused by a pesticide manufactured in the United States and exported to Costa Rica. On enforcement jurisdiction generally, see chapter 5, pp. 182–91 below.

protection.²⁷ This will lead to jurisdictional disputes where some states use lower standards of environmental protection perhaps to gain economic advantage and attract foreign investment, and other states apply the nationality principle and require their companies to apply national environmental protection rules wherever they carry out their activities. In such circumstances, it has been suggested that the home state must not require compliance with its laws at the expense of its duty to respect the territorial sovereignty of the host state. When faced with such a conflict a court would be likely to balance the public policy of the home state, the interests of the host state, and the damage to international comity if it gave precedence to the laws of the home state, and only accord priority to those laws 'where the balance of interest clearly lies in that direction'.²⁸ The factors applied by a court will also need to be applied by reference to the environment which is being affected or damaged. It would be difficult to justify a home state's taking measures where only the environment of the host state was being damaged. But if the damage was being caused to the environment of the home state or to areas beyond national jurisdiction (global commons) then the home state might have a stronger basis for asserting jurisdiction extra-territorially.

This latter situation creates a second possible basis for allowing the extra-territorial application of national laws: where activities carried out in one state have, or are likely to have, 'effects' in another state, recourse might be had to the 'objective' application of the territorial principle, otherwise known as the 'effects' doctrine. However, the application of the 'effects' principle is said to have 'doubtful consistency' with international law: the justification for assertions of jurisdiction on the basis of an alleged 'effects' principle of jurisdiction has not been generally accepted, and the matter is still one of controversy.²⁹

The extra-territorial application of national environmental laws has been particularly controversial in relation to trade issues. Principle 12 of the Rio Declaration declares that unilateral actions addressing environmental challenges 'outside the jurisdiction of the importing country should be avoided' and that 'environmental measures should, as far as possible, be based on an international consensus'. The Rio Declaration and Agenda 21 do not, however, prohibit *per se* all unilateral environmental measures, an approach which now appears to have been endorsed by the WTO Appellate Body, subject to certain conditions being satisfied. The same approach has been taken in the WSSD Plan of Implementation.³⁰ The challenge for the international community in

²⁷ On this point, see the OECD Guidelines on Multinationals, chapter 3, p. 105, n. 224 above.

²⁸ Oppenheim, vol. I, Part 1, 464-6, citing, *inter alia*, *Timberlane Lumber Co. v. Bank of America*, 66 ILR, 270 (1976-7); *Laker Airways v. Pan American World Airways* 23 ILM 748 at 751 (1984).

²⁹ Oppenheim, vol. I, Part 1, 475. That said, the decision in *Shrimp Turtles* may be seen to be connected to the application of the 'effects' doctrine: see n. 22 above.

³⁰ Para. 95 (restating the language of the Rio Declaration and Agenda 21).

coming years will be to determine the circumstances in which, in the absence of international consensus on agreed environmental standards, a state will be permitted, under the general rules of international law and specific WTO rules, to adopt unilateral environmental measures and apply them extra-territorially.³¹

Responsibility not to cause environmental damage

The second element of Principle 21/Principle 2 reflects the view of states that they are subject to environmental limits in the exercise of their rights under the principle of permanent sovereignty over natural resources. In the form presented by Principle 21/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,³² without prejudice to its applications on a case-by-case basis, following the ICJ's 1996 Advisory Opinion on *The Legality of the Threat or Use of Nuclear Weapons* there can be no question but that Principle 21 reflects a rule of customary international law, placing international legal constraints on the rights of states in respect of activities carried out within their territory or under their jurisdiction.

Saying that Principle 21/Principle 2 reflect customary international law is not, however, decisive, and will be of only partial assistance in support of an international claim. In the context of activity which causes pollution and environmental degradation, Principle 21/Principle 2 indicate the need to address other questions: what is environmental damage? What environmental damage 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)? And what is the extent of any liability (including measure of damages)? These and related questions are considered in chapter 18 below.

The responsibility of states not to cause environmental damage in areas outside their jurisdiction pre-dates the Stockholm Conference, and is related 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'.³³ This obligation was subsequently relied upon, and elaborated, by the arbitral tribunal in the much-cited *Trail Smelter* case, which stated that:

³¹ On the trade/environment issue, see chapter 19, pp. 940–1009 below; Agenda 21, para. 39.3(d) includes a number of factors applicable to trade-related environmental measures which may also provide guidance on the permissibility of other extra-territorial environmental measures: see chapter 19, p. 1008 below.

³² For an excellent account of the negotiating history of Principle 21, which tends to support this view, see L. Sohn, 'The Stockholm Declaration on the Human Environment', 14 *Harvard International Law Journal* 423 at 485–93 (1972).

³³ PCA, *Palmas Case*, 2 HCR (1928) 84 at 93.

Under the principles of international law . . . 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.³⁴

Most writers accepted this formulation as a rule of customary international law and it was cited, with apparent approval, by Judge de Castro in his dissent in the *Nuclear Tests* case.³⁵ In that case, Australia had asked the ICJ to adjudge and declare that the carrying out of further atmospheric nuclear tests was inconsistent with applicable rules of international law and would be unlawful 'in so far as it involves the modification of the physical conditions of and over Australian territory [and] pollution of the atmosphere and of the resources of the seas'.³⁶ The Rapporteur to the ILA Committee on Legal Aspects of the Environment concluded from an examination that state practice was founded upon the rule in the *Trail Smelter* case.³⁷

In fact, consistent state practice is not readily discernible. As will be seen in chapter 18, there are relatively few claims which have been brought by states relying upon the rule reflected in Principle 21/Principle 2, and one is left to rely upon state practice as evidenced in particular by participation in and support for treaties and other international acts, as well as their statements as to what they consider to be the extent of their obligations. Following the Chernobyl accident in 1986, a discussion under the auspices of the IAEA threw some light on the views of states, although the record on this discussion alone cannot be considered as representing a comprehensive view.³⁸ The general rule relied upon in the *Trail Smelter* case derives from an extension of the principle of good-neighbourliness. Although the UN Charter does not expressly address environmental issues, Article 74 of the Charter reflects the agreement of the UN members that 'their policy in their metropolitan areas must be based on the general principle of good neighbourliness' and must take account of 'the interests and well-being of the rest of the world, in social, economic and commercial matters'. The principle of good-neighbourliness underlies the *dicta* of the ICJ that the principle of sovereignty embodies 'the obligation of every

³⁴ *United States v. Canada*, 3 RIAA 1907 (1941); citing Eagleton, *Responsibility of States* (1928), 80; see chapter 7, p. 318 below; and chapter 18, pp. 885-6 below.

³⁵ *Australia v. France* (1974) ICJ Reports 253 at 389. He stated: 'If it is admitted as a general rule that there is a right to demand prohibition of the emission by neighbouring properties of noxious fumes, the consequences must be drawn, by an obvious analogy, that the Applicant is entitled to ask the Court to uphold its claim that France should put an end to the deposit of radio-active fall-out on its territory.'

³⁶ ICJ Pleadings, *Nuclear Tests* cases, vol. I, 27. see further chapter 8, pp. 319-21 below.

³⁷ International Law Association, Report of the Committee on Legal Aspects of the Environment, 60th Conference Report, 157 at 163.

³⁸ Chapter 18, pp. 887-9 below.

state not to allow its territory to be used for acts contrary to the rights of other states'.³⁹ In the *Lac Lanoux Arbitration*, involving the proposed diversion of an international river by an upstream state, the arbitral tribunal affirmed that a state has an obligation not to exercise its rights to the extent of ignoring the rights of another:

France [the upstream state] is entitled to exercise her rights; she cannot ignore the Spanish interests. Spain [the downstream state] is entitled to demand that her rights be respected and that her interests be taken into consideration.⁴⁰

The thread was further developed in 1961 when the UN General Assembly declared, specifically in relation to radioactive fallout, that:

The fundamental principles of international law impose a responsibility on all states concerning actions which might have harmful biological consequences for the existing and future generations of peoples of other states, by increasing the levels of radioactive fallout.⁴¹

By 1972, shortly before the Stockholm Conference, the General Assembly was able to direct that the Conference must 'respect fully the exercise of permanent sovereignty over natural resources, as well as the right of each country to exploit its own resources in accordance with its own priorities and needs and in such a manner as to avoid producing harmful effects on other countries'.⁴²

The development of the second element of Principle 21/Principle 2 can also be traced to earlier environmental treaties. The 1951 International Plant Protection Convention expressed the need to prevent the spread of plant pests and diseases across national boundaries.⁴³ The 1963 Nuclear Test Ban Treaty prohibits nuclear tests if the explosion would cause radioactive debris 'to be present outside the territorial limits of the state under whose jurisdiction or control such explosion is conducted';⁴⁴ and the 1968 African Conservation Convention requires consultation and co-operation between parties where development plans are 'likely to affect the natural resources of any other state'.⁴⁵ Under the 1972 World Heritage Convention, the parties agreed that they would not take deliberate measures which could directly or indirectly damage heritage which is 'situated on the territory' of other parties.⁴⁶

Principle 21 thus developed earlier state practice. It has been affirmed in many General Assembly resolutions and acts of other international organisations. Shortly after the Stockholm Conference, Principle 21, with Principle 22, was expressly stated by UN General Assembly Resolution 2996 to lay down the 'basic rules' governing the international responsibility of states in regard to the

³⁹ *Corfu Channel case (UK v. Albania)* (1949) ICJ Reports 4 at 22.

⁴⁰ *Spain v. France*, 12 RIAA 285. ⁴¹ UNGA Res. 1629 (XVI) (1961).

⁴² UNGA Res. 2849 (XXVI) (1972), para. 4(a). ⁴³ Preamble.

⁴⁴ Art. 1(1)(b). ⁴⁵ Art. XVI(1)(b). ⁴⁶ Art. 6(3).

environment. It was also the basis of Article 30 of the Charter of Economic Rights and Duties of States, which provides that:

All states have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.⁴⁷

It is endorsed by the 1975 Final Act of the Helsinki Conference on Security and Co-operation in Europe,⁴⁸ Principle 3 of the 1978-UNEP Draft Principles, which requires states to ensure that 'activities within their jurisdiction or control do not cause damage to the natural systems located within other states or in areas beyond the limits of national jurisdiction', and the 1982 World Charter for Nature, which declares the need to 'safeguard and conserve nature in areas beyond national jurisdiction'.⁴⁹ Perhaps more compelling is the reference to Principle 21 in treaties. It has long been referred to,⁵⁰ or wholly incorporated,⁵¹ in the preamble to several treaties, and was fully reproduced in the operational part of a treaty, for the first time, as Article 3 of the 1992 Biodiversity Convention without express limitation to matters within the scope of the Convention.⁵² Principle 2 of the Rio Declaration is incorporated into the Preamble to the 1992 Climate Change Convention.

Similar language to the second element of Principle 21 also appears in treaties. The 1978 Amazonian Treaty fudges the issue of the legal status of Principle 21, declaring that 'the exclusive use and utilisation of natural resources within their respective territories is a right inherent in the sovereignty of each state and that the exercise of this right shall not be subject to any restrictions other than those arising from International Law'.⁵³ The 1981 Lima Convention goes a little further by requiring activities to be conducted so that 'they do not cause damage by pollution to others or to their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not, as far as possible, spread beyond the areas where [they] exercise sovereignty and jurisdiction'.⁵⁴ The 1982 UNCLOS transforms the 'responsibility' into a 'duty', although it is unclear what was intended by the change. Under Article 193 of UNCLOS, states have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. UNCLOS shifts the emphasis from a negative obligation to prevent harm to a positive commitment to preserve and protect the environment. To that end, however, Article 194(2) does provide that states:

⁴⁷ UNGA Res. 3281 (XXVII) (1974). ⁴⁸ 14 ILM 1292 (1975); 1 August 1975.

⁴⁹ Para. 21(e). ⁵⁰ 1992 Baltic Convention.

⁵¹ 1972 London Convention; 1979 LRTAP Convention; 1985 Vienna Convention.

⁵² Cf. UK Declaration, chapter 4, p. 135, n. 50 above.

⁵³ Art. IV. ⁵⁴ Art. 3(5); 1983 Quito LBS Protocol, Art. XL.

shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other states and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with [the] Convention.⁵⁵

The 1985 ASEAN Convention goes further, by recognising the second element of Principle 21 as a 'generally accepted principle of international law'.⁵⁶

Against this background, the time was plainly ripe for confirmation of the customary status of the obligation not to cause transboundary environmental harm. France's 1995 announcement of its resumption of underground nuclear tests provided the unlikely catalyst. In its Order rejecting New Zealand's request, the ICJ stated, somewhat cryptically, that its Order was 'without prejudice to obligations of States to respect and protect the natural environment, obligations to which both New Zealand and France have in the present instance reaffirmed their commitment'.⁵⁷ A review of the pleadings indicates that New Zealand's affirmation that Principle 21/Principle 2 reflected a 'well established proposition of customary international law' was not opposed by France.⁵⁸ It was also endorsed by Judge Weeramantry in his dissenting opinion.⁵⁹

Within two months of the ICJ's Order, oral arguments opened at the ICJ in the *Legality of the Threat or Use of Nuclear Weapons* Advisory Opinion proceedings. Several states argued that Principle 21/Principle 2 reflected customary law, and none challenged that view (although some argued that they did not consider the principles to be of relevance to the case).⁶⁰ In its Advisory Opinion, the ICJ stated that:

The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.⁶¹

It is interesting that the ICJ did not merely restate the language of Principle 21 and Principle 2, and it is unclear whether the ICJ intended to effect substantive

⁵⁵ 1986 South Pacific Natural Resources Convention, Art. 4(6).

⁵⁶ Art. 20. ⁵⁷ (1995) ICJ Reports 288, para. 64.

⁵⁸ New Zealand Request, para. 98, also CR/95/20, 10–12; and CR/95/20, 91. See also *Yearbook of International Environmental Law* 531 at 533 (1995); and P. Sands, 'Pleadings and the Pursuit of International Law: Nuclear Tests II (New Zealand v. France)', in A. Anghie and G. Sturgess (eds.), *Legal Visions of the 21st Century: Essays in Honour of Judge Weeramantry* (1998), 601.

⁵⁹ (1995) ICJ Reports 347. See also Judges Koroma (*ibid.*, 378) and Ad Hoc Judge Palmer (*ibid.*, 408, para. 80).

⁶⁰ For a summary of the arguments, see *Yearbook of International Environmental Law* 542 (1995). On war and the environment, see chapter 7, pp. 307–15 below.

⁶¹ (1996) ICJ Reports 241, para. 29.

changes by its reformulation. That does not, however, appear to have been the intention, since (arguably) the formulation adopted by the ICJ may be broader than that of Principle 21/Principle 2.⁶²

Conclusion

The support given to the rule reflected in Principle 21 (and now Principle 2) by states, by the ICJ and by other international actors over the past three decades indicates the central role now played by the rule. The rule has been developed through the adoption of environmental agreements which establish specific and more detailed obligations giving effect to the basic objectives, as well as national environmental laws. The scope and application of the rule, in particular to the difficult question of what constitutes 'environmental harm' (or damage) for the purposes of triggering liability and allowing international claims to be brought, are considered in chapter 17 below. At the very least, Principle 21 and Principle 2 confirm that the rights of states over their natural resources in the exercise of permanent sovereignty are not unlimited,⁶³ and are subject to significant constraints of an environmental character. Beyond that, the rule may provide a legal basis for bringing claims under customary law asserting liability for environmental damage. The specific application of the rule will turn on the facts and circumstances of each particular case or situation.

Principle of preventive action ✓

Closely related to the Principle 21 obligation is the obligation requiring the prevention of damage to the environment, and otherwise to reduce, limit or control activities which might cause or risk such damage. This obligation, sometimes referred to as the 'principle of preventive action' or the 'preventive principle', is distinguishable from Principle 21/Principle 2 in two ways. First, the latter arise from the application of respect for the principle of sovereignty, whereas the preventive principle seeks to minimise environmental damage as an objective in itself. This difference of underlying rationale relates to the second distinction: under the preventive principle, a state may be under an obligation to prevent damage to the environment within its own jurisdiction,⁶⁴ including by means of appropriate regulatory, administrative and other measures.

⁶² The word 'respect' could be seen as encompassing consequences where no 'harm' has arisen.

⁶³ See the ILC's 2001 draft Articles on Prevention of Transboundary Harm from Hazardous Activities, preamble. See also Art. 4 (Prevention).

⁶⁴ See Judge N. Singh, 'Foreword', in R. D. Munro and J. G. Lammers (eds.), *Environmental Protection and Sustainable Development: Legal Principles and Recommendations* (1986), xi-xii; in this regard, see also the principle of sustainable development, pp. 252-6 below; and chapter 5, p. 184 above.

The preventive principle requires action to be taken at an early stage and, if possible, before damage has actually occurred.⁶⁵ The principle is reflected in state practice in regard to a broad range of environmental objectives. Broadly stated, it prohibits activity which causes or may cause damage to the environment in violation of the standards established under the rules of international law. 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.'⁶⁶ The preventive principle is supported by an extensive body of domestic environmental protection legislation which establishes authorisation procedures, as well as the adoption of international and national commitments on environmental standards, access to environmental information, and the need to carry out environmental impact assessments in relation to the conduct of certain proposed activities. The preventive principle may, therefore, take a number of forms, including the use of penalties and the application of liability rules.

The preventive approach has been endorsed, directly or indirectly, by the 1972 Stockholm Declaration,⁶⁷ the 1978 UNEP Draft Principles⁶⁸ and the 1982 World Charter for Nature. Principle 11 of the 1992 Rio Declaration requires states to enact 'effective environmental legislation'.⁶⁹ More significantly for its development as an international legal principle is the fact that the principle has been relied upon or endorsed in a large number of treaties dealing with particular environmental media or activities.⁷⁰ The preventive principle has also been specifically incorporated into treaties of more general application, including those in the field of international economic law, such as the EC Treaty,⁷¹ the 1989 Lomé Convention⁷² and the 2001 Treaty establishing the East African Community.⁷³

The preventive principle is implicitly supported in relation to transboundary resources by the awards in the *Trail Smelter* case and the *Lac Lanoux Arbitration*.

⁶⁵ In the *Gabcikovo-Nagymaros* case, the ICJ noted that it was 'mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage': (1997) ICJ Reports 7 at 78, para. 140.

⁶⁶ L. Krämer, *EEC Treaty and Environmental Protection* (1990), 61.

⁶⁷ Principles 6, 7, 15, 18 and 24. ⁶⁸ Principle 1.

⁶⁹ Other relevant provisions include Principle 14 (calling on states to prevent the relocation and transfer to other states of hazardous activities or substances) and Principle 15 (precautionary approach).

⁷⁰ 1991 Alpine Convention, Art. 2(c).

⁷¹ Formerly Art. 130r(2) ('preventive action should be taken'), replaced by Art. 174(2).

⁷² Art. 35 (parties agree to a 'preventive approach aimed at avoiding harmful effects on the environment as a result of any programme or operation') (the provision is not repeated in the successor 2000 Cotonou Agreement, at Art. 32).

⁷³ Art. 111.

It was supported in the pleadings of Australia in the *Nuclear Tests* case and in the claim by Nauru that Australia had breached its legal obligation to administer the territory of Nauru in such a way as to not bring about changes in the territory which would cause irreparable damage to, or substantially prejudice, Nauru's legal interests in respect of that territory.⁷⁴ The principle of prevention may also be discerned in Hungary's Original Application to the ICJ in the case concerning the Gabcikovo-Nagymaros Project. The preventive approach is endorsed by the large number of international environmental treaties, aiming to prevent *inter alia*:

- the extinction of species of flora and fauna;⁷⁵
- the spread of occupational disease, including radioactive contamination of workers;⁷⁶
- the introduction and spread of pests and diseases;⁷⁷
- pollution of the seas by oil,⁷⁸ radioactive waste,⁷⁹ hazardous waste and substances,⁸⁰ from land-based sources,⁸¹ or from any source;⁸²
- river pollution;⁸³
- radioactive pollution of the atmosphere;⁸⁴
- hostile environmental modification;⁸⁵
- adverse effects of activities that prevent the migration of species;⁸⁶
- air pollution;⁸⁷
- modification of the ozone layer;⁸⁸
- degradation of the natural environment;⁸⁹
- all pollution;⁹⁰
- significant adverse environmental impacts;⁹¹
- transboundary impacts generally;⁹²
- dangerous anthropogenic interference with the climate system;⁹³

⁷⁴ *Case Concerning Certain Phosphate Lands in Nauru (Nauru v. Australia)* (1992) ICJ Reports 240 at 244.

⁷⁵ 1933 London Convention, Art. 12(2), and Protocol, para. 1.

⁷⁶ 1949 Agreement for the Establishment of a General Fisheries Council for the Mediterranean, Art. IV(h); 1960 Ionising Radiation Convention, Art. 3(1).

⁷⁷ 1951 Plant Protection Convention, Art. 1(1).

⁷⁸ 1954 Oil Pollution Prevention Convention, Preamble; 1969 CLC, Art. 1(7).

⁷⁹ 1958 High Seas Convention, Art. 25.

⁸⁰ 1972 Oslo Convention, Art. 1; 1972 London Convention, Art. 1; MARPOL 73/78, Art. 1(1).

⁸¹ 1974 Paris LBS Convention, Art. 1.

⁸² 1982 UNCLOS, Art. 194(1). ⁸³ 1958 Danube Fishing Convention, Art. 7.

⁸⁴ 1963 Test Ban Treaty, Art. 1(1). ⁸⁵ 1977 ENMOD Convention, Art. 1(1).

⁸⁶ 1979 Bonn Convention, Art. III(4)(b). ⁸⁷ 1979 LRTAP Convention, Art. 2.

⁸⁸ 1985 Vienna Convention, Art. 2(2)(b); 1987 Montreal Protocol, Preamble.

⁸⁹ 1985 ASEAN Convention, Art. 11. ⁹⁰ 1986 Noumea Convention, Art. 5(1).

⁹¹ 1991 Espoo Convention, Preamble and Art. 2(1).

⁹² 1992 UNECE Transboundary Waters Convention, Art. 2(1) and (2).

⁹³ 1992 Climate Change Convention, Art. 2.

- loss of fisheries⁹⁴ and other biodiversity,⁹⁵ including as a result of the release of genetically modified organisms;⁹⁶ and
- damage to health and the environment from chemicals⁹⁷ and persistent organic pollutants.⁹⁸

Taken together, this extensive body of international commitments provides compelling evidence of: the wide support for the principle of preventive action; the different environmental media for which general preventive measures are required; the types of activities which should be regulated; and the basis upon which states should carry out their commitment to enact effective national environmental legislation pursuant to the general requirement of Principle 11 of the Rio Declaration.

Co-operation

The principle of 'good-neighbourliness' enunciated in Article 74 of the UN Charter in relation to social, economic and commercial matters has been translated into the development and application of rules promoting international environmental co-operation. This is traditionally considered by reference to the application of the maxim *sic utere tuo et alienum non laedas*. The principle is reflected in many treaties and other international acts, and is supported also by state practice, particularly in relation to hazardous activities and emergencies.⁹⁹ Principle 24 of the Stockholm Declaration reflects a general political commitment to international co-operation in matters concerning the protection of the environment, and Principle 27 of the Rio Declaration states rather more succinctly that 'States and people shall co-operate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development'. The importance attached to the principle of co-operation, and its practical significance, is reflected in many international instruments, such as the Preamble to the 1992 Industrial Accident Convention, which underlined (in support of the Convention's specific commitments) 'the principles of international law and custom, in particular the principles of

⁹⁴ 1995 Straddling Stocks Agreement; see also ITLOS, *Southern Bluefin Tuna* cases, chapter 11, pp. 580–1 below.

⁹⁵ 1992 Biodiversity Convention, Preamble and Art. 1.

⁹⁶ 2000 Biosafety Protocol, Art. 1.

⁹⁷ 1998 Chemicals Convention, Art. 1. ⁹⁸ 2001 POPs Convention, Art. 1.

⁹⁹ The maxim was invoked, for example, as a 'fundamental rule' by Hungary in its Original Application in the *Gabcikovo-Nagymaros Project* case, para. 32 (citing in support of the maxim the *Corfu Channel* case (1949), the *Trail Smelter* case (1941), the Stockholm Declaration (1972), the World Charter for Nature (1982), the ILC Draft Articles on International Liability (1990) and the Rio Declaration (1992)).

good-neighbourliness, reciprocity, non-discrimination and good faith', and the procedural rules reflected in the 1997 Watercourses Convention.¹⁰⁰

The obligation to co-operate is affirmed in virtually all international environmental agreements of bilateral and regional application,¹⁰¹ and global instruments.¹⁰² It also underscores the ICJ's reminder of the need to establish suitable common regimes.¹⁰³ The obligation may be in general terms, relating to the implementation of the treaty's objectives¹⁰⁴ or relating to specific commitments under a treaty.¹⁰⁵ The general obligation to co-operate has also been translated into more specific commitments through techniques designed to ensure information sharing and participation in decision-making. These specific commitments, which are considered in more detail in subsequent chapters, include: rules on environmental impact assessment (see chapter 16); rules ensuring that neighbouring states receive necessary information (requiring information exchange, consultation and notification) (see chapter 17); the provision of emergency information (see chapter 12); and transboundary enforcement of environmental standards (see chapter 5). The extent to which these commitments are interrelated is reflected in Principle 7 of the 1978 UNEP Draft Principles, which states that:

Exchange of information, notification, consultation and other forms of co-operation regarding shared natural resources are carried out on the basis of the principle of good faith and in the spirit of good neighbourliness.

A similar commitment is expressed in Article 4 of the ILC's draft Articles on Prevention of Transboundary Harm (2001). State practice supporting good-neighbourliness and international co-operation is reflected in decisions and awards of international courts and tribunals discussed in subsequent chapters, including the *Lac Lanoux* case.¹⁰⁶ The nature and extent of the obligation to co-operate is being invoked in international disputes. It was a central issue in the dispute between Hungary and Slovakia in the *Gabcikovo-Nagymaros Project* case, at least as originally formulated by Hungary (claiming that Czechoslovakia and then Slovakia had not co-operated in good faith in the implementation

¹⁰⁰ Chapter 10, pp. 482–5 below.

¹⁰¹ Early examples include the 1933 London Convention, Art. 12(2); 1940 Western Hemisphere Convention, Art. VI; 1991 Alpine Convention, Art. 2(1).

¹⁰² 1982 UNCLOS, Arts. 123 and 197; 1985 Vienna Convention, Art. 2(2); 1992 Biodiversity Convention, Art. 5.

¹⁰³ See *Case Concerning the Kasiliki/Sedudu Island (Botswana/Namibia)* (1999) ICJ Reports 1045, para. 102.

¹⁰⁴ 1968 African Conservation Convention, Art. XVI(1); 1992 Biodiversity Convention, Art. 5.

¹⁰⁵ 1989 Lomé Convention, Art. 14 (co-operation 'shall [assume] special importance [in relation] to environmental protection and the preservation and restoration of natural equilibria in the ACP States'); 1992 Climate Change Convention, Art. 4(1)(e) (co-operation on preparation for adaptation to the impacts of climate change).

¹⁰⁶ See p. 243 above.

of principles affecting transboundary resources, including the obligation to negotiate in good faith and in a spirit of co-operation, 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).¹⁰⁷ The ICJ did not address in any detail what the obligation to co-operate entailed, beyond recalling what it had said earlier in the *North Sea Continental Shelf* cases, as well as the principle of good faith which obliged the parties to apply their 1977 treaty 'in a reasonable way and in such a manner that its purpose can be realized'.¹⁰⁸

The requirements of the obligation to co-operate are at the heart of the MOX case. In its application instituting arbitration proceedings under the 1982 UNCLOS, Ireland claimed that the United Kingdom had failed to co-operate as required by Articles 123 and 197 of UNCLOS, for example by failing to reply to communications and requests for information in a timely manner or at all by withholding environmental information requested by Ireland, and by refusing to prepare a supplementary environmental statement.¹⁰⁹ In its Provisional Measures Order, the ITLOS affirmed that:

the duty to co-operate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law and that rights arise therefrom which the Tribunal may consider appropriate to preserve under article 290 of the Convention.

The Tribunal ordered the parties to co-operate and, for that purpose, to enter into consultations forthwith to '(a) exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant; (b) monitor risks or the effects of the operation of the MOX plant for the Irish Sea; (c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant'.¹¹⁰

¹⁰⁷ Chapter 10, pp. 469–77 below; Hungary's Original Application, 22 October 1992, paras. 27, 29 and 30.

¹⁰⁸ (1997) ICJ Reports 78–9, paras. 141–2. In the *North Sea Continental Shelf* cases, the ICJ said: '[The Parties] are under an obligation so to conduct themselves that the negotiations are meaningful, which will not be the case when either of them insists upon its own position without contemplating any modification of it': (1969) ICJ Reports 47 para. 85.

¹⁰⁹ Application, 25 October 2001, para. 33.

¹¹⁰ Provisional Measures Order, 3 December 2001, para. 83. At the time of writing, the case on the merits – including the issue of co-operation – is pending before the Annex VII arbitration tribunal. The ITLOS order was affirmed by the Annex VII Tribunal by its Order of 24 June 2003, with a recommendation to establish further arrangements to address the Tribunal's concern that 'co-operation and consultation may not always have been as timely or effective as it could have been': paras. 66–7.

Sustainable development

W. Clark and R. Munn (eds.), *Sustainable Development of the Biosphere* (1986); B. Conable, 'Development and the Environment: A Global Balance', 5 *American University Journal of International Law and Policy* 217 (1990); P. S. Elder, 'Sustainability', 36 *McGill Law Journal* 831 (1991); R. Lipschutz, 'Wasn't the Future Wonderful? Resources, Environment, and the Emerging Myth of Global Sustainable Development', 2 *Colorado Journal of International Environmental Law and Policy* 35 (1991); R. D. Munro and M. Holdgate (eds.), *Caring for the Earth: A Strategy for Sustainable Development* (1991); P. Sands, 'International Law in the Field of Sustainable Development', 65 *BYIL* 303 (1994); W. Lang (ed.), *Sustainable Development and International Law* (1995); United Nations, Department for Policy Co-ordination and Sustainable Development, *Report of the Expert Group Meeting on Identification of Principles of International Law for Sustainable Development* (UN, 26–28 September 1995); A. Boyle and D. Freestone (eds.), *International Law and Sustainable Development* (1999); EC Commission, *The Law of Sustainable Development: General Principles* (2000).

Introduction

The general principle that states should ensure the development and use of their natural resources in a manner which is sustainable emerged in the run-up to UNCED. Although the ideas underlying the concept of sustainable development have a long history in international legal instruments, and the term itself began to appear in treaties in the 1980s, the general 'principle of sustainable development' appears to have been first referred to in a treaty in the Preamble to the 1992 EEA Agreement.¹¹¹ The term now appears with great regularity in international instruments of an environmental, economic and social character and has been invoked by various international courts and tribunals, and is now established as an international legal concept.¹¹²

The term 'sustainable development' is generally considered to have been coined by the 1987 Brundtland Report, which defined it as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. It contains within it two concepts:

¹¹¹ See also the Preamble to the EC Fifth Environmental Action Programme, referring to the call in the June 1990 EC Declaration of Heads of State and Government for an action programme to be elaborated 'on the basis of the principles of sustainable development, preventive and precautionary action and shared responsibility': see chapter 15, p. 747 below.

¹¹² See generally the International Law Association's New Delhi Declaration of Principles of International Law Relating to Sustainable Development (2002).

1. the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
2. the idea of limitations imposed, by the state of technology and social organisation, on the environment's ability to meet present and future needs.¹¹³

State practice, however, suggests that the idea of 'sustainability' has been a feature in international legal relations since at least 1893, when the United States asserted a right to ensure the legitimate and proper use of seals and to protect them, for the benefit of mankind, from wanton destruction.¹¹⁴ Since then, many treaties and other international instruments, as well as decisions of international courts, have supported, directly or indirectly, the concept of sustainable development and the principle that states have the responsibility to ensure the sustainable use of natural resources. Its application has been recognised in relation to all parts of the world.¹¹⁵

Four recurring elements appear to comprise the legal elements of the concept of 'sustainable development', as reflected in international agreements:

1. the need to preserve natural resources for the benefit of future generations (the principle of intergenerational equity);
2. the aim of exploiting natural resources in a manner which is 'sustainable', or 'prudent', or 'rational', or 'wise' or 'appropriate' (the principle of sustainable use);
3. the 'equitable' use of natural resources, which implies that use by one state must take account of the needs of other states (the principle of equitable use, or intragenerational equity); and
4. the need to ensure that environmental considerations are integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives (the principle of integration).

¹¹³ Report of the World Commission on Environment and Development (the Brundtland Report), *Our Common Future* (1987), 43.

¹¹⁴ *Pacific Fur Seals Arbitration*, chapter 10, pp. 561–6 below. Although the arbitral tribunal rejected the argument, it did adopt regulations for the conduct of sealing which incorporated some of the elements of what is now recognised as a 'sustainable' approach to the use of natural resources.

¹¹⁵ See e.g. Declaration on Establishment of the Arctic Council, 35 ILM 1382 (1996); Yaoundé Declaration on the Conservation and Sustainable Management of Forests, 38 ILM 783 (1999); Agreements on Co-operation for the Sustainable Development of the Mekong River Basin, 34 ILM 864 (1995); Revised Protocol on Shared Watercourses in the Southern African Development Community, 40 ILM 321 (2001); Partnership for Prosperity and Security in the Caribbean, 36 ILM 792 (1997); OECD Guidelines for Multinational Enterprises, Part V, 40 ILM 237 (2001); South East Europe Compact for Reform, Investment, Integrity and Growth, 39 ILM 962 (2000).

These four elements are closely related and often used in combination (and frequently interchangeably), which suggests that they do not yet have a well-established, or agreed, legal definition or status. The 1989 Lomé Convention indicated how some of the elements of the concept of sustainable development can be brought together in a single legal text. Article 33 of the Convention provides that:

In the framework of this Convention, the protection and the enhancement of the environment and natural resources, the halting of the deterioration of land and forests, the restoration of ecological balances, the preservation of natural resources and their rational exploitation are basic objectives that the [states parties] concerned shall strive to achieve with Community support with a view to bringing an immediate improvement in the living conditions of their populations and to safeguarding those of future generations.

Without referring directly to 'sustainable development', the text introduced into a legal framework the elements identified by the Brundtland Report.¹¹⁶ There can be little doubt that the concept of 'sustainable development' has entered the corpus of international customary law, requiring different streams of international law to be treated in an integrated manner.¹¹⁷ In the *Gabcikovo-Nagymaros* case, the ICJ invoked the concept in relation to the future regime to be established by the parties. The ICJ said:

Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind – for present and future generations – of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed [and], set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities, but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development. For the purposes of the present case, this means that the Parties together should look afresh at the effects on the environment of the operation of the Gabcikovo power

¹¹⁶ See also 2002 Cotonou Agreement, Art. 32 ('1. Co-operation on environmental protection and sustainable utilisation and management of natural resources shall aim at: (a) mainstreaming environmental sustainability into all aspects of development co-operation and support programmes and projects implemented by the various actors').

¹¹⁷ See more generally P. Sands, 'International Courts and the Application of the Concept of "Sustainable Development"', 3 *Yearbook of UN Law* 389 (1999); P. Sands, 'Treaty, Custom and the Cross-Fertilisation of International Law', 1 *Yale Human Rights and Development Law Journal* 1 (1998), at <http://diana.law.yale.edu/yhrdlj/vol01iss01/sands.philippe.article.htm>.

plant. In particular they must find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the side-arms on both sides of the river.¹¹⁸

By invoking the concept of sustainable development, the ICJ indicates that the term has a legal function and both a procedural/temporal aspect (obliging the parties to 'look afresh' at the environmental consequences of the operation of the plant) and a substantive aspect (the obligation of result to ensure that a 'satisfactory volume of water' be released from the by-pass canal into the main river and its original side arms). The ICJ does not provide further detail as to the practical consequences, although some assistance may be obtained from the Separate Opinion of Judge Weeramantry, who joined in the majority judgment and whose hand may have guided the drafting of paragraph 140 quoted above.¹¹⁹

In the *Shrimp/Turtle* case, the WTO Appellate Body noted that the Preamble to the WTO Agreement explicitly acknowledges 'the objective of sustainable development', and characterises it as a concept which 'has been generally accepted as integrating economic and social development and environmental protection'.¹²⁰ The concept appears to have informed the conclusion that sea turtles are an 'exhaustible natural resource' (within the meaning of Article XX(g) of the GATT) and that they have a sufficient nexus with the United States to justify the latter state's conservation measures, at least in principle. The

¹¹⁸ (1997) ICJ Reports 78, para. 140. The concept was invoked by both parties. Slovakia stated that: 'It is clear from both the letter and the spirit of these principles that the overarching policy of the international community is that environmental concerns are not directed to frustrate efforts to achieve social and economic development, but that development should proceed in a way that is environmentally sustainable. Slovakia submits that these have been, and are today, the very policies on which the Gabčíkovo-Nagymaros Project is based' (Counter-Memorial, para. 9.56). In reply, Hungary took an opposite view to support its argument that the Project is unlawful: 'Well-established . . . operational concepts like "sustainable development" . . . help define, in particular cases, the basis upon which to assess the legality of actions such as the unilateral diversion of the Danube by Czechoslovakia and its continuation by Slovakia' (Hungarian Reply, para. 3.51).

¹¹⁹ (1997) ICJ Reports 92 ('It is thus the correct formulation of the right to development that that right does not exist in the absolute sense, but is relative always to its tolerance by the environment. The right to development as thus refined is clearly part of modern international law. It is compendiously referred to as sustainable development.')

¹²⁰ 38 ILM 121 (1999), para. 129, at n. 107 and the accompanying text. The view is supported by reference to numerous international conventions: para. 130, citing Art. 56(1)(a) of the 1982 UNCLOS. See also the Opinion of Advocate General Léger in Case C-371/93, *R. v. Secretary of State for the Environment, Transport and the Regions, ex parte First Corporate Shipping Ltd.* [2000] ECR I-9235, who notes that sustainable development 'emphasises the necessary balance between various interests which sometimes clash, but which must be reconciled' (relying upon the Preamble to the 1992 Habitats Directive, which refers to sustainable development: (discussed in D. McGillivray and J. Holder, 'Locating EC Environmental Law', 20 *Yearbook of European Law* 139 at 151 (2001)).

Appellate Body also invokes 'sustainable development' in assessing whether those measures have been applied in a discriminatory fashion – as it concludes they have – and in this regard refers to 'sustainable development' in the preamble to the WTO Agreement as adding:

color, texture and shading to our interpretation of the agreements annexed to the WTO Agreement, in this case the GATT 1994. We have already observed that Article XX(g) of the GATT 1994 is appropriately read with the perspective embodied in the above preamble.¹²¹

Future generations

E. Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity* (1989); A. D'Amato, 'Do We Owe a Duty to Future Generations to Preserve the Global Environment?', 84 AJIL 190 (1990); E. Brown Weiss, 'Our Rights and Obligations to Future Generations for the Environment', 84 AJIL 198 (1990); L. Gundling, 'Our Responsibility to Future Generations', 84 AJIL 207 (1990); G. Supanich, 'The Legal Basis of Intergenerational Responsibility: An Alternative View – The Sense of Intergenerational Identity', 3 *Yearbook of International Environmental Law* 94 (1992); R. Westin, 'Intergenerational Equity and Third World Mining', 13 *University of Pennsylvania Journal of International Business Law* 181 (1992); E. Agius and S. Busuttill, *Future Generations and International Law* (1998).

The idea that as 'members of the present generation, we hold the earth in trust for future generations'¹²² is well known to international law, having been relied upon as early as 1893 by the United States in the *Pacific Fur Seals Arbitration*. It is also expressly or implicitly referred to in many of the early environmental treaties, including the 1946 International Whaling Convention,¹²³ the 1968 African Conservation Convention¹²⁴ and the 1972 World Heritage Convention.¹²⁵ Other, more recent treaties have sought to preserve particular natural resources and other environmental assets for the benefit of present and future generations. These include wild flora and fauna,¹²⁶ the marine environment,¹²⁷

¹²¹ *Ibid.*, para. 153

¹²² E. Brown Weiss, 'Our Rights and Obligations to Future Generations for the Environment', 84 AJIL 198 at 199 (1990).

¹²³ The Preamble recognises the 'interest of the nations of the world in safeguarding for future generations the great nature resources represented by the whale stocks'.

¹²⁴ The Preamble provides that natural resources should be conserved, utilised and developed 'by establishing and maintaining their rational utilisation for the present and future welfare of mankind'.

¹²⁵ Under Art. 4, the parties agree to protect, conserve, present and transmit cultural and natural heritage to 'future generations'.

¹²⁶ 1973 CITES, Preamble.

¹²⁷ 1978 Kuwait Convention, Preamble; 1983 Cartagena de Indias Protocol, Preamble; 1982 Jeddah Convention, Art. 1(1).

essential renewable natural resources;¹²⁸ the environment generally;¹²⁹ the resources of the earth;¹³⁰ natural heritage;¹³¹ natural resources;¹³² water resources;¹³³ biological diversity;¹³⁴ and the climate system.¹³⁵

International declarations often make reference to intergenerational equity as an important aspect of the concept of sustainable development. According to Principle 1 of the 1972 Stockholm Declaration, man bears 'a solemn responsibility to protect and improve the environment for present and future generations', and UN General Assembly Resolution 35/8, adopted in 1980, affirmed that the responsibility to present and future generations is a historic one for the 'preservation of nature'. The Rio Declaration associates intergenerational equity with the right to development, providing in Principle 4 that the 'right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations'.

In its Advisory Opinion on *The Legality of the Threat or Use of Nuclear Weapons*, the ICJ recognized that 'the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn'.¹³⁶ The purpose of the ICJ's reliance on the concept is not immediately apparent, and it is sometimes said that the undertakings in favour of future generations have limited practical legal consequences. They are considered by some to be closely associated with the civil and political aspects of the relationship between environmental protection and human rights protection.¹³⁷ According to this view, the rights of future generations might be used to enhance the legal standing of members of the present generation to bring claims, in cases relying upon substantive rules of environmental treaties where doubt exists as to whether a particular treaty creates rights and obligations enforceable by individuals.¹³⁸

Sustainable use of natural resources

A second approach, reflected in treaties adopting a 'sustainable' approach, is to focus on the adoption of standards governing the rate of use or exploitation of specific natural resources rather than on their preservation for future generations. Particularly for marine living resources, a standard approach has emerged requiring exploitation to be conducted at levels which are 'sustainable'

¹²⁸ 1976 South Pacific Nature Convention, Preamble.

¹²⁹ 1977 ENMOD Convention, Preamble. ¹³⁰ 1979 Bonn Convention, Preamble.

¹³¹ 1985 Nairobi Convention, Preamble. ¹³² 1985 ASEAN Convention, Preamble.

¹³³ 1992 Transboundary Waters Convention, Art. 2(5)(c).

¹³⁴ 1992 Biodiversity Convention, Preamble.

¹³⁵ 1992 Climate Change Convention, Art. 3(1).

¹³⁶ (1996) ICJ Reports, 226. See also *Gabcikovo-Nagymaros case* (1997) ICJ Reports 7, para. 53.

¹³⁷ See chapter 7, pp. 305–17 below.

¹³⁸ See chapter 5, pp. 195–8 above, on the standing issue.

or 'optimal'.¹³⁹ The failure of the 1946 International Whaling Convention to prevent the depletion of many whale species can be measured by reference to its stated objective of achieving 'the optimum level of whale stocks' and confining whaling operations 'to those species best able to sustain exploitation in order to give an interval for recovery to certain species of whales now depleted in numbers'.¹⁴⁰ Similar commitments to limit catches or productivity to 'maximum sustained' levels have been agreed for other marine species, such as tuna,¹⁴¹ North Pacific fish,¹⁴² Pacific fur seals,¹⁴³ and living resources in the EEZ.¹⁴⁴ Other treaties limit catches to 'optimum sustainable yields', or subject them to a required standard of 'optimum utilisation'; this applies, for example, in relation to Antarctic seals,¹⁴⁵ high seas fisheries,¹⁴⁶ and some highly migratory species.¹⁴⁷

Sustainable use is a concept also applicable to non-marine resources. The 1968 African Nature Convention provides that the utilisation of all natural resources 'must aim at satisfying the needs of man according to the carrying capacity of the environment',¹⁴⁸ and the 1983 International Tropical Timber Agreement encouraged 'sustainable utilisation and conservation of tropical forests and their genetic resources'.¹⁴⁹ The 1985 ASEAN Agreement was one of the first treaties to require parties to adopt a standard of 'sustainable utilisation of harvested natural resources... with a view to attaining the goal of sustainable development'.¹⁵⁰ Further support for sustainable use or management as a legal term may be found in the 1987 Zambezi Action Plan Agreement,¹⁵¹ the 1992 Climate Change Convention,¹⁵² the 1992 Biodiversity Convention¹⁵³ and its 2000 Biosafety Protocol,¹⁵⁴ and the 1992 OSPAR Convention.¹⁵⁵ The fact that

¹³⁹ 1995 Straddling Stocks Agreement, Art. 2 ¹⁴⁰ Preamble; see also Art. V(2).

¹⁴¹ 1949 Tuna Convention, Preamble; 1966 Atlantic Tuna Convention, Art. IV(2)(b).

¹⁴² 1952 North Pacific Fisheries Convention, Preamble and Art. IV(1)(b)(ii).

¹⁴³ 1976 Pacific Fur Seals Convention, Preamble and Arts. II(1)(a), V(2)(d) and XI.

¹⁴⁴ 1982 UNCLOS, Art. 61(3). See also 1995 Straddling Stocks Agreement.

¹⁴⁵ 1972 Antarctic Seals Convention, Preamble.

¹⁴⁶ 1958 High Seas Fishing and Conservation Convention, which defines conservation as 'the aggregate of the measures rendering possible the optimum sustainable yield from those resources so as to secure a maximum supply of food and other marine products' (Art. 2).

¹⁴⁷ 1982 UNCLOS, Art. 64(1). ¹⁴⁸ Preamble. ¹⁴⁹ Art. 1(h).

¹⁵⁰ Art. 1(1); see also Art. 9 on the protection of air quality, and Art. 12(1) in respect of land use, which is to be based 'as far as possible on the ecological capacity of the land'.

¹⁵¹ Preamble. ¹⁵² Art. 3(4).

¹⁵³ Preamble and Arts. 1, 8, 11, 12, 16, 17 and 18. The Convention defines 'sustainable use' as 'the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations': Art. 2.

¹⁵⁴ Art. 1.

¹⁵⁵ Preamble. The Convention defines 'sustainable management' as the 'management of human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations': Art. 1.

so many species and natural resources are in fact not sustainably managed illustrates the difficulty in translating the concept of sustainable development into a practical conservation tool.

The term also now appears frequently in instruments relating to international economic law and policy. Under its Articles of Agreement, the European Bank for Reconstruction and Development must 'promote in the full range of its activities environmentally sound and sustainable development'.¹⁵⁶ Under the 1989 Lomé Convention, the development of the sixty-six ACP countries as supported by the EC and its member states was to 'be based on a sustainable balance between its economic objectives, the rational management of the environment and the enhancement of natural and human resources'.¹⁵⁷ The 1992 Maastricht Treaty, which made changes to the EC Treaty, introduced new objectives for the EC, including the promotion of 'sustainable and non-inflationary growth respecting the environment'.¹⁵⁸ The Preamble to the 1994 WTO Agreement commits parties to 'the optimal use of the world's resources in accordance with the objective of sustainable development'.¹⁵⁹

Other acts of the international community have also relied upon the concept of 'sustainable development', or the spirit which underlies it, without specifying what, precisely, it means. Although the 1972 Stockholm Declaration did not endorse 'sustainable development', it did call for the non-exhaustion of renewable natural resources and the maintenance and improvement of 'the capacity of the earth to produce vital renewable resources'.¹⁶⁰ The 1982 World Charter for Nature stated that resources which are utilised are to be managed so as to 'achieve and maintain optimum sustainable productivity', and provided that living resources must not be utilised 'in excess of their natural capacity for regeneration'.¹⁶¹ The 1992 Rio Declaration goes further than most instruments by expressly defining the content of the concept of sustainable development, and actively calls for the 'further development of international law in the field of sustainable development', which suggests that international law in this field already existed.¹⁶² Apart from the environmental component of 'sustainable development', the Rio Declaration links environmental issues to matters which might previously be more properly considered as belonging to the realm of economic and development law. These issues, increasingly considered for their environmental implications, include the eradication of poverty, the special responsibility of developed countries, the reduction and elimination of unsustainable patterns of production and consumption, the promotion

¹⁵⁶ Art. 2(1)(vii).

¹⁵⁷ Art. 4. See now Art. 32 of the 2000 Cotonou Agreement. see n. 72 above and the accompanying text.

¹⁵⁸ 1992 Maastricht Treaty, Art. G(2); see chapter 15, pp. 745-6 below.

¹⁵⁹ On the *Shrimp/Turtle* case, see p. 238 above.

¹⁶⁰ Principles 3 and 5. ¹⁶¹ Paras. 4 and 10(a). ¹⁶² Principle 27.

of appropriate population policies, and a supportive and open international economic system.¹⁶³

Treaties and other international acts have also supported the development of the concept of 'sustainable use' through the use of terms which are closely related; international legal instruments have aimed for conservation measures and programmes which are 'rational', or 'wise', or 'sound', or 'appropriate', or a combination of the above. In some instruments, the preferred objective is the 'conservation' of natural resources, which has been subsequently defined by reference to one or more of the terms identified above. Moreover, the term 'conservation' itself includes elements similar to 'sustainable development'. The Legal Experts Group of the World Commission on Environment and Development defined 'conservation' in terms which recall the principle of sustainable development as:

[the] management of human use of a natural resource or the environment in such a manner that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. It embraces preservation, maintenance, sustainable utilisation, restoration and enhancement of a natural resource or the environment.¹⁶⁴

'Rational', 'wise', 'sound' and 'appropriate' use are usually used without definition and often interchangeably, and accordingly the meaning of each term will depend upon its application in each instrument. Although attempts at definition have been made, no generally accepted definitions exist, and it is unlikely that distinguishable legal definitions could be agreed. The use of various terms in a single instrument is illustrated by the 1982 UNCLOS: it requires conservation at 'maximum sustainable yield' for the living resources of the territorial and high seas, the 'optimum utilisation' of the living resources found in the EEZ, and the 'rational management' of the resources in the 'Arêa' in accordance with 'sound principles of conservation'.¹⁶⁵

'Rational' utilisation and management are the governing standard for migratory birds,¹⁶⁶ fisheries,¹⁶⁷ salmon,¹⁶⁸ all natural resources,¹⁶⁹ seals¹⁷⁰

¹⁶³ Principles 5, 7, 8 and 12. ¹⁶⁴ 1986 WCED Legal Principles, para. (i).

¹⁶⁵ Preamble and Arts. 61(3), 62(1), 119(1)(a) and 150(b).

¹⁶⁶ 1940 Western Hemisphere Convention, Art. VII.

¹⁶⁷ 1958 Danube Fishing Convention, Preamble and Art. VIII; 1959 North-East Atlantic Fisheries Convention, Preamble and Art. V(1)(b); 1959 Black Sea Fishing Convention, Preamble and Arts. 1 and 7; 1969 Southeast Atlantic Fisheries Convention, Preamble; 1973 Baltic Fishing Convention, Arts. I and X(h); 1978 Northwest Atlantic Fisheries Convention, Art. II(1).

¹⁶⁸ 1982 North Atlantic Salmon Convention, Preamble.

¹⁶⁹ 1968 African Conservation Convention, Art. II; 1978 Amazonian Treaty, Arts. I and VII.

¹⁷⁰ 1972 Antarctic Seals Convention, Art. 3(1); 1976 North Pacific Fur Seals Convention, Art. II(2)(g).

and hydro resources.¹⁷¹ They are the required standard called for by Principles 13 and 14 of the Stockholm Declaration, and the 1980 CCAMLR defines 'conservation' objectives as including 'rational use',¹⁷² as does the 1982 Jeddah Regional Seas Convention.¹⁷³

'Proper' utilisation and management has been adopted as a governing standard for fisheries¹⁷⁴ and forests.¹⁷⁵ 'Wise use' has been endorsed for flora and fauna,¹⁷⁶ wetlands¹⁷⁷ and natural resources generally.¹⁷⁸ Other standards introduced by international agreements include: 'judicious exploitation';¹⁷⁹ 'sound environmental management';¹⁸⁰ 'appropriate environmental management';¹⁸¹ and 'ecologically sound and rational' use of natural resources.¹⁸²

The significance of these terms is that each recognises limits placed by international law on the rate of use or manner of exploitation of natural resources, including those which are shared or are in areas beyond national jurisdiction. These standards cannot have an absolute meaning. Rather, their interpretation is, or should be, implemented by states acting co-operatively, or by decisions of international organisations, or, ultimately, by international judicial bodies in the event that a dispute arises.

Equitable use of natural resources

G. Handl, 'The Principle of Equitable Use as Applied to Internationally Shared Natural Resources: Its Role in Resolving Potential International Disputes Over Transfrontier Pollution', 14 RBDI 40 (1977-8); L. F. E. Goldie, 'Reconciling

¹⁷¹ 1978 Amazonian Treaty, Art. V.

¹⁷² Art. II(1) and (2). 'Principles of conservation' are defined as (a) the 'prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment', and (b) the 'maintenance of ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to levels' above (a), and the 'prevention of changes or minimisation of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades... with the aim of making possible the sustained conservation of Antarctic marine living resources': Art. II(3).

¹⁷³ Art. 1(1), including reference to present and future generations, optimum benefit, and conservation, protection, maintenance, sustainable and renewable utilisation, and enhancement of the environment.

¹⁷⁴ 1949 Agreement for the General Fisheries Council for Mediterranean, Preamble and Art. IV(a).

¹⁷⁵ 1959 Agreement for the Latin American Forest Institute, Art. III(1)(a).

¹⁷⁶ 1968 African Conservation Convention, Art. VII(1); 1972 Stockholm Declaration, Principle 4; 1976 South Pacific Nature Convention, Art. V(1).

¹⁷⁷ 1971 Ramsar Wetlands Convention, Arts. 2(6) and 6(2)(d).

¹⁷⁸ 1979 Bonn Convention, Preamble. ¹⁷⁹ 1963 Niger Basin Act, Preamble.

¹⁸⁰ 1981 Abidjan Convention, Arts. 4(1) and 14(3); 1983 Cartagena de Indias Convention, Art. 4(1); 1985 Nairobi Convention, Art. 4(1).

¹⁸¹ 1981 Lima Convention, Art. 3(1).

¹⁸² 1992 UNECE Transboundary Waters Convention, Art. 2(2)(b).

Values of Distributive Equity and Management Efficiency in the International Commons', in P. M. Dupuy (ed.), *The Settlement of Disputes on the New Natural Resources* (1983), 335; L. F. E. Goldie, 'Equity and the International Management of Transboundary Resources', 25 *Natural Resources Journal* 665 (1985); J. Lammers, "'Balancing the Equities"', in *International Environmental Law*, in R. J. Dupuy (ed.), *L'Avenir du droit International de l'environnement* (1985), 153; P. Thacher, 'Equity under Change', 81 *Proceedings of the American Society of International Law* 133 (1987); B. Cheng-Kang, 'Equity, Special Considerations and the Third World', 1 *Colorado Journal of International Environmental Law and Policy* 57 (1990).

Equity and equitable principles are terms which are frequently relied upon in international environmental texts. In the absence of detailed rules, equity can provide a conveniently flexible means of leaving the extent of rights and obligations to be decided at a subsequent date, which may explain its frequent usage at UNCED. In many respects, UNCED was about equity: how to allocate future responsibilities for environmental protection between states which are at different levels of economic development, which have contributed in different degrees to particular problems, and which have different environmental and developmental needs and priorities. This is reflected in each UNCED instrument, which reflects efforts to apply equity to particular issues. Principle 3 of the Rio Declaration invokes the 'right of development' as a means of 'equitably' meeting the developmental and environmental needs of future generations. Under the Climate Change Convention, all the parties undertake to be guided on 'the basis of equity' in their actions to achieve the objective of the Convention, and Annex 1 parties agree to take into account the need for 'equitable and appropriate contributions' by each of them to the global effort regarding the achievement of the objective of the Convention.¹⁸³ The objectives of the 1992 Biodiversity Convention include the 'fair and equitable' sharing of the benefits arising out of the use of genetic resources.¹⁸⁴

The application of equity in international environmental affairs pre-dates UNCED, having been associated with the protection of the environment for the benefit of future generations (intergenerational equity);¹⁸⁵ the principle of common but differentiated responsibility which takes into account the needs and capabilities of different countries and their historic contribution to particular problems;¹⁸⁶ and the allocation of shared natural resources,¹⁸⁷ shared fisheries stocks,¹⁸⁸ or shared freshwater resources.¹⁸⁹ Equity has also been relied upon in relation to the participation of states in environmental organisations,¹⁹⁰

¹⁸³ Arts. 3(1) and 4(2)(a).

¹⁸⁴ Arts. 1 and 15(7). See chapter 20, pp. 1051-2 below. ¹⁸⁵ See pp. 256-7 above.

¹⁸⁶ See pp. 285-9 below. ¹⁸⁷ See the 1978 UNEP Draft Principles, Principle 1.

¹⁸⁸ *Icelandic Fisheries case*, chapter 11, pp. 567-8 below. ¹⁸⁹ Chapter 10, pp. 461-3 below.

¹⁹⁰ 1992 Oil Pollution Fund Convention, Art. 22(2)(a) (equitable geographic distribution of membership on Executive Committee); 1972 World Heritage Convention, Art 8(2)

financial and other contributions to activities,¹⁹¹ and the equitable distribution of the benefits of development.¹⁹²

It is, however, in relation to the allocation of shared natural resources that equity is likely to play an important role in coming years, as underscored by the ICJ's ruling in the *Gabcikovo-Nagymaros* case that Czechoslovakia had violated international law by unilaterally assuming control of a shared resource and depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube.¹⁹³ The Preamble to the 1987 Montreal Protocol reflects the aim of controlling 'equitably total global emissions of substances that deplete the ozone layer', an aim usually translated into specific obligations through the process of intergovernmental negotiations (as reflected in the 1990 and 1992 Adjustments and Amendments to the 1987 Montreal Protocol). The 1992 Climate Change Convention requires the equitable allocation of emission rights, and the Biodiversity Convention requires the determination of what constitutes an equitable sharing of the benefits arising out of the use of genetic resources. In each of these cases, the factors to be taken into account in establishing specific rights and obligations must be determined in the circumstances of each instrument, including its provisions, the context of its negotiation and adoption, and subsequent practice by the organs it establishes and by parties.

Integration of environment and development

A fourth element of 'sustainable development' is the commitment to integrate environmental considerations into economic and other development, and to take into account the needs of economic and other social development in crafting, applying and interpreting environmental obligations. In many ways, this element is the most important and the most legalistic: its formal application requires the collection and dissemination of environmental information, and the conduct of environmental impact assessments.¹⁹⁴ The integration approach may also serve as the basis for allowing, or requiring, 'green conditionality' in bilateral and multilateral development assistance,¹⁹⁵ and the adoption of differentiated legal commitments on the basis of the historic responsibility of states (including the resulting economic benefits) and their capacity to respond to environmental requirements.¹⁹⁶

('equitable representation of the different regions and cultures of the world' on the World Heritage Committee); 1982 UNCLOS, Art. 161(1)(e) (equitable geographic distribution of membership of the Council of the International Seabed Authority).

¹⁹¹ 1973 Baltic Sea Fishing Convention, Art. I. ¹⁹² 1978 Amazonian Treaty, Preamble.

¹⁹³ (1997) ICJ Reports 7 at 56; chapter 10, pp. 469–77 below.

¹⁹⁴ See e.g. its application by the ICJ in the *Gabcikovo-Nagymaros* case, p. 254 above. See generally chapters 16 and 17 below.

¹⁹⁵ Chapter 20, pp. 1022–9 below. ¹⁹⁶ See pp. 287–9 below.

For many years, the international regulation of environmental issues has taken place in international fora, such as UNEP and the conferences of the parties to environmental treaties, which are not directly connected to international economic organisations, particularly the World Bank and the GATT. One consequence has been a divergence in approaches. This is a constitutional problem, which appears also in the organisation of national governments. The constituent instruments which originally created the UN and its specialised agencies, and in particular the GATT, the World Bank, the multilateral development banks, and regional economic integration organisations such as the European Community, did not address environmental protection requirements or the need to ensure that development was environmentally sustainable. Environmental concerns had historically been addressed on the margins of international economic concerns, and it is only since UNCED that the relationship between environmental protection and economic development has been more fully recognised by the international community. The UNCED process and the instruments reflect the need to integrate environment and development and it is unlikely that the two objectives could now be easily separated.

Principle 4 of the Rio Declaration provides that: 'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.' An integrated approach to environment and development has significant practical consequences, most notably that environmental considerations will increasingly be a feature of international economic policy and law (and that lawyers working in the area of environmental protection will need to familiarise themselves with economic law and concepts). This is borne out by the changes which have taken place since the late 1980s. Examples include: the various amendments to the EC Treaty to include and then develop specific language on the environment;¹⁹⁷ the establishment of an Environment Department at the World Bank and the adoption of environmental assessment and related requirements; the convergence of trade with environment at the GATT and then the WTO; the elaboration of language on sustainable development in the Articles of Agreement of the EBRD and the WTO; and the development of environmental jurisprudence in competition, subsidy, foreign investment and intellectual property law.¹⁹⁸

The integration of environment and development began prior to the 1972 Stockholm Conference. Linkage between conservation and development was made at the first UN Conference on conservation and utilisation of resources in

¹⁹⁷ See EC Commission Report, 'Integrating Environmental Concerns and Sustainable Development into Community Policies', SEC (1999) 1941 final.

¹⁹⁸ See further chapter 19, pp. 1010–15 below; chapter 20, pp. 1043–53 below; and chapter 21, pp. 1056–61 below.

4 (1991); J. Cameron and J. Abouchar, 'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment', 14 *BCICLR* 1 (1991); D. Freestone, 'The Precautionary Principle', in R. Churchill and D. Freestone (eds.), *International Law and Global Climate Change* (1991), 21; C. Boyden Gray and D. Rivkin, 'A "No Regrets" Environmental Policy', 83 *Foreign Policy* 47 (1991); R. Rehbinder, *Das Vorsorgeprinzip in Internationalen Rechtsvergleich* (1991); E. Hey, 'The Precautionary Concept in Environmental Policy and Law: Institutionalising Caution', 4 *Georgetown International Environmental Law Review* 303 (1992); H. Hohmann, *Precautionary Legal Duties and Principles of Modern International Environmental Law* (1994); T. O'Riordan and J. Cameron (eds.), *Interpreting the Precautionary Principle* (1994); D. Freestone and E. Hey, *The Precautionary Principle and International Law* (1995); A. Fabra, 'The LOSC and the Implementation of the Precautionary Principle', 10 *Yearbook of International Environmental Law* 15 (1999); D. Freestone, 'Caution or Precaution: "A Rose by Any Other Name...?"', 10 *Yearbook of International Environmental Law* 25 (1999); N. de Sadeleer, 'Réflexions sur le statut juridique du principe de précaution', in E. Zaccai and J.-N. Missa, *Le principe de précaution* (2000); A. Trouwborst, *Evolution and Status of the Precautionary Principle in International Law* (2002); N. de Sadeleer, *Environmental Principles in an Age of Risk* (2003); S. Marr, *The Precautionary Principle in the Law of the Sea – Modern Decision-Making in International Law* (2003).

Whereas the preventive principle can be traced back to international environmental treaties and other international acts since at least the 1930s, the precautionary principle only began to appear in international legal instruments in the mid-1980s, although prior to then it had featured as a principle in domestic legal systems, most notably that of West Germany.²¹¹ The precautionary principle aims to provide guidance in the development and application of international environmental law where there is scientific uncertainty. It continues to generate disagreement as to its meaning and effect, as reflected in particular in the views of states and international judicial practice. On the one hand, some consider that it provides the basis for early international legal action to address highly threatening environmental issues such as ozone depletion and climate change.²¹² On the other hand, its opponents have decried the potential which

²¹¹ K. von Moltke, 'The Vorsorgeprinzip in West German Environmental Policy', in Twelfth Report (Royal Commission on Environmental Pollution, UK, HMSO, CM 310, 1988), 57.

²¹² See e.g. the support for the precautionary principle by low-lying AOSIS countries in the climate change negotiations, 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 UN and Co-Chairman of Working Group 1 of the INC/FCCC, Statement to the Plenary Session of the INC/FCCC, 5 February 1991, at 3.

the principle has for over-regulation and limiting human activity. The core of the principle, which is still evolving, is reflected in Principle 15 of the Rio Declaration, which provides 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.²¹³

Principle 15 also provides that 'the precautionary approach shall be widely applied by states according to their capabilities'.

The precautionary principle (or precautionary approach, as the US and some others prefer to call it) has been adopted in many international environmental treaties since 1989. Although its precise formulation is not identical in each instrument, the language of Principle 15 of the Rio Declaration now attracts broad support. The principle finds its roots in the more traditional environmental agreements which call on parties to such agreements, and the institutions they create, to act and to adopt decisions which are based upon 'scientific findings' or methods,²¹⁴ or 'in the light of knowledge available at the time'.²¹⁵ These standards suggest that action shall only be taken where there is scientific evidence that significant environmental damage is occurring, and that in the absence of such evidence no action would be required. Examples of a traditional approach include the 1974 Paris Convention, which allows parties to take additional measures 'if scientific evidence has established that a serious hazard may be created in the maritime area by that substance and if urgent action is necessary'.²¹⁶ This requires the party wishing to adopt measures to 'prove' a case for action based upon the existence of sufficient scientific evidence, which may be difficult to obtain.

The 1969 Intervention Convention was one of the earliest treaties to recognise the limitations of the traditional approach, concerning the environmental consequences of a failure to act. It allows proportionate measures to be taken to prevent, mitigate or eliminate grave and imminent danger to coastlines from threat of oil pollution, taking account of 'the extent and probability of imminent damage if those measures are not taken'.²¹⁷ Developments in the mid-1980s to address ozone depletion reflected growing support for precautionary action. The first treaty which refers to the term is the 1985 Vienna Convention, which reflected the parties' recognition of the 'precautionary measures' taken at the national and international levels.²¹⁸ By 1987, the parties to the Montreal

²¹³ WSSD Plan of Implementation, paras. 22 and 103.

²¹⁴ 1946 International Whaling Convention, Art. V(2); 1972 Antarctic Seals Convention, Annex, para. 7(b); 1972 World Heritage Convention, Preamble; 1972 London Convention, Art. XV(2); 1979 Bonn Convention, Arts. III(2) and XI(3) (action on the basis of 'reliable evidence, including the best scientific evidence available').

²¹⁵ 1960 Radiation Convention, Art. 3(1). ²¹⁶ Art. 4(4).

²¹⁷ Arts. I and V(3)(a). ²¹⁸ Preamble.

Protocol noted the 'precautionary measures' to control emission from certain CFCs which had already been taken at the national and regional (EEC) levels and stated their determination to 'protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it'.²¹⁹

The precautionary approach has been relied upon in relation to measures to protect other environmental media, especially the marine environment. The Preamble to the 1984 Ministerial Declaration of the International Conference on the Protection of the North Sea reflected a consciousness that states 'must not wait for proof of harmful effects before taking action', since damage to the marine environment can be irreversible or remediable only at considerable expense and over a long period.²²⁰ This introduces the idea that precautionary action may be justified on economic grounds. The Ministerial Declaration of the Second North Sea Conference (1987) accepted that 'in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary'.²²¹ At the Third North Sea Conference (1990), Ministers pledged to continue to apply the precautionary principle.²²² The 1990 Bergen Ministerial Declaration on Sustainable Development in the ECE Region was the first international instrument to treat the principle as one of general application and linked to sustainable development. The Declaration provides that:

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.²²³

Central to this text is the element of anticipation, reflecting a need for effective environmental measures to be based upon actions which take a longer-term approach and which might predict changes in the basis of our scientific knowledge. Moreover, for the precautionary principle to apply, the threat of environmental damage must be 'serious' or 'irreversible', although there is not yet any limitation on grounds of cost-effectiveness as to the measures which should not be postponed. While the amendments to the Montreal Protocol were being prepared, the UNEP Governing Council recognised that 'waiting for scientific proof regarding the impact of pollutants discharged into the marine environment could result in irreversible damage to the marine environment and in human suffering,' and recommended that all governments adopt the 'principle

²¹⁹ Preamble. ²²⁰ Bremen, 1 November 1984.

²²¹ London, 25 November 1987; also PARCOM Recommendation 89/1 (1989) (supporting the 'principle of precautionary action').

²²² The Hague, 8 March 1990. ²²³ Bergen, 16 May 1990, para. 7; IPE (I/B/16.05.90).

of precautionary action' as the basis of their policy with regard to the prevention and elimination of marine pollution.²²⁴

Since that time, numerous environmental treaties, including some which are of global application on environmental matters of broad concern and applicable to almost all human activities, have adopted the precautionary principle or its underlying rationale. Among the earliest was the 1991 Bamako Convention, which requires parties to strive to adopt and implement

the preventive, precautionary approach to pollution which entails, *inter alia*, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The parties shall co-operate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods.²²⁵

This formulation is one of the most far-reaching. It links the preventive and precautionary approaches, does not require damage to be 'serious' or 'irreversible', and lowers the threshold at which scientific evidence might require action. The parties to the 1992 Watercourses Convention agreed to be guided by the precautionary principle

by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand.²²⁶

This formulation limits the application of the principle to transboundary effects alone, although the level of environmental damage is raised above that required by the Bamako Convention to 'significant adverse effect'. The 1992 Biodiversity Convention does not specifically refer to the precautionary principle, although the Preamble notes that 'where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat'.²²⁷ The level of environmental damage here is well below the 'serious' or 'irreversible' level required by the 1990 Bergen Declaration. The 2000 Biosafety Protocol relies extensively on the precautionary approach. The objective of the Protocol is, however, stated to be 'in accordance' with Principle 15 of the Rio Declaration, and, to that end, the Protocol affirms that 'lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity' shall

²²⁴ Governing Council Decision 15/27 (1989). ²²⁵ Art. 4(3)(f).

²²⁶ Art. 2(5)(a). See also the 1994 Danube Convention, Art. 2(4). ²²⁷ Preamble.

not prevent a party from prohibiting imports.²²⁸ The reference to precaution in the 1992 Climate Change Convention was a controversial matter, and the text as finally adopted established limits on the application of the precautionary principle by requiring a threat of 'serious or irreversible damage' and by linking the commitment to an encouragement to take measures which are 'cost effective'.²²⁹

Beyond these two conventions, many others now commit their parties to apply the precautionary principle or approach. The 1992 OSPAR Convention links prevention and precaution: preventive measures are to be taken when there are 'reasonable grounds for concern . . . even when there is no conclusive evidence of a causal relationship between the inputs and the effects'.²³⁰ The threshold here is quite low. The standard applied by the 1992 Baltic Sea Convention introduces yet another variation: preventive measures are to be taken 'when there is reason to assume' that harm might be caused 'even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects'.²³¹ The 1995 Straddling Stocks Agreement commits coastal states and states fishing on the high seas to apply the precautionary approach widely, and sets out in detail the modalities for its application.²³² A growing number of other conventions – both regional and global – also give effect to a precautionary approach in relation to a range of different subject matters.²³³ The 1992 Maastricht Treaty amended Article 130r(2) of the EC Treaty so that EC action on the environment 'shall be based on the precautionary principle', and the 1997 Amsterdam Treaty further amended the EC Treaty to apply the principle to Community policy on the environment (Article 174(2)). The European Commission has published a Communication on the precautionary principle which outlines the Commission's approach to the use of the principle, establishes guidelines for applying it, and aims to develop understanding on the assessment, appraisal and management of risk in the face of scientific uncertainty.²³⁴ The Communication considers that the principle has been 'progressively consolidated in international environmental law, and so it has since become a full-fledged and general principle of international law'.²³⁵ The

²²⁸ Art. 10(6). See also Art. 11(8) and, in relation to risk assessment, Art. 15 and Annex 3.

²²⁹ Art. 3(3). ²³⁰ Art. 2(2)(a). ²³¹ Art. 3(2).

²³² Arts. 5(c) and 6 and Annex II (Guidelines for the Application of Precautionary Reference Points in Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks).

²³³ E.g. 1973 CITES, Res. Conf. 9.24 (1994), chapter 11, pp. 505–15 below; 1994 Energy Charter Treaty, Art. 18; 1996 Protocol to the 1972 London Convention, Art. 3; 2000 Biosafety Protocol, Art. 1; 2001 POPs Convention ('Precaution underlies the concerns of all parties and is embedded within this convention', Preamble, also Art. 1); 2002 North-East Pacific Convention, Art. 5(6)(a).

²³⁴ COM 2000 (1), 2 February 2000 (http://europa.eu.int/comm/dgs/health_consumer/library/pub/pub07_en.pdf).

²³⁵ *Ibid.*, 11.

principle has been applied by the ECJ²³⁶ and by the EEA Court, which has ruled that, in cases relating to the effects on human health of certain products, and where there may be a great measure of scientific and practical uncertainty linked to the issue under consideration, the application of the precautionary principle is justified and 'presupposes, firstly, an identification of potentially negative health consequences arising, in the present case, from a proposed fortification, and, secondly, a comprehensive evaluation of the risk to health based on the most recent scientific information'. The Court went on:

When the insufficiency, or the inconclusiveness, or the imprecise nature of the conclusions to be drawn from those considerations make it impossible to determine with certainty the risk or hazard, but the likelihood of considerable harm still persists were the negative eventuality to occur, the precautionary principle would justify the taking of restrictive measures.²³⁷

The precautionary principle or approach has now received widespread support by the international community in relation to a broad range of subject areas. What does the principle mean, and what status does it have in international law? There is no clear and uniform understanding of the meaning of the precautionary principle among states and other members of the international community. At the most general level, it means that states agree to act carefully and with foresight when taking decisions which concern activities that may have an adverse impact on the environment. A more focused interpretation provides that the principle requires activities and substances which may be harmful to the environment to be regulated, and possibly prohibited, even if no conclusive or overwhelming evidence is available as to the harm or likely harm they may cause to the environment. As the Bergen Ministerial Declaration put it, 'lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation'. Under the Rio Declaration,

²³⁶ See e.g. Case C-180/96, *United Kingdom v. EC Commission* [1998] ECR I-2265 ('the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent', at paras. 99 and 100); see also Case T-70/99, *Alpharma Inc. v. Council of the European Union*, Order of 30 June 1999 (Interim Measures) [1999] ECR II-2027, the President of the Court of First Instance referring to the principle and affirming that 'requirements linked to the protection of public health should undoubtedly be given greater weight than economic considerations'. See also Case C-6/99, *Association Greenpeace France and Others v. Ministere de l'Agriculture et de la Pêche and Others* [2000] ECR I-1651 (French edition) (in relation to Directive 90/220, observance of the precautionary principle is reflected in the notifier's obligation immediately to notify the competent authority of new information regarding the risks of the product to human health or the environment and the competent authority's obligation immediately to inform the Commission and the other member states about this information and, secondly, in the right of any member state, provisionally to restrict or prohibit the use and/or sale on its territory of a product which has received consent where it has justifiable reasons to consider that it constitutes a risk to human health or the environment: para. 44).

²³⁷ Case E-3/00, *EFTA Surveillance Authority v. Norway* [2001] 2 CMLR 47.

the requirement is stated to be mandatory: lack of full scientific certainty 'shall not be used' to prevent action. What remains open is the level at which scientific evidence is sufficient to override arguments for postponing measures, or at which measures might even be required as a matter of international law.

A more fundamental change would be adopted by an interpretation of the precautionary principle, one increasingly widely held, which would shift the burden of proof. According to traditional approaches, the burden of proof currently lies with the person opposing an activity to prove that it does or is likely to cause environmental damage. A new approach, supported by the precautionary principle, would tend to shift the burden of proof and require the person who wishes to carry out an activity to prove that it will not cause harm to the environment. This interpretation would require polluters, and polluting states, to establish that their activities and the discharge of certain substances would not adversely or significantly affect the environment before they were granted the right to release the potentially polluting substances or carry out the proposed activity. This interpretation may also require national or international regulatory action where the scientific evidence suggests that lack of action may result in serious or irreversible harm to the environment, or where there are divergent views on the risks of action.

There is growing evidence to suggest that this interpretation is beginning to be supported by state practice, even if it still falls short of having sufficient support to allow it to be considered a rule of general application. Examples include the EC's 1991 Urban Waste Water Directive, which allows certain urban waste water discharges to be subjected to less stringent treatment than that generally required by the Directive providing that 'comprehensive studies indicate that such discharges will not adversely affect the environment'.²³⁸ Under the 1992 OSPAR Convention, parties (France and the United Kingdom) which originally wanted to retain the option of dumping low- and intermediate-level radioactive wastes at sea were required to report to the OSPAR Commission on 'the results of scientific studies which show that any potential dumping operations would not result in hazards to human health, harm to living resources or marine ecosystems, damage to amenities or interference with other legitimate uses of the sea'.²³⁹

The practice of international courts and tribunals, and of states appearing before them, sheds some light on the meaning and effect of the precautionary principle. Before the ICJ the principle appears to have first been raised in New Zealand's 1995 request concerning French nuclear testing.²⁴⁰ New Zealand relied extensively on the principle, which it described as 'a very widely accepted and operative principle of international law' and which shifted the burden onto France to prove that the proposed tests would not give rise to

²³⁸ EC Directive 91/271, Art. 6(2); chapter 15, pp. 776-8 below.

²³⁹ Annex II, Art. 3(3)(c). ²⁴⁰ Chapter 8, pp. 319-21 below.

environmental damage.²⁴¹ Five 'intervening' states (Australia, Micronesia, the Marshall Islands, Samoa and the Solomon Islands) also invoked the principle. France responded that the status of the principle in international law was 'tout à fait incertain', but that in any event it had been complied with, and that evidentiary burdens were no different in the environmental field than any other area of international law.²⁴² The ICJ's order did not refer to these arguments, although Judge Weeramantry's dissent noted that the principle had 'evolved to meet [the] evidentiary difficulty caused by the fact [that] information required to prove a proposition' may be 'in the hands of the party causing or threatening the damage', and that it was 'gaining increasing support as part of the international law of the environment'.²⁴³ In the *Gabcikovo-Nagymaros* case, Hungary and Slovakia also invoked the precautionary principle.²⁴⁴ Again, the ICJ did not feel the need to address the principle, limiting itself to a passing reference to Hungary's claim that the principle justified the termination of the 1977 treaty and its recognition of the parties' agreement on the need to take environmental concerns seriously and to take the required precautionary measures.²⁴⁵ Of particular note was the failure of the ICJ to refer to or apply the principle in its consideration of the conditions under which Hungary could invoke the concept of ecological necessity to preclude the wrongfulness of its suspension of works on the two barrages in 1989.²⁴⁶ Having acknowledged without difficulty 'that the concerns expressed by Hungary for its natural environment in the region affected by the Gabcikovo-Nagymaros Project related to an "essential interest" of that State', the ICJ nevertheless found that Hungary had not proved that 'a real, "grave" and "imminent" "peril" existed in 1989 and that the measures taken by Hungary were the only possible response to it'.²⁴⁷ The ICJ found that there were serious uncertainties concerning future harm to freshwater supplies and biodiversity, but that these:

²⁴¹ New Zealand Request, para.105; see also ICJ CR/95/20, at 20-1 and 36-8.

²⁴² ICJ CR/95/20, at 71-2 and 75.

²⁴³ (1995) ICJ Reports 342; see also Ad Hoc Judge Palmer ('the norm involved in the precautionary principle ha[d] developed rapidly and m[ight] now be a principle of customary international law relating to the environment': *ibid.*, 412). See also Judge Weeramantry's Dissenting Opinion in *The Legality of the Threat or Use of Nuclear Weapons* (1996) ICJ Reports 502.

²⁴⁴ Chapter 10, pp. 463-4 below.

²⁴⁵ (1997) ICJ Reports 62, para. 97, and 68, para. 113. See also chapter 10, pp. 463-4 below. But see the Separate Opinion of Judge Koroma, that the precautionary principle was incorporated in the 1977 treaty but 'had not been proved to have been violated to an extent sufficient to have warranted the unilateral termination of the Treaty': *ibid.*, 152.

²⁴⁶ The ICJ found that a state of necessity was, on an exceptional basis, a ground recognised by customary international law for precluding the wrongfulness of an act not in conformity with an international obligation, and relied on the formulation of draft Article 33 of the ILC's draft Articles on State Responsibility: (1997) ICJ Reports 7 paras. 50-2.

²⁴⁷ *Ibid.*, para. 54.

The principle has also been addressed by the WTO Appellate Body.²⁵⁷ In 1998, in the *Beef Hormones* case, the European Community invoked the principle to justify its claim that it was entitled to prohibit imports of beef produced in the United States and Canada with artificial hormones, where the impacts on human health were uncertain. The Community argued that the principle was already 'a general customary rule of international law or at least a general principle of law', that it applied to both the assessment and management of a risk, and that it informed the meaning and effect of Articles 5.1 and 5.2 of the WTO's Agreement on Sanitary and Phytosanitary Measures (the 'SPS Agreement').²⁵⁸ The United States denied that the principle represented a principle of customary international law, and preferred to characterise it as an 'approach' the content of which may vary from context to context.²⁵⁹ Canada referred to a precautionary approach as 'an emerging principle of international law, which may in the future crystallize into one of the "general principles of law recognized by civilized nations"; within the meaning of Article 38(1)(c) of the ICJ Statute.'²⁶⁰ The WTO Appellate Body agreed with the United States and Canada that the precautionary principle did not override Articles 5.1 and 5.2 of the SPS Agreement, although it considered that it was reflected in the preamble to and Articles 3.3 and 5.7 of the SPS Agreement, which did not exhaust the relevance of the principle.²⁶¹ Recognising that the status of the principle in international law was the subject of continued debate, and that it was regarded

to granting the provisional measure requested by Ireland regarding the suspension of the commissioning of the plant.')

²⁵⁷ See generally T. Christoforou, 'Science, Law and Precaution in Dispute Resolution on Health and Environmental Protection: What Role for Scientific Experts?', in J. Bourrinet and S. Maljean-Dubois (eds.), *Le Commerce international des organismes génétiquement modifiés* (2002).

²⁵⁸ Chapter 19, pp. 979–81 below; see Report of the Appellate Body, 16 January 1998, WT/DS48/AB/R, at para. 16.

²⁵⁹ *Ibid.*, para. 43. The United States stated that the SPS Agreement recognised a precautionary approach (in its Article 5.7) so there was no need to invoke a 'precautionary principle' to be risk-averse.

²⁶⁰ *Ibid.*, para. 60.

²⁶¹ *Ibid.*, para. 124 ('a panel charged with determining . . . whether "sufficient scientific evidence" exists to warrant the maintenance by a Member of a particular SPS measure may, of course, and should, bear in mind that responsible, representative governments commonly act from perspectives of prudence and precaution where risks of irreversible, e.g. life-terminating, damage to human health are concerned'). The Appellate Body went on to state that 'responsible and representative governments may act in good faith on the basis of what, at a given time, may be a divergent opinion coming from qualified and respected sources' (para. 194), a view endorsed in *EC – Asbestos* (Appellate Body Report, 12 March 2001, at para. 178), and adding '[i]n justifying a measure under Article XX(b) of the GATT 1994, a Member may also rely, in good faith, on scientific sources which, at that time, may represent a divergent, but qualified and respected, opinion. A Member is not obliged, in setting health policy, automatically to follow what, at a given time, may constitute a majority scientific opinion.'

by some as having crystallised into a general principle of customary international environmental law, the Appellate Body said:

Whether it has been widely accepted by Members as a principle of general or customary international law appears less than clear. We consider, however, that it is unnecessary, and probably imprudent, for the Appellate Body in this appeal to take a position on this important, but abstract, question. We note that the Panel itself did not make any definitive finding with regard to the status of the precautionary principle in international law and that the precautionary principle, at least outside the field of international environmental law, still awaits authoritative formulation.²⁶²

The principle has also been raised before other courts, such as the European Court of Human Rights. In *Balmer-Schafroth v. Switzerland*, the applicants claimed that the failure of Switzerland to provide for administrative review of a decision extending the operation of a nuclear facility violated Article 6 of the European Convention on Human Rights.²⁶³ The claim was rejected by the majority, because the connection between the government's decision and the applicants' right was too remote and tenuous. The Court ruled that they had failed to

establish a direct link between the operating conditions of the power station . . . and their right to protection of their physical integrity, as they failed to show that the operation of Mühleberg power station exposed them personally to a danger that was not only serious but also specific and, above all, imminent. In the absence of such a finding, the effects on the population of the measures which the Federal Council could have ordered to be taken in the instant case therefore remained hypothetical. Consequently, neither the dangers nor the remedies were established with a degree of probability that made the outcome of the proceedings directly decisive.²⁶⁴

A dissenting opinion by seven judges, however, criticised this finding, on the grounds that it 'ignored the whole trend of international institutions and public international law towards protecting persons and heritage, as evident [*inter alia*] in . . . the development of the precautionary principle'.²⁶⁵ At the national level, there have also been several decisions addressing the status of the precautionary

²⁶² *Ibid.*, para. 123. The Appellate Body noted that in the *Gabcikovo-Nagymaros* case, the ICJ had not identified the precautionary principle as a recently developed norm in the field of environmental protection, and had declined to declare that such principle could override the obligations of the 1977 Treaty: *ibid.*, n. 93.

²⁶³ Judgment of 26 July 1987, *European Court of Human Rights Reports-IV*. Art. 6 of the Convention provides that: 'In the determination of his civil rights and obligations . . . everyone is entitled to a fair . . . hearing . . . by [a] . . . tribunal . . .'

²⁶⁴ *Ibid.*, para. 40.

²⁶⁵ Dissenting Opinion of Judge Pettiti, joined by Judges Golcukul, Walsh, Russo, Valticos, Lopes Rocha and Jambrek.

principle in international law. In *Vellore*, for example, the Indian Supreme Court ruled that the precautionary principle was an essential feature of 'sustainable development' and as such part of customary international law.²⁶⁶ By contrast, a United States federal court appears more restrained in its approach, holding that the principle was not yet established in customary international law so as to give rise to a cause of action under the Alien Tort Claims Statute.²⁶⁷

The legal status of the precautionary principle is evolving. There is certainly sufficient evidence of state practice to support the conclusion that the principle, as elaborated in Principle 15 of the Rio Declaration and various international conventions, has now received sufficiently broad support to allow a strong argument to be made that it reflects a principle of customary law, and that within the context of the European Union it has now achieved customary status, without prejudice to the precise consequences of its application in any given case. Nevertheless, it must be recognised that international courts and tribunals have been reluctant to accept explicitly that the principle has a customary international law status, notwithstanding the preponderance of support in favour of that view, and diminishing opposition to it. The reluctance may be understandable, in view of its inherently commonsensical approach, even if the practical consequences of its application fall to be determined on a case-by-case basis.²⁶⁸

Polluter-pays principle

OECD, *The Polluter-Pays Principle* (1975); H. Smets, 'A Propos d'un ventuel principe pollueur-payeur en matière de pollution transfrontière', 8 *Environmental Policy and Law* 40 (1982); S. E. Gaines, 'The Polluter-Pays Principle: From Economic Equity to Environmental Ethos', 26 *Texas International Law Journal* 463 (1991); R. Romi, 'Le Principe pollueur-payeur, ses implications et ses applications', 8 *Droit de l'environnement* 46 (1991); H. J. Kim, 'Subsidy, Polluter-Pays Principle and Financial Assistance Among Countries', 34 *JWTL* 115 (2000).

The polluter-pays principle establishes the requirement that the costs of pollution should be borne by the person responsible for causing the pollution. The

²⁶⁶ *Vellore Citizens' Welfare Forum v. Union of India and Others*, Writ Petition (C) No. 914 of 1991 (Kuldip Singh and Faizanuddin JJ), Judgment of 28 August 1996, paras. 10, 11 and 15. Cf. *Narmada Bachao Andolan v. Union of India and Others*, Supreme Court of India, Judgment of 18 October 2000 (www.narmada.org/sardarsarovar/sc.ruling/majority.judgment.doc).

²⁶⁷ *Beanal v. Freeport-Mcmoran*, 969 F Supp 362 at 384 (US District Court for Eastern District of Louisiana, 9 April 1997) ('the principle does not constitute [an] international tort for which there is universal consensus in the international community as to [its] binding status and [its] content'); affirmed 197 F 3d 161 (US Court of Appeals for the Fifth Circuit, 29 November 1999).

²⁶⁸ In this sense, see Separate Opinion of Judge Treves, n. 251 above para. 9.

meaning of the principle, and its application to particular cases and situations, remains open to interpretation, particularly in relation to the nature and extent of the costs included and the circumstances in which the principle will, perhaps exceptionally, not apply. The principle has nevertheless attracted broad support, and is closely related to the rules governing civil and state liability for environmental damage (as described in chapter 18 below), the permissibility of certain forms of state subsidies, and the recent acknowledgment in various instruments 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.²⁶⁹ The practical implications of the polluter-pays principle are in its allocation of economic obligations in relation to environmentally damaging activities, particularly in relation to liability,²⁷⁰ the use of economic instruments, and the application of rules relating to competition and subsidy.²⁷¹

The polluter-pays principle has not received the same degree of support or attention accorded over the years to the principle of preventive action, or the attention more recently accorded to the precautionary principle, although its use is now being taken up in other regional agreements.²⁷² 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 UNECE and the OECD. The strong objections of some countries to the further development of the polluter-pays principle, particularly for international relations, is evident from the compromise language adopted by Principle 16 of the Rio Declaration, which provides that:

National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interests and, without distorting international trade and investment.

This text, which falls short of the more specific language of EC, OECD and UNECE instruments, includes language which limits the extent of any obligation which might apply to states.²⁷³ This derives, at least in part, from the view held by a number of states, both developed and developing, that the

²⁶⁹ 1992 Rio Declaration, Principle 7.

²⁷⁰ See Institut de Droit International, Resolution on Responsibility and Liability under International Law for Environmental Damage, Art. 13, 37 ILM 1473 (1998).

²⁷¹ See respectively chapters 18, pp. 904–38 below; chapter 4, pp. 158–67 above; and chapter 19, pp. 1010–17 below.

²⁷² See e.g. 2002 North-East Pacific Convention, Art. 5(6)(b).

²⁷³ See WSSD Plan of Implementation, para. 14(b).

polluter-pays principle is applicable at the domestic level but does not govern relations or responsibilities between states at the international level.

The polluter-pays principle in treaty law can be traced back to some of the first instruments establishing minimum rules on civil liability for damage resulting from hazardous activities. The conventions on civil liability for nuclear damage, the 1960 Paris Convention and the 1963 IAEA Liability Convention,²⁷⁴ were influenced by the desire to channel compensation from those responsible for the activity causing damage to the victims. Under the 1969 CLC, however, the shipowner is precluded from relying on the limitation of liability if the incident occurred as a result of his actual fault or privity.²⁷⁵ Similarly, the Preamble to the 1971 Oil Fund Convention reflects the consideration that the economic consequences of oil pollution damage should be borne by the shipping industry and oil cargo interests.²⁷⁶

OECD

The first international instrument to refer expressly to the polluter-pays principle was the 1972 OECD Council Recommendation on Guiding Principles Concerning the International Economic Aspects of Environmental Policies, which endorsed the polluter-pays principle to allocate costs of pollution prevention and control measures to encourage rational use of environmental resources and avoid distortions in international trade and investment.²⁷⁷ The Recommendation defined the principle in a limited sense to mean that the polluter should bear the expenses of carrying out the measures deemed necessary by public authorities to protect the environment:

In other words, the cost of these measures should be reflected in the cost of goods and services which cause pollution in production and/or consumption. Such measures should not be accompanied by subsidies that would create significant distortions in international trade and investment.²⁷⁸

The 1972 Recommendation does not, on the face of it, apply to the costs of environmental damage. In 1974, the OECD Council adopted a further Recommendation on the Implementation of the Polluter-Pays Principle which reaffirmed that the principle constituted a 'fundamental principle' for member countries, that aid given for new pollution control technologies and the

²⁷⁴ Chapter 18, pp. 905–12 below.

²⁷⁵ Art V(2), chapter 18, pp. 913–15 below; see also 1977 Civil Liability for Oil Pollution Convention, Art. 6(4).

²⁷⁶ Chapter 18, pp. 915–22 below.

²⁷⁷ OECD Council Recommendation C(72)128 (1972), 14 ILM 236 (1975).

²⁷⁸ *Ibid.*, Annex, para. A.4. The Council further recommended that 'as a general rule, Member countries should not assist the polluters in bearing the costs of pollution control whether by means of subsidies, tax advantages or other measures'.

development of new pollution abatement equipment was not necessarily incompatible with the principle, and that member countries should strive for uniform observance of the principle.²⁷⁹ The 1989 OECD Council Recommendation on the Application of the Polluter-Pays Principle to Accidental Pollution extends the principle to imply that the operator of a hazardous installation should bear the cost of reasonable measures to prevent and control accidental pollution from that installation which are introduced by public authorities in conformity with domestic law prior to the occurrence of an accident.²⁸⁰ According to the Recommendation, however, this does not necessarily require that 'the costs of reasonable measures to control accidental pollution after an accident should be collected as expeditiously as possible from the legal or natural person who is at the origin of the accident'. Such a domestic legal requirement is merely 'consistent with', rather than implied by, the principle.²⁸¹ Examples of specific applications of the polluter-pays principle cited by the 1989 Recommendation include adjusting fees or taxes payable by hazardous installations to cover more fully the cost of certain exceptional measures taken by public authorities to prevent and control accidental pollution, and charging to the polluter the cost of reasonable pollution control measures decided on by public authorities following an accident to avoid the spread of environmental damage and limit the release of hazardous substances (by ceasing emissions at the plant), the pollution as such (by cleaning or decontamination), or its ecological effects (by rehabilitating the polluted environment).²⁸² The Recommendation also provides guidance on 'reasonable' measures: they depend on 'the circumstances under which they are implemented, the nature and extent of the measures, the threats and hazard existing when the decision is taken, the laws and regulations in force, and the interests which must be protected'.²⁸³ The Recommendation cites certain exceptions to the principle, including the need for rapid implementation of stringent measures for accident prevention (provided this does not lead to significant distortions in international trade and investment), or if strict and prompt implementation of the principle would lead to severe socio-economic consequences.²⁸⁴ The application of the principle does not affect the possibility under domestic law of requiring the operator to pay other costs

²⁷⁹ C(74)223 (1974), paras. I(1), II(3) and III(1), 14 ILM 234 (1975).

²⁸⁰ C(89)88 (Final), 28 ILM 1320 (1989); Appendix Guiding Principles Relating to Accidental Pollution, para. 4; these are measures taken to prevent accidents in specific installations and to limit their consequences for human health and the environment, including safety measures, emergency plans, carrying out clean-up operations and minimising ecological effects, but not including humanitarian measures or measures to compensate victims for economic consequences: para. 8.

²⁸¹ Para. 5.

²⁸² Paras. 10 and 11; pooling by operators of certain financial risks is considered to be 'consistent' with the Principle: para. 13.

²⁸³ Para. 12. ²⁸⁴ Paras. 14 and 15.

connected with the public authorities' response to an accident, or compensation for future costs of the accident.²⁸⁵

European Community

The polluter-pays principle is also established under EC law. The EC adopted the principle in its first programme of action on the environment in 1973.²⁸⁶ Two years later, the EC Council adopted a Recommendation regarding cost allocation and action by public authorities on environmental matters which recommended that the EC at Community level and the member states in their national environmental legislation must apply the polluter-pays principle, according to which

natural or legal persons governed by public or private law who are responsible for pollution must pay the costs of such measures as are necessary to eliminate that pollution or to reduce it so as to comply with the standards or equivalent measures laid down by the public authorities.²⁸⁷

This formulation is broader than early OECD recommendations in respect of the costs which might be covered by the principle. The EC Council Recommendation, which is not legally binding, identifies standards and charges as the major instruments of action available to public authorities for the avoidance of pollution, allows certain exceptions to the principle, and says which acts will not be considered to be contrary to the principle.²⁸⁸ In 1986, the EEC Treaty was amended to provide that EC action relating to the environment shall be based on the principle that 'the polluter should pay'.²⁸⁹ In 1992, the EC member states and EFTA member countries agreed that action by the parties was to be based on the principle that 'the polluter should pay'.²⁹⁰ A number of acts of EC secondary legislation also refer to, or incorporate, the principle,²⁹¹ and the ECJ

²⁸⁵ Para. 16. ²⁸⁶ OJ C112, 20 December 1973, 1.

²⁸⁷ Council Recommendation 75/436/EURATOM, ECSC, EEC of 3 March 1975, Annex, para. 2; OJ L169, 29 June 1987, 1.

²⁸⁸ Paras. 5-7.

²⁸⁹ 1957 EEC Treaty (as amended) (formerly Art. 130r(2)); see also former Art. 130(s)(5) of the EEC Treaty as amended by the 1992 Maastricht Treaty, allowing for temporary derogations and/or financial support 'without prejudice to the principle that the polluter should pay'. See now Arts. 174(2) and 175(5) of the EC Treaty as amended by the 1997 Amsterdam Treaty.

²⁹⁰ 1992 EEA Agreement, Art. 73(2).

²⁹¹ See e.g. Directive 75/442, Art. 15 (waste); Directive 94/67, Preamble (incineration of hazardous waste); Directive 2000/59, Preamble (port reception facilities for ship-generated waste and cargo residues); Directive 2000/60, Art. 9 (water framework); Decision 2850/2000, Preamble (co-operation in the field of accidental or deliberate marine pollution); the new regulations on Structural Funds, the revised Cohesion Fund and the pre-accession instrument (ISPA) include provisions to apply the principle to the

has occasionally considered its practical implications.²⁹² The principle has also been applied by the European Commission in relation to state aid.²⁹³

The polluter-pays principle, or variations thereof, as stated in the OECD and EC instruments, has also been referred to or adopted in other environmental treaties, including the 1985 ASEAN Convention,²⁹⁴ the 1991 Alps Convention,²⁹⁵ the 1992 UNECE Transboundary Waters Convention,²⁹⁶ the 1992 OSPAR Convention,²⁹⁷ the 1992 Baltic Sea Convention,²⁹⁸ the 1994 Danube Convention,²⁹⁹ the 1994 Energy Charter Treaty³⁰⁰ and certain EC Directives.³⁰¹ The 1990 Oil Pollution Preparedness Convention and the 1992 Industrial Accidents Convention describe the polluter-pays principle as 'a general principle of international environmental law'.³⁰² The increased attention being paid to the polluter-pays principle results, in part, from the greater consideration being given to the relationship between environmental protection and economic development, as well as recent efforts to develop the use of economic instruments in environmental protection law and policy.³⁰³ This is likely to lead to clarification and further definitions of the polluter-pays principle, particularly in relation to two issues.

operations of the funds (see Arts. 26 and 29(1)(c) of Council Regulation (EC) 1260/1999 laying down general provisions on the Structural Funds; Art. 7(1) of Council Regulation (EC) 1264/1999 amending Regulation (EC) 1164/94 establishing a Cohesion Fund; Art. 6(2)(c) of Council Regulation (EC) 1267/1999 establishing an Instrument for Structural Policies for Pre-Accession). See generally EC Commission, Application of the Polluter Pays Principle, 6 December 1999.

²⁹² See e.g. Case C-293/97, *R. v. Secretary of State for the Environment and Ministry of Agriculture, Fisheries and Food, ex parte H.A. Standley and Others and D.G.D. Metson and Others* [1999] ECR I-2603, paras. 51-2 (the polluter-pays principle reflects a principle of proportionality, and does not mean that farmers must take on burdens for the elimination of pollution to which they have not contributed).

²⁹³ See European Commission, Community Guidelines on State Aid for Environmental Protection, 2001 OJ C37; chapter 20, p. 1029 below. For its application, see e.g. Commission Decision 1999/272, 1999 OJ L109 ('it is clearly not compatible with the "polluter pays" principle enshrined in Article 130r of the EC Treaty that a polluter should sell his contaminated land to one of his firms in order to avoid the clean-up costs, that the firm responsible for the contamination should file for bankruptcy and that the business activity should be carried on by the newly established firm').

²⁹⁴ Art. 10(d). ²⁹⁵ Art. 2(1) (the parties respect the polluter-pays principle).

²⁹⁶ Art. 2(5)(b) (the parties shall be guided by the polluter-pays principle 'by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter').

²⁹⁷ Art. 2(2)(b) (the parties 'shall apply . . . the polluter-pays principle').

²⁹⁸ Art. 3(4) (the parties 'shall apply the polluter-pays principle'). See also 1993 Lugano Convention, Preamble; 1994 Agreement on the Protection of the River Meuse, Art. 3(2)(d), 34 ILM 851 (1995); 1996 Protocol to the 1972 London Convention, Art. 3(2).

²⁹⁹ Art. 2(4). ³⁰⁰ Art. 19(1).

³⁰¹ See e.g. Council Directive 1999/31/EC on the landfill of waste, Art. 10; chapter 13, p. 687 below.

³⁰² Preamble. ³⁰³ Chapter 4, pp. 158-67 above.

The first concerns the extent of the pollution control costs which should be paid by the polluter. Although it seems clear that the principle includes costs of measures required by public authorities to prevent and control pollution, it is less clear whether the costs of decontamination, clean-up and reinstatement would be included. State practice does not support the view that all the costs of pollution should be borne by the polluter, particularly in inter-state relations.³⁰⁴ The second issue concerns exceptions to the principle, particularly in relation to rules governing the granting of subsidies. In this regard, consideration should be given to the practice of the EC and account taken of the potential role of the WTO in determining the impact of the polluter-pays principle on its subsidies rules.³⁰⁵

Principle of common but differentiated responsibility

C. Kiss, 'La Notion de patrimoine commun de l'humanité', 175 RdC 99 (1982); B. Larschan and B. C. Brennan, 'Common Heritage of Mankind Principle in International Law', 21 *Columbia Journal of Transnational Law* 305 (1983); D. Magraw, 'Legal Treatment of Developing Countries: Differential Contextual and Absolute Norms', 1 *Colorado Journal of International Environmental Law and Policy* 69 (1990); D. Attard, *Proceedings of the Meeting of the Group of Legal Experts to Examine the Concept of the Common Concern of Mankind in Relation to Global Environmental Issues* (UNEP, 1991); F. Biermann, 'Common Concern of Humankind: The Emergence of a New Concept of International Environmental Law', 34 *Archiv der Völkerrechts* 426 (1996); D. French, 'Developing States and International Environmental Law: The Importance of Differentiated Responsibilities', 49 *ICLQ* 35 (2000).

The principle of common but differentiated responsibility has developed from the application of equity in general international law, and 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. Principle 7 of the Rio Declaration states the principle thus:

States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed countries

³⁰⁴ See generally chapter 18, pp. 890–4 below; examples include the Chernobyl accident and the 1976 Rhine Chloride Convention, which allocates the costs of pollution abatement between the polluters (66 per cent) and the victim (34 per cent): see chapter 10, pp. 478–82 below.

³⁰⁵ GATT Dispute Settlement Panel, *US – Chemicals Tax* case (1987), holding that GATT rules on tax adjustment allow contracting parties to apply the polluter-pays principle but do not require it: chapter 19, p. 953 below.

acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

Similar language exists in the 1992 Climate Change Convention, which provides that the parties should act to protect the climate system 'on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities'.³⁰⁶

The principle of common but differentiated responsibility includes two elements. The first concerns the common responsibility of states for the protection of the environment, or parts of it, at the national, regional and global levels. The second concerns 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 prevent, reduce and control the threat. In practical terms, the application of the principle of common but differentiated responsibility has at least two consequences. First, it entitles, or may require, all concerned states to participate in international response measures aimed at addressing environmental problems. Secondly, it leads to environmental standards which impose differing obligations on states. Despite its recent emergence in the current formulation, the principle of common but differentiated responsibility finds its roots prior to UNCED and is supported by state practice at the regional and global levels.

Common responsibility

Common responsibility describes the shared obligations of two or more states towards the protection of a particular environmental resource, taking into account its relevant characteristics and nature, physical location, and historic usage associated with it. Natural resources can be the 'property' of a single state, or a 'shared natural resource', or subject to a common legal interest, or the property of no state. Common responsibility is likely to apply where the resource is not the property of, or under the exclusive jurisdiction of, a single state.

As early as 1949, tuna and other fish were 'of common concern' to the parties to the relevant treaties by reason of their continued exploitation by those parties.³⁰⁷ Outer space and the moon, on the other hand, are the 'province of all mankind',³⁰⁸ waterfowl are 'an international resource',³⁰⁹ natural and cultural heritage is 'part of the world heritage of mankind as a whole',³¹⁰ the

³⁰⁶ Art. 3(1). ³⁰⁷ 1949 Inter-American Tropical Tuna Convention, Preamble.

³⁰⁸ 1967 Outer Space Treaty, Art. 1. ³⁰⁹ 1971 Wetlands Convention, Preamble.

³¹⁰ 1972 World Heritage Convention, Preamble.

conservation of wild animals is 'for the good of mankind';³¹¹ the resources of the seabed, ocean floor and subsoil are 'the common heritage of mankind';³¹² and plant genetic resources have been defined as 'a heritage of mankind'.³¹³ Recent state practice supports the emergence of the concept of 'common concern', as reflected in the 1992 Climate Change Convention, which acknowledges that 'change in the Earth's climate and its adverse effects are a common concern of humankind',³¹⁴ and the 1992 Biodiversity Convention, which affirms that 'biological diversity is a common concern of humankind'.³¹⁵

While each of these formulations differs, and must be understood and applied in the context of the circumstances in which they were adopted, these attributions of 'commonality' do share common consequences. Although state practice is inconclusive as to the precise legal nature and consequence of each formulation, certain legal responsibilities are attributable to all states in respect of these environmental media and natural resources in accordance with the attribution by treaty (or custom) of a particular legal characteristic. The legal interest includes a legal responsibility to prevent damage to it. While the extent and legal nature of that responsibility will differ for each resource and instrument, the responsibility of each state to prevent harm to them, in particular by the adoption of national environmental standards and international environmental obligations, can also differ.

Differentiated responsibility

The differentiated responsibility of states for the protection of the environment is widely accepted in treaty and other practice of states. It translates into differentiated environmental standards set on the basis of a range of factors, including special needs and circumstances, future economic development of developing countries, and historic contributions to causing an environmental problem.

The 1972 Stockholm Declaration emphasised the need to consider 'the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for the developing countries'.³¹⁶ The 1974 Charter of Economic Rights and Duties of States makes the same point in more precise terms: 'The environmental policies of all states

³¹¹ 1979 Bonn Convention, Preamble.

³¹² UNGA Res. 2749 (XXV) of 17 December 1970; 1982 UNCLOS, Preamble (and now the 1994 Agreement Relating to the Implementation of Part XI of UNCLOS):

³¹³ 1983 FAO Plant Genetics Undertaking. Art. I; see chapter 11, p. 552 below.

³¹⁴ Preamble. See also UNGA Res. 43/53 (1988), 44/207 (1989) and 45/212 (1990), acknowledging that climate change is a 'common concern of mankind' and rejecting the original proposal in the draft prepared by Malta which described the global climate as the 'common heritage of mankind'.

³¹⁵ Preamble. ³¹⁶ Principle 23.

should enhance and not adversely affect the present and future development potential of developing countries.³¹⁷ In the Rio Declaration, the international community agreed that '[e]nvironmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply', and that 'the special situation of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority'.³¹⁸ The distinction is often made between the capacities of developing countries and their needs.

The differentiated approach is reflected in many treaties. Under the 1972 London Convention, the measures required are to be adopted by parties 'according to their scientific, technical and economic capabilities'.³¹⁹ Other treaties identify the need to take account of states' 'capabilities',³²⁰ or their 'economic capacity' and the 'need for economic development',³²¹ or the 'means at their disposal and their capabilities'.³²² The principle of differentiated responsibility has also been applied to treaties and other legal instruments applying to developed countries. Examples include the 1988 EC Large Combustion Directive, which sets different levels of emission reductions for each member state;³²³ the 1991 VQC Protocol, which allows parties to specify one of three different ways to achieve reduction;³²⁴ and the EC Treaty (as amended by the Maastricht Treaty), which provides that:

Without prejudice to the principle that the polluter should pay, if a measure . . . involves costs deemed disproportionate for the public authorities of a member state, the Council shall, in the act adopting that measure, lay down appropriate provisions in the form of

- temporary derogations; and/or
- financial support from the Cohesion Fund . . .³²⁵

The special *needs* of developing countries are expressly recognised in other instruments.³²⁶ Account is to be taken of their 'circumstances and particular requirements',³²⁷ or of their 'specific needs and special circumstances',³²⁸ or of their 'special conditions' and 'the fact that economic and social

³¹⁷ Art. 30; UNGA Res. 3201 (1974).

³¹⁸ Principles 11 and 6; see also the 1992 Climate Change Convention, Preamble.

³¹⁹ Art. 11.

³²⁰ 1981 Abidjan Convention, Art. 4(1). ³²¹ 1982 UNCLOS, Art. 207.

³²² 1985 Vienna Convention, Art. 2(2). ³²³ Chapter 8, pp. 336-9 below.

³²⁴ Chapter 8, pp. 329-32 below. ³²⁵ Article 175(5), and former Article 130s(5).

³²⁶ 1976 Barcelona Convention, Art. 11(3); 1982 UNCLOS, Preamble.

³²⁷ 1985 Vienna Convention, Preamble.

³²⁸ 1992 Climate Change Convention, Art. 3(2) (policies and measures 'should be appropriate for the specific conditions of each Party and should be integrated with national development programmes': Art. 3(4)). See now the 1997 Kyoto Protocol, chapter 8, pp. 368-81 below.

development and eradication of poverty are the first and overriding priorities of the developing country parties.³²⁹

In practical terms, differentiated responsibility results in different legal obligations. The different techniques available to apply it include 'grace' periods delaying implementation, and less stringent commitments. Under the 1987 Montreal Protocol, the special situation of developing countries entitles them, provided that they meet certain conditions, to delay their compliance with control measures.³³⁰ Under the 1992 Climate Change Convention, the principle of 'common but differentiated responsibilities' requires specific commitments only for developed country parties and other developed parties, and allows differentials in reporting requirements.³³¹ The 1997 Kyoto Protocol applies the principle of 'differentiated responsibility' to OECD countries, setting a range of different targets depending upon states' historic contribution and capabilities.³³² The special needs of developing countries, the capacities of all countries, and the principle of 'common but differentiated' responsibilities has also resulted in the establishment of special institutional mechanisms to provide financial, technological and other technical assistance to developing countries to help them implement the obligations of particular treaties.³³³

Conclusions

This chapter illustrates the extent to which the practice of states, international organisations and other members of the international community has given rise to a body of discrete principles and rules which may be of general application. Their legal status, their meaning and the consequences of their application to the facts of a particular case or activity remain open. There are several reasons for this. First, they have emerged over a relatively short period of time, some only within the past fifteen years. Secondly, each has emerged in the context of sharp differences of view as to what they mean in practice, and what they should mean. And, thirdly, the extent to which state practice interprets and applies these principles and rules is still evolving, and requires further consideration by reference to what states do both at the national level and in their international affairs. Nevertheless, rational arguments can be made in favour of each having significant legal consequences, and, as has been seen in the chapter, states and international courts and tribunals have increasingly been prepared to rely upon some of these principles and rules to justify their actions and to enable them to reach conclusions in their application of substantive legal obligations to

³²⁹ 1992 Biodiversity Convention, Preamble and Art. 20(4); see also 1992 Climate Change Convention, Art. 4(7).

³³⁰ Art. 5(1); see also e.g. 1990 Amendments, Art. 1P.

³³¹ Arts. 4 and 12; see further the 1997 Kyoto Protocol, chapter 8, pp. 368–81 below.

³³² Chapter 8, pp. 368–81 below. ³³³ Chapter 20, pp. 1021–37 below.

particular sets of facts. In some cases, such application has had far-reaching consequences, for example in the *Southern Bluefin Tuna* cases at the provisional measures phase.

The principles and rules of general application which have been described in this chapter provide a framework to shape the future development of international environmental law. Each is important and has its own particular role. Two principles currently seem particularly relevant, and are likely to play a critical role in determining whether international environmental obligations play a marginal or a central role in international affairs. The first is that element of the principle of sustainable development which requires environmental protection to be treated as 'an integral part of the development process and cannot be considered in isolation from it'. If any single provision of the Rio Declaration can contribute to the normative development of international environmental law, this is likely to be it. On the one hand, it can be considered to require all development decisions throughout the range of human economic activity to be subjected to critical environmental scrutiny. If applied in this way, the principle of sustainable development could extend the use of the substantive international environmental norms which have been established over the past three decades to inform decision-making by all states and international organisations, and result in a further reappraisal of the activities of organisations such as the WTO which increasingly, in the interpretation and application of their rules, have regard to legal developments beyond their own legal systems. The *Shrimp/Turtle* case indicates the potential for this approach. On the other hand, this aspect of the principle of sustainable development also requires economic and other development considerations to be taken into account in developing and applying those international environmental norms, providing the underlying basis for the emergence of the principle of differentiated responsibility.

The second critical principle is the precautionary principle, and its impact over time should not be understated. It has already been relied upon, as has been seen in this chapter, to require a shift in the burden of proof in cases concerning the conduct of certain especially hazardous activities. The extent to which it is applied at the international level will serve as a barometer to measure future developments in international environmental law. Some international courts have now been willing to apply the precautionary principle, and others have been willing to do so with stealth. It is surely only a matter of time before other courts follow suit.

Human rights and armed conflict

International human rights

C. Stone, *Should Trees Have Standing? Towards Legal Rights for Natural Objects* (1974); M. Uibõpuu, 'The Internationally Guaranteed Right of an Individual to a Clean Environment', 1 *Comparative Law Yearbook* 101 (1977); W. Gormley, *Human Rights and the Environment: The Need for International Co-operation* (1976); J. Bryden, 'Environmental Rights in Theory and Practice', 62 *Minnesota Law Review* 163 (1978); P. Kromarek (ed.), *Environnement et droits de l'homme* (1987); W. Gormley, 'The Legal Obligation of the International Community to Guarantee a Pure and Decent Environment: The Expansion of Human Rights Norms', 3 *Georgetown International Environmental Law Review* 85 (1991); G. Alfredsson and A. Ovsioek, 'Human Rights and the Environment', 60 *Nordic Journal of International Law* 19 (1991); I. Hodkova, 'Is There a Right to a Healthy Environment in the International Legal Order?', 7 *Connecticut Journal of International Law* 65 (1991); D. Shelton, 'Human Rights, Environmental Rights, and the Right to the Environment', 28 *Stanford Journal of International Law* 103 (1991); D. Shelton, 'What Happened in Rio to Human Rights?', 3 *Yearbook of International Environmental Law* 75 (1992); Human Rights Watch and National Resources Defense Council, *Defending the Earth: Abuses of Human Rights and the Environment* (1992); Sierra Club Legal Defense Fund, *Human Rights and the Environment: The Legal Basis for a Human Right to the Environment* (1992); A. Trindade (ed.), *Human Rights, Sustainable Development and the Environment* (1992); R. Desgagne, 'Integrating Environmental Values into the European Convention on Human Rights', 89 *AJIL* 263 (1995); A. Boyle and M. Anderson (eds.), *Human Rights Approaches to Environmental Protection* (1996); Earthjustice Legal Defense Fund, *Human Rights and the Environment* (2001).

Introduction

As it develops, international environmental law raises many issues already familiar to international human rights lawyers. In the environmental context, questions related to the existence and application of minimum international standards and the proper role of individuals and other non-governmental

organisations in the international legal process have raised analogous issues to those arising in international human rights law. The international legal issues are closely related, as is now reflected in the developing activities of human rights bodies.¹ Allegations of civil rights breaches continue to abound in the environmental field, and have focused on: the suppression of environmental discussion and debate and of environmental campaigners; restrictions on the right of association and assembly; the mistreatment of 'whistleblowers'; press censorship; and restrictions on rights of access to environmental information. Human rights issues are equally being raised in relation to 'environmental' refugees forced to flee areas because of drought or desertification, and humanitarian issues involving the use of force and the environmental impacts of war, which are considered in the second part of this chapter. Human rights issues related to environmental protection became the subject of increasing attention following a number of well-known cases, including the 1988 murder of the Brazilian union organiser Chico Mendes, restrictions on the provision of information to citizens of the USSR following the accident at the Chernobyl nuclear power plant, and the limited availability of remedies for breaches of environmental standards and obligations under national legal systems. Against this background, there have been important developments in the past decade, including in particular a growing body of jurisprudence and commentary recognising the existence (and importance) of the linkages between human rights and environmental matters. Of particular note is the 1998 Aarhus Convention, which establishes formal participation and informational rights and affirms, in its Preamble, that 'every person has the right to live in an environment adequate to his or her health or well-being'.²

The development of international human rights law pre-dates international environmental law and provides a rich source of experience. Since the 1960s, the two subjects have developed in parallel, intersecting with increasing

¹ See most recently the Conclusions of Experts (2002) following the joint Seminar of the Office of the High Commissioner for Human Rights (OHCHR) and UNEP, pursuant to Decision 2001/111 of the UN Commission on Human Rights, on promoting and protecting human rights in relation to environmental questions. The Conclusions (together with six background papers) are available at www.unhchr.ch/environment/; see in particular D. Shelton, *Human Rights and Environment Issues in Multilateral Treaties Adopted Between 1991 and 2001* (2002); D. Shelton, *Human Rights and the Environment: Jurisprudence of Human Rights Bodies* (2002); A. Fabra, *The Intersection of Human Rights and Environmental Issues: A Review of Institutional Developments at the International Level* (2002). The OHCHR/UNEP seminar was, apparently, the first formal effort by UN bodies in the human rights and environment fields to jointly address the connections.

² See also Art. 1, chapter 17, p. 858 below; and J. Ebbeson, 'The Notion of Public Participation in International Environmental Law', 8 *Yearbook of International Environmental Law* 51 (1997). Upon signature, the United Kingdom declared that this right was merely 'aspirational' in character.

frequency. The extent to which international environmental law should adopt an anthropocentric approach, based on the view that environmental protection is primarily justified as a means of protecting humans rather than as an end in itself, was an important issue at UNCED. The Rio Declaration supports an anthropocentric approach: Principle 1 states that: 'Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.'³ Legal developments in other fora and contexts, however, reflect a greater environmental consciousness and suggest that the protection of the environment is increasingly an objective justified in its own terms, and not simply a means of protecting humans.⁴

Development of international human rights law

The UN Charter marked the beginnings of modern international human rights law; in the same way, it established the international framework within which the international community would, some twenty-five years later, address many international environmental issues. The Charter reaffirmed the faith of the 'Peoples of the United Nations' in fundamental human rights and provided that one of the UN's purposes was to promote and encourage 'respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language or religion'.⁵ The UN Charter does not identify the human rights and fundamental freedoms which would contribute to the economic and social advancement of all peoples; nor does it provide any support for the idea that a clean or healthy environment should or did form a part of those rights and freedoms.

The first international instrument to elaborate detailed human rights standards applicable globally was the Universal Declaration of Human Rights (UDHR), adopted by the UN General Assembly in 1948.⁶ The Declaration was subsequently supplemented in 1966 by two treaties open to all states: the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁷ and the International Covenant on Civil and Political Rights (ICCPR).⁸ These instruments have since been supplemented by four regional human rights treaties:⁹

³ Principle 1. Cf. Principle 1 of the 1972 Stockholm Declaration; see p. 306 below.

⁴ See in particular recent developments concerning the protection of biodiversity (chapter 11, pp. 517-19 below); the inclusion of a new heading of environmental damage in recent civil liability conventions (chapter 18, pp. 896-901 below); and the proposal that environmental degradation should be considered a crime against the peace and security of mankind (chapter 18, pp. 894-6 below).

⁵ Preamble and Arts. 1(3) and 55. ⁶ UNGA Res. 217 (III) (1948).

⁷ Annex to UNGA Res. 2200 (XXI) (1966); 993 UNTS 3, in force 3 January 1976.

⁸ Annex to UNGA Res. 2200 (XXI) (1966), 999 UNTS 717, in force 23 March 1976.

⁹ See also the Draft Charter on Human and Peoples' Rights in the Arab World, 1987.

the 1950 European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR);¹⁰ the 1961 European Social Charter (ESC);¹¹ the 1969 American Convention on Human Rights (ACHR);¹² and the 1981 African Charter of Human and Peoples' Rights (1981 African Charter).¹³ Three of these instruments (the ICESCR, the African Charter and the ACHR) recognise a link between the environment and human rights. None of the three identifies environmental rights as being subject to specific rules of protection, although they do allow a conceptual framework and approach for introducing environmental concerns and for the subsequent introduction of express environmental language.

Environmental protection and human rights

In 1968, the UN General Assembly first recognised the relationship between the quality of the human environment and the enjoyment of basic rights.¹⁴ The 1972 Stockholm Declaration proclaimed that man's natural and man-made environment 'are essential to his well-being and to the enjoyment of basic human rights – even the right to life itself'¹⁵ and declared in Principle 1 that:

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.

The international community has not, however, defined in practical terms the threshold below which the level of environmental quality must fall before a breach of a person's human rights will have occurred. Nevertheless, some non-binding and widely accepted declarations supporting the individual's right to a clean environment have been adopted. Although the 1982 World Charter for Nature does not expressly provide for the individual's right to a clean

¹⁰ Rome, 4 November 1950, in force 3 September 1953, 213 UNTS 222. The ECHR has been supplemented by twelve Protocols. Protocol 11, which entered into force in November 1998, replaced the European Commission and Court with a single Court: see chapter 5, pp. 193–5 above.

¹¹ Turin, 18 October 1961, in force 26 February 1965, ETS No. 35.

¹² San José, 22 November 1969, in force 18 July 1978, 9 ILM 673 (1970). The ACHR has been supplemented by the San Salvador Additional Protocol on Economic, Social and Cultural Rights, 14 November 1988, in force 16 November 1999, 28 ILM 161 (1989).

¹³ Banjul, 27 June 1981, in force 21 October 1986, 21 ILM 59 (1982).

¹⁴ UNGA Res. 2398 (XXII) (1968). See also the Proclamation of Tehran, UN Doc. A/CONF.32/41, para. 18, recognising the dangers posed by scientific discoveries and technological advances for the rights and freedoms of individuals.

¹⁵ Preambular para. 1.

environment, it was one of the first instruments to recognise the right of individuals to participate in decision-making and have access to means of redress when their environment has suffered damage or degradation. The 1989 Declaration of the Hague on the Environment recognised 'the fundamental duty to preserve the ecosystem' and 'the right to live in dignity in a viable global environment, and the consequent duty of the community of nations vis-à-vis present and future generations to do all that can be done to preserve the quality of the environment'.¹⁶ The UN General Assembly has declared that 'all individuals are entitled to live in an environment adequate for their health and well-being',¹⁷ and the UN Commission on Human Rights has affirmed the relationship between the preservation of the environment and the promotion of human rights.¹⁸ More specifically, the Sub-Commission on Prevention of Discrimination and Protection of Minorities has considered the relationship between human rights and the movement and dumping of toxic and dangerous products and wastes,¹⁹ supported further study,²⁰ and considered the relationship between the environment and human rights in the context of chemical weapons.²¹ The Sub-Commission has also received reports on 'Human Rights and the Environment' which analyse many of the key concepts and provide information on decisions of international bodies.²² More specifically, the UN Commission on Human Rights has declared that the movement and dumping of toxic and dangerous products endanger basic human rights such as 'the right to the highest standard of health, including its environmental aspects'.²³ Efforts to further develop language on environmental rights continues under the auspices of several international institutions including the Council of Europe and

¹⁶ Declaration of the Hague on the Environment, 11 March 1989, 28 ILM 1308 (1989).

¹⁷ UNGA Res. 45/94 (1990). ¹⁸ See e.g. Res. 1990/41 (1990).

¹⁹ Res. 1988/26 (1988); see also Res. 1989/12 (1989) on the movement and dumping of toxic and dangerous products and waste, declaring in draft terms that 'the movement and dumping of toxic and dangerous products endanger basic human rights such as the right to life, the right to live in a sound and healthy environment and consequently the right to health'.

²⁰ Decision 1989/108 (1989). A note was subsequently prepared on 'Human Rights and Scientific and Technological Developments: Proposals for a Study of the Problem of the Environment and Its Relation to Human Rights', UN Doc. E/CN.4/Sub.2/1990/12, 3 August 1990.

²¹ Sub-Commission on Prevention of Discrimination and Protection of Minorities, Res. 1989/39, UN Doc. E/CN.4/1990/2, 1 September 1989.

²² See Final Report by Special Rapporteur, Ms Fatma Zohra Ksentini, UN Doc. E/CN.4/Sub.2/1994/9 (including a Draft Declaration on Principles of Human Rights and the Environment). See also 'Human Rights and the Environment: Preliminary Report', UN Doc. E/CN.4/Sub.2 1991/8, 2 August 1991; 'Human Rights and the Environment', UN Doc. E/CN.4/Sub.2 1992/7, 2 July 1992; 'Human Rights and the Environment', UN Doc. E/CN.4/Sub.2/1993/7.

²³ Res. 1990/43, UN Doc. E/CN.4/1990/94, 104 (1990); see also the reports by the Special Rapporteur, UN Doc. E. CN.4/2001/55 (19 January 2001).

the UN Economic Commission for Europe.²⁴ Other efforts include the IUCN's draft International Covenant on Environment and Development prepared by the IUCN's Commission on Environmental Law.²⁵

Many states have adopted national measures linking the environment and individual rights.²⁶ The constitutions of about 100 states now expressly recognise the right to a clean environment.²⁷ These constitutional provisions vary in their approach: they provide for a state duty to protect and preserve the environment;²⁸ or declare the duty to be the responsibility of the state and citizens;²⁹ or declare that the duty is imposed only upon citizens;³⁰ or declare that the individual has a substantive right in relation to the environment;³¹ or provide for an individual right together with the individual or collective duty of citizens to safeguard the environment;³² or provide for a combination of various state and citizen duties together with an individual right.³³

What are the practical consequences of recognising the link between international human rights law and the protection of the environment? The question may be addressed in the context of the distinction which has been drawn in international human rights law between economic and social rights, and civil and political rights. The nature and extent of economic and social rights

²⁴ Recommendation of the Parliamentary Assembly of the Council of Europe on the Formulation of a European Charter and a European Convention on Environmental Protection, Eur. Parl. Ass., 42nd Sess. Recommendation 1130 (1990); and the Draft UNECE Charter on Environmental Rights and Obligations, UN Doc. ENWA/R.38, December 1990.

²⁵ Second edition, 2000; the preamble recognises that 'respect for human rights and fundamental freedoms contributes to sustainable development'; see also Art. 4. The draft provided that 'all persons have the fundamental right to an environment adequate for the dignity, health and well-being' (Art. 2(1)), and that 'states have the obligation to protect the environment' (Art. 3(1)).

²⁶ Note in this regard that the Charter of Fundamental Rights of the European Union, OJ C364 (18 December 2000), 1, does not frame environmental concerns in terms of rights ('A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development': Art. 37). See also Art. 111 of the Treaty establishing the East African Community ('a clean and healthy environment is a prerequisite for sustainable development').

²⁷ See 'Human Rights and the Environment: The Legal Basis for a Human Right to the Environment', Report to the UN Sub-Commission on the Prevention of Discrimination and the Protection of Minorities, Sierra Club Legal Defense Fund, April 1992; and Earthjustice Legal Defense Fund, 'Human Rights and the Environment' (Issue Paper) (December 2001).

²⁸ *Ibid.*, 21, including China, Equatorial Guinea, Germany, Greece, Honduras, Mexico, Mozambique, Namibia, the Netherlands, Nigeria, Panama, Paraguay, the Philippines, Romania, Taiwan, Thailand and the United Arab Emirates.

²⁹ *Ibid.*, including Albania, Bahrain, Bulgaria, Ethiopia, Guatemala, Guyana, India, Iran, Papua New Guinea, Sri Lanka, Sweden and Tanzania.

³⁰ *Ibid.*, including Algeria, Bolivia, Haiti, the Russian Federation and Vanuatu.

³¹ *Ibid.*, including Burkina Faso and Hungary.

³² *Ibid.*, including South Korea, Poland, Portugal, Spain and the former Yugoslavia.

³³ *Ibid.*, including Brazil, Chile, Colombia, Ecuador, Nicaragua, Peru, Turkey and Vietnam.

determines the substantive rights to which individuals are entitled, including in particular the level below which environmental standards (for example, in relation to pollution) must not fall if they are to be lawful. Civil and political rights, which are also substantive in nature and sometimes referred to as 'due process' rights, determine procedural and institutional rights (such as the right to information or access to judicial or administrative remedies). International environmental law has progressed considerably in building upon existing civil and political rights and developing important new obligations, most notably in the 1998 Aarhus Convention which provides for rights of access to information, to participation in decision-making, and to access to justice.³⁴ While economic and social rights have traditionally been less well developed in practice, recent judicial decisions indicate that international courts and tribunals are increasingly willing to find violations of substantive environmental rights.

Economic and social rights

Although the existence of economic and social rights under international law has been less widely accepted by elements of the international community, it is these rights which promise to allow human rights bodies to consider whether substantive environmental standards and conditions are being maintained at satisfactory levels. Translating general economic and social rights into specific environmental standards will never be an easy task, although it is one which some international bodies are willing to take on. Each of the major human rights instruments identified above recognises the existence of at least some such rights. In the context of environmental issues, those which appear to be most relevant include: the entitlement to the realisation of economic, social and cultural rights indispensable for dignity;³⁵ the right to a standard of living adequate for health and well-being;³⁶ the right to the highest attainable standard of health (including improvement of all aspects of environmental and industrial hygiene);³⁷ the right of all peoples to freely dispose of their natural wealth and resources;³⁸ safe and healthy working conditions;³⁹ the protection of children against social exploitation;⁴⁰ the right to enjoy the benefits of scientific progress and its applications;⁴¹ and the right of peoples to self-determination and the pursuit of economic and social development.⁴²

Environmental degradation could be linked to the violation of each of these rights. Lack of access to drinking water which is free from toxic or other

³⁴ See Chapter 17, p. 858, and chapter 5, pp. 209–10 above.

³⁵ 1948 UDHR, Art. 22; 1969 ACHR, Art. 26; 1981 African Charter, Art. 22.

³⁶ 1948 UDHR, Art. 25; 1966 ICESCR, Art. 11(1).

³⁷ 1966 ICESCR, Art. 12(1) and (2)(b); 1961 ESC, Art. 11; 1981 African Charter, Art. 16(1); on the activities of the ESC Committee of Independent Experts, see p. 304 below.

³⁸ 1966 ICESCR, Art. 1(2); 1966 ICCPR, Art. 1(2); 1981 African Charter, Art. 21.

³⁹ 1966 ICESCR, Art. 7(b); 1961 ESC, Art. 3.

⁴⁰ 1966 ICESCR, Art. 10(3); 1961 ESC, Art. 17.

⁴¹ 1966 ICESCR, Art. 15(1)(b). ⁴² 1981 African Charter, Art. 20(1).

contaminants, pollution of the atmosphere by heavy metals and radioactive materials, the dumping of hazardous and toxic wastes in the vicinity of people's homes can all be viewed and treated as violations of fundamental economic and social rights. This is now reflected in General Comment No. 15 (Right to Water) of the UN Committee on Economic, Social and Cultural Rights, affirming that everyone is entitled to safe and acceptable water for personal and domestic use.⁴³ In the United States, the environmental degradation in areas predominantly populated by poor communities and ethnic minorities has come to be known as 'environmental discrimination' or 'environmental racism', terms emphasising the linkage between environmental rights and human rights.

However, only two regional human rights treaties expressly recognise environmental rights. Under the 1981 African Charter, 'all peoples shall have the right to a general satisfactory environment favourable to their development'.⁴⁴ The 1988 San Salvador Protocol to the 1969 ACHR provides in its Article 11 that:

1. Everyone shall have the right to live in a healthy environment and to have access to basic public services.
2. The state parties shall promote the protection, preservation and improvement of the environment.

The San Salvador Protocol distinguishes between the *right* of individuals to 'live in a healthy environment' and the *positive obligation* of states to protect, preserve and improve the environment. The failure of a state to carry out that obligation can therefore give rise to an enforceable right of action. The efforts by the Council of Europe in the 1970s to draft a protocol on environmental rights failed due to a lack of political support by states,⁴⁵ and Article 37 of the

⁴³ E/C.12/2002/11, 26 November 2002.

⁴⁴ 1981 African Charter, Art. 24.

⁴⁵ The draft Protocol stated:

Article 1

1. No one should be exposed to intolerable damage or threats to his health or to intolerable impairment of his well-being as a result of adverse changes in the natural conditions of life.
2. An impairment of well-being may, however, be deemed to be tolerable if it is necessary for the maintenance and development of the economic conditions of the community and if there is no alternative way of making it possible to avoid this impairment.

Article 2

1. If adverse changes in the natural conditions are likely to occur in his vital sphere as a result of the actions of other parties, any individual is entitled to demand that the competent agencies examine the situation in all cases where Article 1 applies.
2. Any individual acting under paragraph 1 shall, within a reasonable time, receive detailed information stating what measures – if any – have been taken to prevent those adverse changes.

EU Charter of Fundamental Rights falls well short of declaring the existence of a substantive right.⁴⁶

The relationship between environmental protection and economic and social rights is recognised in other treaties. The 1989 Convention on the Rights of the Child, for example, requires education for '[t]he development of respect for the natural environment'.⁴⁷ The 1989 Convention Concerning Indigenous and Tribal Peoples in Independent Countries requires governments to protect the human rights and fundamental freedoms of indigenous and tribal peoples and to guarantee respect for their integrity,⁴⁸ including special measures to be adopted to protect and preserve the environment of indigenous and tribal peoples.⁴⁹ It also states that the rights of these peoples to the natural resources of their lands must be specially safeguarded.⁵⁰

The practical application of economic and social rights requires international and national courts and tribunals to determine the circumstances in which environmental standards have fallen below acceptable international levels. These standards are being developed, particularly at the regional level. They establish minimum standards of water and air quality which might provide a basis for arguing that standards have fallen below minimum acceptable levels and that an individual right of action to enforce these minimum standards might arise. However, in the absence of specific, binding international standards, it may be more difficult for such claims to succeed, unless the environmental conditions are so poor that blatant abuses will be considered to have occurred. An emerging practice on appropriate standards is reflected in recent international decisions, indicating a growing willingness to identify violations of 'environmental' rights.

The change which is occurring is particularly apparent in respect of the 1950 ECHR, which does not include express provisions on the environment. A 1976 decision of the European Commission on Human Rights illustrated the difficulty in making environmental claims. In *X. and Y. v. Federal Republic of Germany* the applicants were members of an environmental organisation which owned 2.5 acres of land for nature observation. They complained on environmental grounds about the use of adjacent marshlands for military purposes. The Commission rejected the application as incompatible *rationae materiae* with the ECHR on the ground that 'no right to nature preservation is as such included among the rights and freedoms guaranteed by the Convention and in particular by Articles 2, 3 or 5 as invoked by the applicant'.⁵¹

⁴⁶ See n. 26 above.

⁴⁷ 28 November 1989, in force 2 September 1990; 29 ILM 1340 (1990), Art. 29(e); see M. Fitzmaurice and A. Fijalkowski (eds.), *Right of the Child to Clean Environment* (2000).

⁴⁸ Geneva, 27 June 1989, in force 5 September 1991, 28 ILM 1382 (1989), Arts. 2 and 3; see also the Draft Universal Declaration on the Rights of Indigenous Peoples, UN Doc. E/CN.4/Sub.2/1991/40/Rev.1.

⁴⁹ Arts. 4(1) and 7(4). ⁵⁰ Arts. 4(1) and 7(4).

⁵¹ Application No. 7407/76, Decision of 13 May 1976 on the admissibility of the application, 15 DR 161.

An alternative approach has emerged, in the absence of rights being granted in relation to the environment, whereby victims bring claims on the basis that personal or property rights have been violated. A series of judgments by the European Court of Human Rights illustrates how such a claim might now be made, although it is apparent that each case must be taken on its own merits. In *Arrondelle v. United Kingdom*, Article 8 of the 1950 ECHR and Article 1 of the First Protocol to the ECHR provided the basis for a 'friendly settlement' between the parties in a complaint alleging nuisance due to the development of an airport and construction of a motorway adjacent to the applicant's home.⁵²

In *Powell and Rayner v. United Kingdom*, the applicants alleged that the United Kingdom had violated the 1950 ECHR by allowing the operation of Heathrow Airport, under whose flight path they lived, to generate excessive levels of aircraft noise. The relevant parts of the case were based on Article 8 of the ECHR, which provides that, *inter alia*, 'everyone has the right to respect for his private . . . life [and] his home . . . and there shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of the economic well-being of the country . . .'.⁵³ The applicants maintained that excessive noise forced them to endure, without legal redress, unreasonable disturbance caused by aircraft flying in accordance with governmental regulations, in breach of Article 8 and the Article 13 right to an effective remedy under domestic law for alleged breaches of the Convention. The Court rejected their argument, noting that its task was to strike 'a fair balance . . . between the competing interests of the individual and the community as a whole'. In this case, that balance had not been upset. While the quality of life of the applicants had been adversely affected, the Court recognised that large international airports, even in densely populated areas, and the increased use of jets, were necessary in the interests of a country's economic well-being. Heathrow was a major artery for international trade and communication which employed several thousand people and generated substantial revenues. The United Kingdom government had taken significant measures to abate noise pollution, taking account of international standards, and had compensated nearby residents for disturbances resulting from aircraft noise. Moreover, the government had, since 1949, proceeded on the basis that aircraft noise was better addressed by taking and enforcing specific regulatory measures than by applying the common law of nuisance. In the context of these considerations, the Court concluded that it could not 'substitute for the assessment of the national authorities any other assessment of what might be the best policy in this difficult social and technical sphere. This is an area where the contracting states are to be recognised as enjoying a wide margin of appreciation.'⁵⁴ The judgment reflects a reluctance to allow

⁵² Application No. 7889/77, Report of 13 May 1983, 26 DR 5.

⁵³ *Powell and Rayner v. United Kingdom*, Judgment of 21 February 1990, ECHR Ser. A, No. 172, 17, para. 37.

⁵⁴ *Ibid.*, para. 44.

environmental concerns of a private person to take precedence over the broader economic concerns of the wider community, particularly where, as in this case, the government was able to point to its compliance with international standards concerning noise from aircraft.

Since *Powell and Rayner*, however, the European Court has shown itself to be more open to environmental claims, particularly in cases involving Article 8 claims to the effect that a correct balance has not been struck between individual and community interests. The leading decision is *Lopez-Ostra v. Spain*.⁵⁵ Mrs Lopez-Ostra lived twelve metres from a plant treating liquid and solid wastes, which had been built on municipal land with the support of a state subsidy and had operated without a relevant licence. The plant gave off fumes which caused a nuisance to Mrs Lopez-Ostra and her daughter and caused them to temporarily leave their home. Having failed in proceedings in Spain, she brought ECHR proceedings on the grounds that she was the victim of a violation of the right to respect for her home that made her private and family life impossible (Article 8), and the victim also of degrading treatment. The European Court found that the situation which resulted was the result of the inaction of the state, having been prolonged by the municipality's and the relevant authorities' failure to act (para. 40). The Court said:

Naturally, severe environmental pollution may affect individuals' well-being and prevent them from enjoying their homes in such a way as to affect their private and family life adversely, without, however, seriously endangering their health. Whether the question is analysed in terms of a positive duty on the State – to take reasonable and appropriate measures to secure the applicant's rights . . . – . . . or in terms of an 'interference by a public authority' to be justified . . . the applicable principles are broadly similar. In both contexts regard must be had to the fair balance that has to be struck between the competing interests of the individual and of the community as a whole, and in any case the State enjoys a certain margin of appreciation. (para. 51)

The Court found that the plant caused nuisance and serious health problems to numerous local people, and that, even if the local municipality had fulfilled its functions under Spanish law, it had not taken the measures necessary for protecting the applicant's right to respect for her home and for her private and family life under Article 8 and had not offered redress for the nuisance suffered. In the circumstances, Spain had not succeeded in striking a fair balance between the interest of the town's economic well-being – that of having a waste-treatment plant – and the applicant's effective enjoyment of her right to respect for her home and her private and family life.⁵⁶

The judgment has opened the door to further cases. In *Guerra and others v. Italy*, the applicants were citizens living near to a factory which produced

⁵⁵ Judgment of 9 December 1994.

⁵⁶ *Ibid.*, paras. 51–8. The Court awarded damages of 4 million pesetas plus costs.

fertilisers, released large quantities of inflammable gas and other toxic substances into the atmosphere, and (in 1976) had been the source of an explosion releasing arsenic trioxide and causing 150 people to be hospitalised with acute arsenic poisoning. The applicants wanted information on the activities of the plant, and this was not made available to them until after production of fertilisers had ceased. The Court ruled that the 'direct effect of the toxic emissions on the applicants' right to respect for their private and family life made Article 8 applicable' (para. 57), that Article 8 imposed 'positive obligations' on the state to ensure 'effective respect for private or family life' (para. 58), and that by allowing the applicants to wait for essential information that would have enabled them to assess the risks they and their families might run if they continued to live near the factory, Italy had not fulfilled its obligations under Article 8 (para. 60).⁵⁷

In *Hatton and others v. United Kingdom*, the European Court revisited the issues raised in *Powell and Rayner*, although this time in the context of noise levels at Heathrow Airport arising from night flights between 4 am and 7 am. The Court found that the earlier decisions were not on point because the present case related to an increase in night noise.⁵⁸ Invoking the 'positive obligations' of the United Kingdom, the Court recognised the existence of a 'certain margin of appreciation' (as opposed to the 'wide margin' it had previously applied) (para. 96) and signalled a new approach taking into account the particular needs of environmental protection:

[I]n striking the required balance, States must have regard to the whole range of material considerations. Further, in the particularly sensitive field of environmental protection, mere reference to the economic well-being of the country is not sufficient to outweigh the rights of others... It considers that States are required to minimise, as far as possible, the interference with these rights, by trying to find alternative solutions and by generally seeking to achieve their aims in the least onerous way as regards human rights. In order to do that, a proper and complete investigation and study with the aim of finding the best possible solution which will, in reality, strike the right balance should precede the relevant project.⁵⁹

The Court noted that levels of noise during the relevant period had increased with the new scheme established in 1993, but that the government did not appear to have carried out any research of its own as to the reality or extent of the economic interest in increasing night flights and there had been no attempt to quantify the aviation and economic benefits in monetary terms.⁶⁰

⁵⁷ Judgment of 19 February 1998, at paras. 57–8 and 60. The Court awarded 10 million lire to each applicant in damages. The Court found, however, that there was no violation of Article 10: see chapter 17, pp. 852–3 below.

⁵⁸ Judgment of 2 October 2001, para. 94.

⁵⁹ *Ibid.*, para. 97. ⁶⁰ *Ibid.*, paras. 98 and 100–1.

It also noted that, while it was likely that night flights contribute to a certain extent to the national economy, their importance had never been assessed critically and only limited research had been carried out into the nature of sleep disturbance and prevention when the 1993 scheme was put in place.⁶¹ The Court concluded that there had been a violation of Article 8 because, in the absence of any serious attempt to evaluate the extent or impact of the interferences with the applicants' sleep patterns, and generally in the absence of a prior specific and complete study with the aim of finding the least onerous solution as regards human rights, the government had not struck the right balance in weighing the interferences of the rights of the individuals against the unquantified economic interest of the country.⁶² The judgment, which has been appealed to the Grand Chamber of the European Court, suggests the need to carry out a prior assessment of the human rights impact of economically beneficial measures, where environmental interests are concerned.

The Court has also been willing to recognise the need for environmental protection measures even where they might limit the enjoyment of private property rights.⁶³ In *Fredin v. Sweden*, the Court recognised 'that in today's society the protection of the environment is an increasingly important consideration', and held that on the facts the interference with a private property right to achieve environmental objectives was not inappropriate or disproportionate in the context of Article 1 of the First Protocol to the ECHR.⁶⁴ In *Pine Valley Development Ltd and Others v. Ireland*, the Court recognised that an interference with the right to peaceful enjoyment of property which was in conformity with planning legislation and was 'designed to protect the environment' was clearly a legitimate aim 'in accordance with the general interest' for the purposes of the second paragraph of Article 1 of the First Protocol to the ECHR.⁶⁵

⁶¹ *Ibid.*, paras. 102–3.

⁶² *Ibid.*, para. 106. See also the Separate Opinion of Judge Costa: '[H]aving regard to the Court's case law on the right to a healthy environment . . . maintaining night flights at that level meant that the applicants had to pay too high a price for an economic well-being, of which the real benefit, moreover, is not apparent from the facts of the case. Unless, of course, it is felt that the case law goes too far and overprotects a person's right to a sound environment. I do not think so. Since the beginning of the 1970s, the world has become increasingly aware of the importance of environmental issues and of their influence on people's lives. Our Court's case law has, moreover, not been alone in developing along those lines. For example, Article 37 of the Charter of Fundamental Rights of the European Union of 18 December 2000 is devoted to the protection of the environment. I would find it regrettable if the constructive efforts made by our Court were to suffer a setback.'

⁶³ Cf. the approach taken by various ICSID and NAFTA arbitral tribunals in relation to expropriation cases: chapter 21, pp. 1064–71 below.

⁶⁴ Judgment of 18 February 1991, ECHR Ser. A, No. 192, 14, para. 48; see also *Oerlemans v. Netherlands*, judgment of 27 November 1991, ECHR Ser. A, No. 219.

⁶⁵ Judgment of 29 November 1991, ECHR Ser. A, No. 222, paras. 54 and 57. Cf. *Matos y Silva v. Portugal*, Judgment of 16 September 1996 (finding a violation of Article 1 of Protocol 1 where there had been no formal or *de facto* expropriation, since the measures to create a

Moreover, the interference, in the form of a decision by the Irish Supreme Court, which was intended to prevent building in an area zoned for further agricultural development so as to preserve a green belt, had to be regarded as 'a proper way – if not the only way – of achieving that aim' and could not be considered as a disproportionate measure giving rise to a violation of Article 1 of the First Protocol.⁶⁶

The Inter-American Commission on Human Rights has shown itself equally willing to find a violation of 'environmental' rights, but predating the European Court in its approach. In the *Yanomami* case, the Commission concluded that the ecological destruction of Yanomami lands in Brazil had caused violations of the right to life, health and food under the American Declaration of the Rights and Duties of Man.⁶⁷ In *Mayagna (Sumo) Awas Tingni Community v. Nicaragua*, the Inter-American Court of Human Rights found that the grant of a logging concession violated the property rights (Article 21 of the ACHR) of an indigenous community, adopting an approach analogous to that taken by the European Court.⁶⁸

The Committee of Independent Experts established under the 1961 European Social Charter (ESC), which considers national reports under the Charter, has also recognised the relationship between the state of the environment and the safeguarding of rights guaranteed under the Charter. The Committee has taken into account national measures to prevent, limit or control pollution in considering compliance with the obligation to ensure the right to the highest attainable standard of health under Article 11 of the ESC.⁶⁹ Examples of earlier Committee actions include:

- noting the intention of the French authorities to achieve a 50 per cent reduction in atmospheric sulphur dioxide emissions in the period 1980–90;⁷⁰
- noting measures taken by Denmark to reduce air pollution, including reductions of nitrogen oxide emissions by 50 per cent before 2005 and sulphur dioxide emissions by 40 per cent before 1995;⁷¹

nature reserve for animals had serious and harmful effects that hindered the applicants' enjoyment of their property right for more than thirteen years, creating uncertainty as to what would become of the possessions and as to the question of compensation, and upsetting the balance between the requirements of the general interest and the protection of property rights).

⁶⁶ Para. 59.

⁶⁷ Case No. 7615 of 5 March 1985, Annual Report of the Inter-American Commission on Human Rights, OAS Doc. OEA/Ser.L/V/II.66, Doc. 10 rev.1, 24 (1985), cited in Earthjustice Legal Defense Fund, 'Human Rights and the Environment'.

⁶⁸ Judgment of 31 August 2001.

⁶⁹ 'Human Rights and the Environment: Progress Report', UN Doc. E/CN.4/Sub.2/1992, 2 July 1992, paras. 73 and 74. See also R. J. Dupuy (ed.), *The Right to Health as Human Right* (1979).

⁷⁰ 'Human Rights and the Environment: Progress Report', note 69 above, citing Council of Europe/ESC, Committee of Independent Experts – Conclusions IX-2 (1986), 71–2.

⁷¹ *Ibid.*, citing Conclusions XI-I (1989), 118.

- expressing the desire that national reports should contain information on measures taken to reduce atmospheric releases of sulphur dioxide and other acid gases;⁷²
- calling for broader measures to control environmental pollution;⁷³ and
- expressing the view that states should be considered as fulfilling their obligations under Article 11 of the ESC if they provide evidence of the existence of a medical and health system comprising 'general measures aimed in particular at the prevention of air and water pollution, protection from radioactive substances, noise abatement . . . [and] environmental hygiene'.⁷⁴

A similar approach has been taken by the Committee on the Elimination of Discrimination Against Women⁷⁵ and by the Committee on the Rights of the Child.⁷⁶

Civil and political rights

Civil and political rights are equally capable of creating practical and enforceable obligations in relation to environmental and related matters. Civil and political rights and obligations are established by several environmental treaties and other international instruments at the global and regional levels. Civil and political rights which are relevant to environmental protection include: the right to life;⁷⁷ the prohibition of cruel, inhuman or degrading treatment;⁷⁸ the right to equal protection against discrimination;⁷⁹ the right to an effective remedy by competent national tribunals for acts violating fundamental rights;⁸⁰ freedom

⁷² *Ibid.*, citing Council of Europe/ESC, *Case Law on the European Social Charter*, Supp. (1986), 37.

⁷³ 'Human Rights and the Environment: Progress Report', note 69 above, citing Council of Europe/ESC, *Case Law on the European Social Charter* (1982), 105.

⁷⁴ *Ibid.*, 104.

⁷⁵ See e.g. Concluding Observations on Romania, UN Doc. CEDAW/C/2000/11/Add.7, para. 38 (2000) ('[t]he Committee expresses its concern about the situation of the environment, including industrial accidents, and their impact on women's health').

⁷⁶ See e.g. Concluding Observations on South Africa, UN Doc. CRC/C/15/Add.122, para. 30 (2000) ('Le Comité fait part de son inquiétude devant l'aggravation de la dégradation écologique, en particulier en ce qui concerne la pollution atmosphérique. Le Comité recommande à l'État partie d'intensifier ses efforts pour favoriser la mise en oeuvre de programmes de développement durable afin de prévenir la dégradation écologique, en particulier la pollution atmosphérique.').

⁷⁷ 1966 ICCPR, Art. 6(1); 1950 ECHR, Art. 2(1); 1969 ACHR, Art. 4(1); 1981 African Charter, Art. 4.

⁷⁸ 1966 ICCPR, Art. 7; 1950 ECHR, Art. 3; 1969 ACHR, Art. 5; 1981 African Charter, Art. 5.

⁷⁹ 1948 UDHR, Art. 7; 1966 ICCPR, Art. 3; 1969 ACHR, Art. 24; 1981 African Charter, Art. 3(2); see H. Smets, 'Le Principe de non discrimination en matière de protection de l'environnement', 2 *Revue européenne de droit de l'environnement* 1 (2000).

⁸⁰ 1948 UDHR, Art. 8; 1950 ECHR, Art. 13; 1969 ACHR, Art. 25; 1981 African Charter, Arts. 7(1) and 26.

of expression⁸¹ and the right to receive information;⁸² the right to a fair and public hearing by an independent and impartial tribunal in the determination of rights and obligations;⁸³ the right to protection against arbitrary interference with privacy and the home;⁸⁴ the prohibition of arbitrary deprivation of property;⁸⁵ and the right to take part in the conduct of public affairs.⁸⁶

The 1989 Indigenous Peoples Convention illustrates the relationship between civil and political rights and environmental issues in that context.⁸⁷ Among the numerous obligations established or recognised by the Convention for indigenous and tribal peoples are environmental and other impact assessment and the right of such peoples to determine their own economic, social and cultural development, the right to be consulted and to participate in decision-making and to take legal proceedings to safeguard against the abuse of their rights.⁸⁸ The 1989 Indigenous Peoples Convention illustrates the limitations of the traditional approach of other instruments such as the ECHR. In *Xv. Federal Republic of Germany*, the European Commission on Human Rights rejected as 'manifestly ill-founded' a claim by an environmental association that Article 11 of the ECHR entitled it to have *locus standi* in administrative court actions to challenge a decision to construct a nuclear power plant; the Commission held that the ECHR does not require that associations be granted the right to institute legal proceedings pursuant to their statutory aims without having to show a legal interest of their own in the matter.⁸⁹ Many of the principles set out in the 1992 Rio Declaration and the 1972 Stockholm Declaration, which reflect state practice at the global and regional levels, will be familiar to human rights lawyers who have worked on civil and political rights. One of the central themes at UNCED was the recognition that individuals will need to

⁸¹ See e.g. *Bladet Tromsø and Stensaas v. Norway* (2000) 29 EHRR 125 (newspapers' freedom under Art. 10 of the 1950 ECHR to publish environmental information (regarding the consequences of seal-hunting) of local, national and international interest).

⁸² 1981 African Charter, Art. 9(1); see further chapter 17 below, especially pp. 852–9. Note that in *Guerra and others v. Italy*, the European Court did not find a violation of Art. 10 of the ECHR: see n. 57 above and the accompanying text.

⁸³ 1948 UDHR, Art. 10; 1966 ICCPR, Art. 14(1); 1950 ECHR, Art. 6(1); see further chapter 6 above.

⁸⁴ 1948 UDHR, Art. 12; 1966 ICCPR, Art. 17; 1950 ECHR, Art. 8(1) (see *Powell and Rayner*, ECHR (1990) Ser. A, No. 172; 1969 ACHR, Art. 11).

⁸⁵ 1948 UDHR, Art. 17; 1950 ECHR, First Protocol, Art. 1; 1969 ACHR, Art. 21; 1981 African Charter, Art. 14.

⁸⁶ 1966 ICCPR, Art. 25; 1969 ACHR, Art. 23; 1981 African Charter, Art. 13.

⁸⁷ See generally W. Shutkin, 'International Human Rights Law and the Earth: The Protection of Indigenous Peoples and the Environment', 31 *Virginia Journal of International Law* 479 (1991); A. Meyer, 'International Environmental Law and Human Rights: Towards the Explicit Recognition of Traditional Knowledge', 10 *RECIEL* 37 (2001).

⁸⁸ Arts. 6, 7 and 11.

⁸⁹ Application No. 9234/81, Decisions of 14 July 1981, 26 DR 270. See also *Balmer-Schafroth v. Switzerland* (1998) 25 EHRR 598.

participate fully to ensure the implementation of UNCED and Agenda 21. In supporting the participation of all concerned citizens at the relevant level, the Rio Declaration supports: the right of access to environmental information;⁹⁰ the right to participate in decisions which affect their environment;⁹¹ the right of effective access to judicial and administrative proceedings, including redress and remedy;⁹² a right to development to meet environmental needs;⁹³ and the rights flowing from the recognition of the need to ensure the full participation of women, youth and indigenous peoples and other communities.⁹⁴ The case law of the European Court and the adoption of instruments such as the 1998 Aarhus Convention indicate that this approach is likely to become increasingly important in the coming years, particularly as efforts to focus on the enforcement of environmental standards are stepped up.⁹⁵

War and armed conflict

J. Goldblat, *The Prohibition of Environmental Warfare* (1975); L. Juda, 'Negotiating a Treaty on Environmental Modification Warfare: The Convention on Environmental Warfare and its Impact on the Arms Control Negotiations', 32 *International Organization* 975 (1978); M. Bothe, 'War and Environment', in R. Bernhardt (ed.), *Encyclopaedia of Public International Law* (1982); D. Momtaz, 'Les Règles relatives à la protection de l'environnement au cours des conflits armés à l'épreuve du conflit entre l'Irak et le Koweït', 37 *AFDI* 203 (1991); B. Oxman, 'Environmental Warfare', 22 *Ocean Development and International Law* 433 (1991); C. Joyner and J. Kirkhope, 'The Persian Gulf War Oil Spill: Reassessing the Law of Environmental Protection and the Law of Armed Conflict', 24 *Case Western Reserve Journal of International Law* 29 (1992); G. Plant (ed.), *Environmental Protection and the Law of War* (1992); E. J. Wallach, 'The Use of Crude Oil by an Occupying Belligerent State as a Munition de Guerre', 41 *ICLQ* 287 (1992); R. Tarasofsky, 'Legal Protection of the Environment During International Armed Conflict', 24 *NYIL* 17 (1993); L. Low and D. Hodgkinson, 'Compensation for Wartime Environmental Damage', 35 *Virginia Journal of International Law* 405 (1995); R. Grunawalt, J. King and R. McClain (eds.), *Protection of the Environment During Armed Conflict* (1996); Symposium on Armed Conflict, Security and Environment, 9 *RECIEL* 1 (2000); D. Momtaz, 'The Use of Nuclear Weapons and the Protection of the Environment: The Contribution of the ICJ', in P. Sands and L. Boisson de Chazournes, *International Law, the ICJ and Nuclear Weapons* (1999), 354.

⁹⁰ Principle 10; chapter 17, p. 827 below. ⁹¹ Principle 10, see chapter 18, p. 870 below.

⁹² *Ibid.*, chapter 5, pp. 225–6 above. ⁹³ Principle 3.

⁹⁴ Principles 20, 21 and 22; on participation of women, under UNGA Res. 47/191 (1992), representation on the High-Level Advisory Board requires that 'due account should... be given to gender balance' (para. 29).

⁹⁵ On the 1998 Aarhus Convention, see chapter 5, pp. 209–10 above (access to justice) and chapter 17, pp. 858–9 below (environmental information).

Introduction

Military activities may have significant impacts upon the environment. Preparations, including the testing, development, production and maintenance of conventional, chemical, biological and nuclear weapons, have generated large quantities of hazardous, toxic, and radioactive substances. These, together with their wastes, have contributed on a large scale to the depletion of natural resources and degradation of the environment.⁹⁶ The environmental impacts of military activities are well documented, and recent conflicts in Vietnam, Afghanistan, the Persian Gulf and the Balkans have refocused attention on the need to limit these adverse consequences. In another sense, the protection of the environment has even been used as a justification for the use of force: in August 2000 the UN Interim Administration Mission in Kosovo (UNMIK) (assisted by the NATO-led Kosovo Force (KFOR)) took over control of the Zvecan Smelter Plant in Kosovo 'until air pollution control mechanisms are installed and the affected population tested'.⁹⁷

International law recognises and aims to address the link between military activities and environmental protection. Treaties to protect humans and their property from the effects of military activities also aim to protect the environment, albeit indirectly. More recently, treaties have addressed environmental protection as an end in itself. Three separate, but related, questions are worth considering. First, do the rules of international environmental law operate during times of war and armed conflict? Secondly, what indirect protection for the environment is afforded by the rules of international law governing war and armed conflict? And, thirdly, to what extent does the international law of war and armed conflict address environmental protection as an end in itself?

International environmental law during war and armed conflict

The first issue which arises concerns the applicability of the various rules of international environmental law to military activities, including preparatory activities. The general rules of public international law provide little guidance as to the legal validity and consequences of those treaties following the outbreak of military hostilities.⁹⁸ The validity and effect of a particular treaty during war

⁹⁶ A. H. Westing, *Warfare in a Fragile World: Military Impact on the Human Environment* (1980); J. P. Robinson, *The Effects of Weapons on Ecosystems* (1991). See also A. Westing (ed.), *Environmental Warfare: A Technical, Legal and Policy Appraisal* (1984); A. Westing (ed.), *Cultural Norms, War and the Environment* (1988).

⁹⁷ UNMIK Press Release, 14 August 2000, UNMIK/PR/312 ('Recent tests indicate that current levels of lead exposure are approaching the most extreme in decades. Levels of atmospheric lead measured last month were around 200 times the World Health Organization's acceptable standards.'). See also NATO/KFOR Press Release, 14 August 2000.

⁹⁸ Art. 73 of the 1969 Vienna Convention: '[T]he present Convention shall not prejudice any question that may arise in regard to a treaty from . . . the outbreak of hostilities between States.'

and/or armed conflict will often turn on the terms of the treaty itself. The general instruments of international environmental law and policy also fail to provide any guidance on this question. The 1972 Stockholm Declaration focuses exclusively on nuclear weapons. Principle 26 provides that:

Man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction. States must strive to reach prompt agreement, in the relevant international organs, on the elimination and complete destruction of such weapons.

The 1982 World Charter for Nature adopts a more general approach, stating the 'general principle' that '[n]ature shall be secured against degradation caused by warfare or other hostile activities', and declaring that 'military activities damaging to nature shall be avoided'.⁹⁹ The wording of the 1992 Rio Declaration gets closer to the point but is still ambiguous, stating in Principle 24 that:

Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in time of armed conflict and co-operate in its further development, as necessary.

Although not legally binding, the wording of Principle 24 could either be interpreted as requiring states to respect those rules of international law which provide protection for the environment in times of armed conflict, or as requiring states to respect international law by protecting the environment in times of armed conflict.

Most environmental treaties are silent on the issue of their applicability following the outbreak of military hostilities. Some, including those on civil liability for damage, include provisions excluding their applicability when damage occurs as a result of war and armed conflict.¹⁰⁰ Others include provisions allowing for total or partial suspension at the instigation of one of the parties,¹⁰¹ while yet others require the consequences of hostilities to influence decision-making in the application of the treaty by its institutions.¹⁰² Some treaties do

⁹⁹ Paras. 5 and 20.

¹⁰⁰ 1960 Paris Convention, Art. 9; 1963 Vienna Convention, Art. IV(3)(a); 1969 CLC, Art. III(2)(a); 1971 Oil Pollution Fund Convention, Art. 4(2)(a) (no liability attached to the Fund for damage from oil from warships used on non-commercial service); 1977 Civil Liability Convention, Art. 3(3); 1988 CRAMRA, Art. 8(4)(b) (if no reasonable precautionary measures could have been taken).

¹⁰¹ 1954 Oil Pollution Convention, Art. XIX(1), allowing parties to suspend operation of whole or part of the Convention in case of war or other hostilities if they consider themselves affected as a belligerent or as a neutral, upon notification to the Convention's Bureau.

¹⁰² 1952 North Pacific Fisheries Convention, which provides that Commission decisions should make allowance for, *inter alia*, wars which may introduce temporary declines in fish stocks (Art. IV(2)).

not apply to military activities even during peacetime operations,¹⁰³ while others are specifically applicable to certain activities which may be associated with hostilities.¹⁰⁴ Finally, the terms and overall purpose of some treaties make it abundantly clear that they are designed to ensure environmental protection at all times.¹⁰⁵ The 1997 Watercourses Convention adopts a different approach, making a *renvoi* to international humanitarian law: its Article 29 provides that: 'International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.'

The relevance of customary and conventional rules of international environmental law during armed conflict was addressed in the proceedings relating to the ICJ's Advisory Opinion on *The Legality of the Threat or Use of Nuclear Weapons*. A number of non-nuclear weapons states argued that multilateral environmental agreements and the rule reflected in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration applied in times of armed conflict and governed the use of nuclear weapons.¹⁰⁶ Without addressing the general question of the applicability of multilateral environmental agreements during conflict, some nuclear weapons states argued that such agreements (as well as Principle 21/Principle 2) could not be construed as prohibiting the threat or use of nuclear weapons because they did not address nuclear weapons *per se* and could not be construed as containing an implied prohibition on their use.¹⁰⁷ With regard to treaties, the ICJ side-stepped the differences of view, stating that the issue was not whether they 'are or are not applicable during armed conflict, but rather whether the obligations stemming from these treaties were intended to be obligations of total restraint during military conflict', and concluding that the treaties in question could not have been 'intended to deprive a State of the exercise of its right of self-defence under international law because of its obligations to protect the environment'.¹⁰⁸ With regard to the customary norm relating to the protection of the environment, the ICJ indicates that the environmental obligations it referred to in the second *New Zealand Nuclear Tests*

¹⁰³ 1972 London Convention, Art. VII(4) (non-applicability of the Convention to vessels and aircraft entitled to sovereign immunity under international law).

¹⁰⁴ 1976 Barcelona Protocol, which generally prohibits the dumping of materials produced for biological and chemical warfare (Annex 1, Section A, para. 9); and 1986 Noumea Protocol, which prohibits special dumping permits from being granted in respect of materials produced for biological and chemical warfare (Art. 10(1) and (2) and Annex I, Section A, para. 6).

¹⁰⁵ 1959 Antarctic Treaty, Art. I(1); 1988 CRAMRA, Art. 2.

¹⁰⁶ See 5 *Yearbook of International Environmental Law* 540-2 (1995) (Solomon Islands, Mexico, North Korea, Egypt, Iran and Qatar).

¹⁰⁷ *Ibid.* (United Kingdom, United States and France).

¹⁰⁸ (1996) ICJ Reports 242, para. 30. It is to be noted that the Court, perhaps deliberately, conflates the distinct concepts of the *jus in bello* and the *jus ad bellum*.

case 'also appl[y] to the actual use of nuclear weapons in armed conflict'.¹⁰⁹ In this way, the ICJ concludes that, although 'existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict'.¹¹⁰

*International law of war and armed conflict: general rules
of environmental protection*

The international law of war and armed conflict limits the methods and means of warfare available to states. These rules of treaty and customary law were developed to protect humans and their property, and may only be indirectly protective of an environment which is not intended to be the direct beneficiary of these acts. The 'Martens Clause' provides that, until the adoption of specific regulations, inhabitants and belligerents are 'under the protection and the rule of the principles of the law of nations as they result from the usages established among civilised peoples, from the laws of humanity, and the dictates of public conscience'.¹¹¹ In modern international law, there is no reason why these should not encompass environmental protection.

It is now a well-accepted general rule of international law that the methods and means of warfare are not unlimited. Methods and means are limited to activities necessary to achieve military objectives; which prevent unnecessary suffering and superfluous injury; which are proportionate; and which respect the rules of international law on neutrality. As early as 1899, states accepted that the 'right of the belligerent to adopt means of injuring the enemy is not unlimited'.¹¹² The 1977 Additional Protocol I provides that: 'In any armed conflict, the right of the parties to the conflict to choose methods or means of warfare is not unlimited.'¹¹³ As a general rule, the destruction of property is

¹⁰⁹ *Ibid.*, 243, para. 32; and see pp. 319–21 below.

¹¹⁰ *Ibid.*, para. 33. See also para. 30 ('States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.').

¹¹¹ 1907 Hague Convention IV Respecting the Laws and Customs of War on Land, 3 Martens (3rd) 461, Preamble. The 'Martens Clause' may be helpful in extending customary international law obligations to environmental protection objectives, particularly in the context of current efforts to establish the environment as a civilian objective.

¹¹² 1899 Hague Regulations to the International Convention with Respect to the Laws and Customs of War by Land (Hague II), 26 Martens (2nd) 949; and 1907 Hague Convention IV, n. 111 above.

¹¹³ Protocol I (Additional to the 1949 Geneva Conventions), Geneva, 8 June 1977, in force 7 December 1978, 16 ILM 1391 (1977).

prohibited unless it is rendered absolutely necessary by military operations,¹¹⁴ as is the use of mines causing long-lasting threats.¹¹⁵

These general obligations limiting the methods and means of warfare have been supplemented by specific treaty obligations prohibiting certain forms of weaponry and warfare which are particularly harmful to the environment. Although these rules are invariably designed to protect people, rather than the environment, their application could also provide protection to the environment. Under the 1977 Additional Protocol I, parties must assess new weapons and means or methods of warfare to determine whether, in their employment, they would be prohibited by the Protocol or by any other applicable rule of international law.¹¹⁶ Other treaties prohibit the use of conventional weapons causing excessive injuries or indiscriminate effects,¹¹⁷ including incendiary weapons,¹¹⁸ chemical and biological weapons,¹¹⁹ and nuclear weapons.¹²⁰ Cultural property is also subject to a regime of special protection.¹²¹ The limited role which such instruments or equivalent rules of customary international law might be able to play was illustrated by the graphic images of the bombardment of Dubrovnik in 1992 which were broadcast around the world.¹²²

More specific to environmental protection is the prohibition of attacks on works and installations containing dangerous forces, even when they are military objects, if such attacks might cause the release of dangerous forces and consequent severe losses among the civilian population.¹²³ Dams, dykes and nuclear power plants are specifically identified, although the effectiveness of this provision is limited by the exceptions provided if these types of works and installations are used in regular, significant and direct support of military operations, and if such an attack is the only feasible way to terminate such

¹¹⁴ 1899 Hague Regulations, n. 112 above, Arts. 23(g) and 55; 1949 Geneva Convention IV, Art. 53.

¹¹⁵ 1907 Hague Convention VIII on the Laying of Automatic Contact Mines; 19 ILM 1529 (1980); UNGA Res. 37/215 (1982).

¹¹⁶ Art. 36.

¹¹⁷ 1980 Inhumane Weapons Convention; the Preamble identifies one of the aims as environmental protection.

¹¹⁸ See Protocol III (Incendiary Weapons) to the 1980 Inhumane Weapons Convention, which prohibits making forest or other plant cover the object of attack unless used to cover, conceal or camouflage military objectives: Art. 2(4).

¹¹⁹ 1925 Geneva Protocol; 1972 Biological and Toxic Weapons Convention. See also the draft Convention on the Prohibition of the Development, Production and Stockpiling and Use of Chemical Weapons and on their Destruction, September 1992, GAOR Supp. 47th Sess., Supp. No. 27 (A/47/27), Appendix I.

¹²⁰ Chapter 18, pp. 905-12 below.

¹²¹ Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, 14 May 1954, 249 UNTS 215.

¹²² The Old City of Dubrovnik is listed under the 1972 World Heritage Convention as a World Heritage Site.

¹²³ 1977 Additional Protocol I, Art. 56(1); 1977 Additional Protocol II, Art. 15.

support.¹²⁴ Attacks against such works or installations launched in the knowledge that they will cause excessive loss of life, injury to civilians or damage to civilian objects are regarded as war crimes.¹²⁵ The IAEA has called for a prohibition of attacks on nuclear facilities, since they 'could result in radioactive releases with grave consequences',¹²⁶ and the International Law Association has declared that international law prohibits the destruction of water installations which 'may involve . . . substantial damage to the basic ecological balance'.¹²⁷ The increased importance attached by the international community to the protection of the environment in times of armed conflict has also been reflected in the work of the International Law Commission. The first reading of the draft Code of Crimes Against the Peace and Security of Mankind defines an 'exceptionally serious war crime' as, *inter alia*, 'employing methods or means of warfare which are intended or may be expected to cause widespread, long-term and severe damage to the natural environment'.¹²⁸ Any lingering doubts about the status of certain acts against the environment will have been laid to rest by the Statute of the International Criminal Court, which expressly characterises as a war crime an attack which is launched 'in the knowledge that [it] will cause . . . widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated'.¹²⁹

*International law of war and armed conflict: special rules
of environmental protection*

The first treaty to establish rules specifically protecting the environment from the consequences of military activities was the 1977 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (1977 ENMOD Convention). It prohibits parties from engaging in 'military or any other hostile use of environmental modification techniques

¹²⁴ 1977 Additional Protocol I, Art. 56(2).

¹²⁵ 1977 Additional Protocol I, Art. 85(3) and (5); 1998 Statute of the International Criminal Court, Art. 8(2).

¹²⁶ See resolutions of the General Conference of the IAEA, GC(XXVII)/Res. 407 (1983), GC(XXVIII)/Res. 425 (1984), GC(XXIX)/Res. 444 (1985), GC(XXXI)/Res. 475 (1987), and GC(XXXIV)/Res. 533 (1990).

¹²⁷ 1976 ILA Madrid Resolution on the Protection of Water Resources and Water Installations in Times of Armed Conflict, resolution of 4 September 1976, Report of the Fifty-Seventh Conference of the International Law Association (1976), 234.

¹²⁸ Report of the ILC, 43rd Session, 46 GAOR Supp. 1 No. 10 (A/46/10), Chap. IV. D.1, 30 ILM 1584 (1991), Art. 22(2)(d). See also Art. 26 of the Draft Code: an individual who 'wilfully causes or orders the causing of widespread long-term and severe damage to the natural environment' is liable to be convicted of a crime against the peace and security of mankind.

¹²⁹ Art. 8(2)(b)(iv).

having widespread, long-lasting or severe effects as the means of destruction, damage or injury' to any other party.¹³⁰ The Convention defines 'environmental modification techniques' as 'any technique for changing – through the deliberate manipulation of natural processes – the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space'.¹³¹ No definitions are provided of the terms 'widespread', 'long-lasting' and 'severe', although the Conference of the Committee on Disarmament, under whose auspices the Convention was negotiated, did attach 'Understandings' to the text of the Convention which were submitted to the General Assembly.¹³² The terms of Article II are sufficiently opaque to leave open the question of whether the act must be deliberately intended to manipulate natural processes, or whether it is sufficient to show that natural processes have been manipulated as the result of an act which was intended to manipulate non-natural processes, as may have been the case with the destruction by Iraq of Kuwaiti oil fields. The former, and far narrower, approach would undoubtedly limit the scope of the Convention's application and its effectiveness.¹³³

Several months after the ENMOD Convention was concluded, the 1977 Additional Protocol I to the 1949 Geneva Conventions Relating to the Victims of Armed Conflict was adopted. The 1977 Additional Protocol I contains two explicit obligations designed to protect the environment which, given the large number of parties and views expressed by states, may now reflect a rule of customary international law.¹³⁴ Under Article 35, it is 'prohibited to employ methods and means of warfare which are intended, or may be expected, to

¹³⁰ New York, 10 December 1976, in force 5 October 1978, 1108 UNTS 151. The Convention is not intended to hinder environmental modification techniques for peaceful purposes and is stated to be 'without prejudice to the generally recognised principles and applicable rules of international law concerning such use': Art. III(1).

¹³¹ Art. II.

¹³² The Understanding on Art. I provides that the terms should be interpreted in the following way:

1. 'widespread': encompassing an area on the scale of several hundred square kilometres;
2. 'long-lasting': lasting for a period of months, or approximately a season;
3. 'severe': involving serious or significant disruption or harm to human life, natural and economic resources or other assets.

See Understanding Relating to Article I of ENMOD, 31 GAOR Supp. No. 27 (A/31/27), Annex I.

¹³³ In the ICJ proceedings on the Advisory Opinion on nuclear weapons, some states argued that its provisions reflected customary law, whereas some nuclear weapon states argued that it would not be applicable to most cases in which nuclear weapons might be used because the effect on the environment would be a side effect and not a result of deliberate manipulation: 6 *Yearbook of International Environmental Law* 540 (1995).

¹³⁴ Although the UK and US are not parties to the Protocol, they have expressed support for the protection of the environment in similar terms.

cause widespread, long-term and severe damage to the natural environment'.¹³⁵ Article 55, entitled 'Protection of the natural environment', provides that:

Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.¹³⁶

The Protocol also prohibits attacks against the natural environment by way of reprisals.¹³⁷ In its Advisory Opinion on nuclear weapons, the ICJ noted that these provisions of Additional Protocol I provide additional protection for the environment, and impose 'powerful constraints for all the States having subscribed to these provisions'.¹³⁸ The implication that the 'powerful constraints' of the Protocol did not – at least in 1996 – reflect customary law, may no longer hold true with the adoption of the 1998 Statute of the International Criminal Court and France's accession, on 11 April 2001, to the Protocol.¹³⁹

Iraq's invasion of Kuwait in August 1990 led the Security Council to consider, for the first time, the responsibility of states for the adverse environmental consequences of unlawful military acts. Security Council Resolution 687 reaffirmed that Iraq was liable under international law for, *inter alia*, 'environmental damage and the depletion of natural resources' resulting from the unlawful invasion and occupation of Kuwait.¹⁴⁰ The Iraqi invasion of Kuwait led to further consideration of the environmental effects of war and armed conflict, including an examination of the adequacy of the existing and rather limited treaty rules. Agenda 21 reflected limited progress. It called on the international community to consider measures in accordance with international law 'to address, in times of armed conflict, large-scale destruction of the environment that cannot be justified under international law', and identified the General Assembly and its Sixth Committee as the appropriate fora to deal with the issue, taking into account the competence and role of the International Committee of the Red

¹³⁵ Art. 35(3). ¹³⁶ Art. 55(1). ¹³⁷ Art. 55(2).

¹³⁸ (1996) ICJ Reports p. 242, para. 31. On the arguments presented by states, see 6 *Yearbook of International Environmental Law* 538–40 (1995). Only France expressed the view that these Articles of the Protocol did not reflect customary law (CR 95/24, at 23 and 25–6).

¹³⁹ See also the Application by the Federal Republic of Yugoslavia instituting proceedings against the United Kingdom, 28 April 1999 ('by taking part in the bombing of oil refineries and chemical plants, the United Kingdom of Great Britain and Northern Ireland has acted against the Federal Republic of Yugoslavia in breach of its obligation not to cause considerable environmental damage') and Request for Provisional Measures, 28 April 1999. Similar claims are made in the applications against nine other NATO members.

¹⁴⁰ Security Council Res. 687/1991, 30 ILM 847 (1991). On the Iraq Compensation Commission and the assessment of 'environmental damage', see chapter 18, pp. 890–4 below. On the arguments of states as to the implications of Resolution 687 for environmental protection in times of armed conflict, see 6 *Yearbook of International Environmental Law* 539–40 (1995).

Cross.¹⁴¹ In December 1992, the General Assembly adopted a resolution stressing that destruction of the environment not justified by military necessity and carried out wantonly was 'clearly contrary to international law', and noted that existing provisions of international law prohibited the destruction of oil well heads and the release and waste of crude oil into the sea.¹⁴² The General Assembly urged states to 'take all measures to ensure compliance with the existing international law applicable to the protection of the environment in times of armed conflict'. Since then, however, no new treaties have been negotiated or adopted, and it has been left to the ICJ (in its Advisory Opinion on nuclear weapons) and the states negotiating the Statute of the International Criminal Court to mark the modest developments which have occurred.

Conclusions

Over the past decade, environmental considerations have been integrated into human rights discourse and, to a lesser extent, into the definition and application of international humanitarian rules governing methods and means of armed conflict.

In relation to human rights, notwithstanding the fact that most human rights treaties do not expressly refer to environmental considerations, practice under those conventions recognises that a failure to adequately protect the environment may give rise to individual human rights, particularly in relation to rights associated with the enjoyment of a person's home and property. Equally, practice recognises that the collective interest of a community in taking steps to protect the environment may justify reasonable interference with property or other rights. In both aspects, the principal need is to ensure that a balance is found between individual and collective rights. In the very recent past, human rights procedures may also have begun to define the content of participatory rights in the environmental domain: the non-compliance mechanism established under the 1998 Aarhus Convention represents an innovative step.

In relation to armed conflict, it is ironic that proceedings before the ICJ concerning the legality of the use of nuclear weapons catalysed an important debate on the relationship between methods and means of warfare and the protection of the environment. The Court's advisory opinion has recognised, for the first time, the existence of norms of international environmental law as custom, and that they are applicable equally in times of armed conflict.

¹⁴¹ Agenda 21, para. 39.6(a). ¹⁴² UNGA Res. 47/591 (1992).