

1. Principles of international environmental law applicable to waste management

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EXECUTIVE SUMMARY

General principles of international environmental law provide the theoretical foundation for the development of normative frameworks in international law. In the waste management context, five general principles are particularly relevant: the principle of permanent sovereignty over natural resources and the duty not to cause transboundary harm; the principle of preventive action; the corresponding principle of cooperation; the principle of sustainable development; and the precautionary principle. Operationalization of these principles in the waste context has led to the development of new principles, such as those of self-sufficiency, proximity, waste minimization, environmentally sound management and prior informed consent, all of which are further operationalized in the detailed rules set out in the Basel Convention and other treaties dealing with waste management. This chapter examines the interpretation and application of these general principles and the role they have played in the development of the international legal regime for the management and transboundary movement of waste.

1.1 INTRODUCTION

‘One person’s waste is another person’s treasure’ – or so the saying goes. But treasures can be an impossible burden, particularly where adequate resources, facilities and capacity are not available for their care, control, management and maintenance. In our increasingly disposable consumer society, our wasteful treasure threatens to overwhelm us in both volume

and toxicity.¹ Its control and management is therefore of vital importance for humankind.

While primarily a matter of domestic concern, the emergence of economic incentives for States to dispose of waste in other States has turned the issue of waste management into one of international concern. Of particular disquiet has been the propensity towards 'toxic colonialism', or the practice of developed States exporting their waste to developing States less able to deal with it.² The increasing awareness of potential harm from mismanagement and disposal of waste, together with its global regulation, have reduced the incidence of dumping of waste by developed States into developing States, although the practice remains a concern, with estimates reportedly showing more than 50 per cent of worldwide transboundary waste movements as illegal.³ More recently, however, the concept of waste as a potentially valuable resource has started to take hold with developing States increasingly seeking to import waste, in particular e-waste, for the economic opportunities its recycling, and the recovery of the precious metals used in its production, present.⁴ The question thus arises as to the nature and content of international law relating to waste management, and its efficacy in addressing the dangers posed by poorly regulated transboundary movement of wastes. While subsequent chapters in this volume discuss the relevant rules of international law applicable to waste management in detail, this chapter explores the general principles of international environmental law relevant to the management and transboundary movement of waste. Before doing so, however, some preliminary comments on the role of general principles are warranted.

¹ Secretariat of the Basel Convention, 'Wastes without Frontiers: Global Trends in Generation and Transboundary Movements of Hazardous Wastes and other Wastes' (2011) available at <<http://archive.basel.int/pub/ww-frontiers31Jan2010.pdf>> (last accessed on 14 August 2015).

² Jennifer R. Kitt, 'Waste Exports to the Developing World: A Global Response' (1995) 7 *Georgetown International Environmental Law Review* 485.

³ Katharina Kummer Peiry, 'Basel Convention: Turning Wastes into Valuable Resources – Promoting Compliance with Obligations?' (2011) 41(4/5) *Environmental Policy and Law* 177, 178.

⁴ O. Osibanjo and I.C. Nnorom, 'The Challenge of Electronic Waste (e-waste) Management in Developing Countries' (2007) 25 *Waste Management and Research* 489.

1.2 THE ROLE OF PRINCIPLES IN INTERNATIONAL ENVIRONMENTAL LAW

Like international law in general, international law relating to waste management is not simply a mosaic of specific rules adopted in treaties. Rather, it can more appropriately be described as a system governing the international relations among States and other entities in respect of their activities relating to waste management and, in particular, the transboundary movement of waste. This system consists of both specific treaty-based rules and rules of customary international law as well as general principles. The emphasis here on principles is deliberate. Admittedly, the content and legal status of principles is less clear than that of binding rules, and their invocation, unlike that of rules, does not lead inexorably to any particular decision. As Dworkin puts it:

[A]ll 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

However, principles play a valuable role in integrating various legal, economic, social and political considerations into various fields of international law.⁶ They also provide guidance on the interpretation and application of relevant rules in situations of conflicting interpretation.⁷ In addition, they provide predictable parameters for environmental protection and can provide the orientation for the development of the law.⁸ Thus, principles serve as the theoretical basis for the rules we adopt and the framework within which those rules are to be applied.⁹

To fully understand and assess the operation and efficacy of the rules

⁵ Ronald Dworkin, *Taking Rights Seriously* (Harvard University Press 1977) 24, 26.

⁶ Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment* (Oxford University Press, 3rd ed. 2009) 109.

⁷ Ibid.

⁸ See, e.g., Lluís Paradell-Truiss, 'Principles of International Environmental Law: An Overview' (2000) 9 *Review of European Community and International Environmental Law* 93, 95–7; Laurence Boisson de Chazournes, 'Features and Trends in International Environmental Law' in Yann Kerbrat and Sandrine Maljean-Dubois, *The Transformation of International Environmental Law* (Pedone and Hart 2011) 11.

⁹ *Gentini (Italy v Venezuela)* (1913) 10 RIAA 551, cited in Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press, 3rd ed. 2012) 189.

of international law applicable to waste management it is first necessary to develop an appreciation of the cardinal principles of international law that are applicable in this context. This may include principles emanating from a number of areas of international law dealing, *inter alia*, with sustainable development, human rights, international watercourses, law of the sea, armed conflict or international trade and include the more general principles relating to state responsibility. However, for present purposes, this chapter focuses on the relevant principles of that body of law known as international environmental law.

A glance at any international environmental law text will reveal a plethora of principles, some contested, some well accepted, that are applicable to various environmental issues. While there is no single agreed taxonomy of environmental law principles, the following (non-exhaustive) list of general principles can be identified as most relevant to the current enquiry:

- the principle of permanent sovereignty over natural resources and the duty not to cause transboundary harm;
- the principle of preventive action;
- the principle of cooperation;
- the principle of sustainable development; and
- the precautionary principle.

In the waste management context, these general principles are supplemented by other principles such as those set out in the 1987 Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes,¹⁰ which sets out 29 principles designed to assist governments to develop policies for environmentally sound management of hazardous wastes from generation to final disposal, all of which essentially derive from, and seek to operationalize, the more general principles referred to above. Many of the Cairo Guidelines and Principles have been incorporated into the regimes established by the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal¹¹ (Basel Convention) and other regional conventions dealing with the subject.

Of particular relevance are:

¹⁰ UNEP/GC.14/17 (1987) Annex II, approved by UNEP/GC/Dec./14/30 (1987) UNEP ELPG No. 8.

¹¹ Adopted on 22 March 1989, entered into force on 24 May 1992 (1989) 28 ILM 657.

- the principle of self-sufficiency;
- the principle of proximity;
- the principle of minimization of waste;
- the principle of environmentally sound management; and
- the principle of prior informed consent.

It is important to note that not all of these principles enjoy the same binding legal status. Some principles, such as the principle of permanent sovereignty over natural resources, the no-harm principle and the principles of preventive action and cooperation, are accepted as enjoying the status of customary international law and are hence binding on all States. The binding status of the precautionary principle, however, remains contested,¹² although both the International Court of Justice (ICJ)¹³ and the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea (ITLOS) have recognized a ‘trend towards making [the precautionary approach] part of customary international law’.¹⁴ In the case of sustainable development, its very legal nature as a principle is contested, even though its force and imperative as a ‘concept’ or a ‘goal’ is accepted.¹⁵ The customary status of the remaining principles is also open to debate. Thus, while they may now be binding in the waste management context as a matter of treaty law, questions remain as to their binding

¹² For opinions in support see, e.g., James Cameron and Juli Abouchar, ‘The Status of the Precautionary Principle in International Law’ in David Freestone and Ellen Hey (eds), *The Precautionary Principle and International Law: The Challenge of Implementation* (Kluwer Law International 1996) 29, 29–52; Arie Trouwborst, *Evolution and Status of the Precautionary Principle in International Law* (Kluwer Law International 2002) 286; Philippe Sands, *Principles of International Environmental Law* (Cambridge University Press, 2nd ed. 2003) 279; Owen McIntyre and Thomas Mosedale, ‘The Precautionary Principle as a Norm of Customary International Law’ (1997) 9 *Journal of Environmental Law* 221, 235. For more cautious assessments see, e.g., Pascale Martin-Bidou, ‘Le principe de précaution en droit international de l’environnement’ (1999) 103 *Revue générale de droit international public* 631, 658–65 and Daniel Bodansky, ‘Remarks’ (1991) 85 *Proceedings of the American Society of International Law* 413.

¹³ See *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) (2010) ICJ Rep 2010, 14 (para. 164).

¹⁴ *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, ITLOS Case No. 17, Advisory Opinion (1 February 2011) para. 135.

¹⁵ Vaughan Lowe, ‘Sustainable Development and Unsustainable Arguments’ in Alan Boyle and David Freestone (eds), *International Law and Sustainable Development: Past Achievements and Future Challenges* (Oxford University Press 1999) 19–38.

nature vis-à-vis non-parties. Their importance, however, cannot be overstated and they are thus examined here within the context of a discussion of the general international environmental law principles identified above and their application in the international waste management context.

1.3 PERMANENT SOVEREIGNTY OVER NATURAL RESOURCES AND THE 'NO-HARM' PRINCIPLE

The principle of permanent sovereignty over natural resources has its origins in the various resolutions adopted by the United Nations General Assembly beginning in the early 1950s.¹⁶ Initially intended to balance the rights of States over their resources with the desire of foreign companies for legal certainty in respect of their investments, the principle was formulated in terms that allowed States to conduct or authorize such activities as they may choose within their territories, subject only to any limitations established under international law. By the 1970s, States recognized that limitations to the application of the principle were necessary, particularly in order to protect the environment. Thus, while Principle 21 of the 1972 Stockholm Declaration¹⁷ affirms the sovereign right of States to exploit their own resources as they see fit, it conditions this sovereignty by imposing on States 'the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or to areas beyond the limits of national jurisdiction'. This so-called 'no-harm principle' was first articulated in the Trail Smelter arbitration¹⁸ where its application was originally only discussed in the context of transboundary harm to other States. An important aspect of the formulation in Principle 21 is that the principle also now applies to areas beyond national jurisdiction, thereby providing the foundation for the various prohibitions or restrictions on the dumping of wastes and other matter on and into the high seas,¹⁹

¹⁶ See, e.g., UNGA Res. 525(VI) (1950); Res. 626(VII) (1952); Res. 837(IX) (1954); Res. 1314 (XIII) (1958); Res. 1515(XV) (1960).

¹⁷ Stockholm Declaration of the United Nations Conference on the Human Environment, 16 June 1972 (1972) 11 ILM 1416.

¹⁸ *Trail Smelter (USA v Canada)* (1941) 3 RIAA 1905, 1965.

¹⁹ See, e.g., the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (adopted on 29 December 1972, entered into force on 30 August 1975) 1046 UNTS 138; and its 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (adopted on 7 November 1996, entered into force on 24 March 2006) (1997) 36 ILM 1.

in Antarctica,²⁰ into the atmosphere,²¹ and into rivers and other freshwater bodies.²² So accepted is the language of Principle 21 that it was reiterated verbatim in Principle 2 of the 1992 Rio Declaration,²³ and the customary status of the combined 'permanent sovereignty/no-harm' principle was confirmed by the ICJ in its 1996 Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*.²⁴

The principle of permanent sovereignty acts as a double-edged sword. States have the freedom to exploit their resources and reap the benefits therefrom. They are also entitled to be free from interference by other States. Thus, the no-harm principle operates to constrain the activities of States where the potential for transboundary harm exists, although the principle does not answer the questions as to what constitutes environmental damage, what level of damage or harm is prohibited, whether the obligation is one of absolute liability, strict liability, or fault-based liability, what the consequences of a violation might be or the extent of any liability. The answers to these questions must thus be found in treaties and in State practice.

In the waste management context the application of the permanent sovereignty/no-harm principle means that States are free to generate waste, but they must not dispose of it in a manner that causes harm to the environment of other States or to areas beyond national jurisdiction. This tension between the dictates of sovereignty and the recognition of the potential for transboundary impacts of waste disposal lies at the very heart of the international regime established by the Basel Convention and

²⁰ Art. 4 (6) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention) (adopted on 22 March 1989, entered into force on 5 May 1992) 1673 UNTS 57.

²¹ See, e.g., the 1979 Convention on Long-range Transboundary Air Pollution (adopted on 13 November 1979, entered into force on 16 March 1983) 1302 UNTS 217; the 1987 Montreal Protocol on Substances that deplete the Ozone Layer (adopted on 16 September 1987, entered into force on 1 January 1989) 1522 UNTS 3; and the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted on 11 December 1997, entered into force on 16 February 2005) 2303 UNTS 148, which prohibit or regulate the dumping of certain noxious gases into the atmosphere.

²² Convention on the Protection and Use of Transboundary Watercourses and International Lakes (adopted on 17 March 1992, entered into force on 6 October 1996) 1936 UNTS 269, Art. 2(2)(a).

²³ Rio Declaration on Environment and Development, Report of the United Nations Conference on Environment and Development, I (1992) UN Doc A/CONF.151/26, (1992) 31 ILM 874.

²⁴ *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) (1996) ICJ Reports 226.

by the regional conventions dealing with the subject. As the Preamble to the Basel Convention makes clear, 'all states have the sovereign right to ban the entry or disposal of foreign hazardous wastes and other wastes in their territory'. In other words, while international law places no, or at any rate few, limits on waste generation, and no outright ban on trade, all States have the sovereign right to determine whether to receive waste and, if so, what impacts on their territory they will be willing to accept. It has been noted that this represents an important gloss on the no-harm principle in that, unlike State practice in other areas such as nuclear installations, air pollution, or international watercourses, where transboundary effects are permitted unless certain levels of harm occur, 'it cannot be assumed that waste disposal in other states is permitted unless it is shown to be harmful'.²⁵ The criteria of harm, or even potential harm, has been removed in favour of the absolute sovereignty of States to decide for themselves, either individually or regionally, whether or not to receive waste; although, as the terminology of 'hazardous waste' implies, the criteria of harm is not wholly irrelevant.

Despite the sovereign right to refuse imports, the Basel Convention, as its full name implies, merely establishes a regime to control trade in hazardous waste rather than prohibit it. Encapsulated in the terminology of the principles of 'self-sufficiency', 'proximity' and 'prior informed consent', the Basel Convention requires each State to reduce its waste generation to a minimum,²⁶ to become self-sufficient in waste management,²⁷ and to dispose of waste as close as possible to the place of generation.²⁸ To that end, parties must ensure that adequate waste facilities are located within their jurisdiction, although this is qualified by 'to the extent possible'.²⁹ Flowing from the principle of State sovereignty, parties are entitled to prohibit the import of any hazardous or other wastes and must consent in writing to any specific imports they have not prohibited.³⁰ Needless to say, parties must not allow the export of waste to other parties who have prohibited it.³¹ Parties are also required to provide information on proposed transboundary movements of hazardous and other wastes to any State concerned and they are to prevent imports if they have reason to believe that the imports will not be managed in an environmentally

²⁵ Birnie, Boyle and Redgwell (n 6) 473.

²⁶ Basel Convention (n 20) Art. 4 (2)(a).

²⁷ *Ibid.*, Art. 4 (9)(a).

²⁸ *Ibid.*, Art. 4 (2)(b).

²⁹ *Ibid.*

³⁰ *Ibid.*, Art. 4 (1)(b).

³¹ *Ibid.*, Art. 4 (1)(a).

sound manner.³² All shipments are subject to the requirements of the prior written consent of any party through which or to whom waste is being exported.³³

While as a matter of basic treaty law the Basel Convention is binding only on its States parties, the regime is cleverly designed to have at least some third-party effect by imposing a legal obligation on parties not to permit export to or import from non-State parties. However, recognizing that the right to accept waste imports is also a sovereign right of any State wishing to do so, this prohibition is subject to an exception where the States concerned have entered into another bilateral, multilateral or regional agreement or arrangement, provided that it does not derogate from the requirement of environmentally sound management of hazardous and other wastes found in the Basel Convention.³⁴ Areas beyond national jurisdiction are also protected by the prohibition on the export of wastes for disposal in the Antarctic area,³⁵ even if their transportation is not transboundary in nature.

Thus, while the Basel Convention seeks to discourage export of hazardous and other wastes, the possibility of transboundary shipments remains, although they must be reduced to the 'minimum consistent with environmentally sound and efficient management',³⁶ and should only be permitted if the State of export lacks the technical capacity and necessary facilities, capacity and suitable disposal sites to do so, or, importantly, where the waste is intended for recycling or recovery.³⁷ In the past these exceptions have been seriously contested by developing States concerned that the Basel regime fails to address the control of shipments of mixed waste, instances of inadequate or inappropriate disposal by importing States, and the problems of forgery, bribery and corruption circumventing the notice and consent provisions.³⁸ Exercising their sovereign rights States have therefore entered into other agreements more restrictive than the Basel Convention.

The 1991 Convention on the Ban of Import into Africa and the Control

³² *Ibid.*, Art. 4 (2)(f) and (g).

³³ *Ibid.*, Art. 6.

³⁴ *Ibid.*, Art. 11.

³⁵ Defined, consistent with the Antarctic Treaty, as south of 60 degrees south. This therefore includes both the Antarctic continent and the surrounding Southern Ocean, see Basel Convention (n 20) Art. 4 (6).

³⁶ *Ibid.*, Art. 4 (2)(d).

³⁷ *Ibid.*, Art. 4 (9)(a) and (b).

³⁸ John Ovink, 'Transboundary Movement of Hazardous Waste, the Basel and Bamako Conventions: Do Third World Countries Have a Choice?' (1995) 13 *Dickinson Journal of International Law* 281, 285.

of Transboundary Movement and Management of Hazardous Wastes within Africa (Bamako Convention),³⁹ prohibits outright all trade in hazardous waste and requires its parties to prohibit the import of all wastes into Africa from non-contracting parties and to deem such imports illegal and criminal.⁴⁰ Parties must ensure that any hazardous wastes to be exported are managed in an environmentally sound manner in the States of import and transit, and only authorized persons can store such wastes.⁴¹ Importantly, even wastes to be used as raw materials for recycling and recovery may not be exported.⁴² The 1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous Wastes within the South Pacific Region (Waigani Convention)⁴³ similarly bans the import of hazardous and radioactive wastes into its area of coverage and regulates their transboundary movement between the parties.⁴⁴ In addition, two parties, Australia and New Zealand, are required to ban the export of hazardous wastes to all Forum Island countries and territories within the Convention area.⁴⁵ The 1992 Central American Agreement on Hazardous Waste⁴⁶ bans all imports of hazardous and radioactive wastes and of toxic substances not permitted in the country of manufacture, while the Barcelona Convention Waste Trade Protocol⁴⁷ prohibits the export of hazardous and radioactive wastes to non-OECD countries and parties

³⁹ Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (Bamako Convention) (Adopted on 29 January 1991, entered into force on 22 April 1998) (1991) 30 ILM 775.

⁴⁰ *Ibid.*, Art. 4 (1).

⁴¹ *Ibid.*, Art. 4 (3)(i) and (m)(i).

⁴² *Ibid.*, Art. 5 (4).

⁴³ Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous Wastes within the South Pacific Region (Waigani Convention) (adopted on 16 September 1995, entered into force 21 October 2001) 2161 UNTS 93.

⁴⁴ *Ibid.*, Art. 4 (1).

⁴⁵ *Ibid.*, Art. 4 (1)(b).

⁴⁶ Central American Agreement on Hazardous Waste (adopted on 11 December 1992, entered into force 17 November 1995). See <www.ecolex.org/ecolex/ledge/view/RecordDetails?id=TRE-001167&index=treaties> (last accessed on 13 August 2015).

⁴⁷ Barcelona Convention for the Protection of the Mediterranean Sea against Pollution: Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal, 1 October 1996, UNEP(OCA)/MED/IG.9/4, 11 October 1996.

that are not members of the European Community are prohibited from importing hazardous and radioactive wastes.

These efforts have been echoed in the Conference of the Parties to the Basel Convention which, in 1994, approved an immediate ban on the export from OECD countries to non-OECD countries of hazardous wastes intended for final disposal and also agreed to ban the export of wastes intended for recovery and recycling by 31 December 1997.⁴⁸ Known as the 'Basel Ban', disputes as to its legally binding nature were resolved by the adoption, the following year, of the Basel Ban Amendment to the Convention⁴⁹ which seeks to ban hazardous waste exports for both final disposal and recycling from Annex VII parties (EU, OECD and Lichtenstein) to non-Annex VII parties. The Amendment has yet to enter into force but provides further evidence, if any were needed, of the application of the permanent sovereignty and no harm principles in the international regime regulating the transboundary movement of hazardous wastes.

1.4 THE PRINCIPLE OF PREVENTIVE ACTION

Closely related to the no-harm principle, the principle of preventive action obliges States to prevent damage to the environment and to reduce, limit or control activities that might cause or risk such damage. Confirmed as a rule of customary international law by the ICJ in the *Pulp Mills* case,⁵⁰ the arbitral tribunal in the *Iron Rhine* case recognized that it is not just 'a principle of general international law' that 'applies in autonomous activities', but that it also 'applies in activities taken in implementation of specific treaties between the Parties'.⁵¹ The obligation is not, however, absolute.⁵² Rather, it is one of due diligence which, 'entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to

⁴⁸ Decision II/12, Report of COP2, UNEP/CHW.2/30, 25 March 1994.

⁴⁹ Decision III/1, Report of COP3, UNEP/CHW.3/34, 17 October 1995. For discussion see Louise de la Fayette, 'Legal and Practical Implications of the Ban Amendment to the Basel Convention' (1995) 6 *Yearbook of International Environmental Law* 703.

⁵⁰ *Pulp Mills* (n 13) para. 101.

⁵¹ *Iron Rhine Railway Arbitration (Belgium v The Netherlands)* (2005) 27 RIAA 35 (paras 59 and 222).

⁵² ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities (2001) Art. 3. See *Yearbook of the International Law Commission* (2001-II) Part 2, para. 7.

public and private operators, such as the monitoring of activities undertaken by such operators'.⁵³

The objective of the preventive principle is to minimize environmental damage. To that end, it requires action to be taken at an early stage, before damage has actually occurred. Importantly, the principle applies whether that damage might be transboundary or confined to areas under national jurisdiction.⁵⁴ This approach is justified on the basis that damage to the environment is often irreversible and mechanisms for reparation of environmental damage are seriously limited.⁵⁵ In this respect the principle operates as a precautionary brake on State action. However, the degree of 'due diligence' and the action to be taken will vary depending, inter alia, on the nature of the specific activities, the technical and economic capabilities of States, and the effectiveness of their territorial control.⁵⁶ In addition, 'measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge', and 'can change in relation to the risks involved in the activity'.⁵⁷ As such, the obligation requires States 'to take [reasonably appropriate] measures within [their] legal systems'⁵⁸ and to ensure that those measures are both effective and that they 'reflect the environmental and developmental context to which they apply'.⁵⁹ In other words, the content of due diligence is a changing one that requires States to 'move with the times'.

In the waste management context, international law has traditionally taken no, or at least little, position on the generation of waste, focusing rather on its disposal and transboundary movement. For example, Principle 6 of the Stockholm Declaration calls merely for a halt to the discharge, not generation, of toxic or other substances while Principle 14 of the Rio Declaration similarly calls only for effective cooperation 'to discourage or prevent the relocation or transfer to other states of any activities and substances that cause severe environmental degradation or are found to be harmful to human health'. With the exception of treaties

⁵³ *Pulp Mills* (n 13) para. 197.

⁵⁴ Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press, 3rd ed. 2012) 201.

⁵⁵ *Gabčíkovo-Nagymaros (Hungary v Slovakia)* (1997) ICJ Reports 7, 78 (para. 140).

⁵⁶ *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (n 14) para. 117.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*, paras 117–120.

⁵⁹ Rio Declaration (n 23) Principle 11.

establishing quantitative limits on atmospheric emissions of waste gases such as sulphur and nitrogen oxides (SO_x and NO_x),⁶⁰ chlorofluorocarbons (CFCs),⁶¹ and carbon dioxide (CO₂),⁶² few binding international obligations exist calling for limits on the generation of municipal and industrial waste.⁶³

Nevertheless, underlying the Basel regime is the express recognition of the need to protect human health and prevent environmental harm through the reduction and minimization of hazardous wastes.⁶⁴ Reaffirmed in Agenda 21⁶⁵ and the 2002 Plan of Implementation of the World Summit on Sustainable Development (WSSD),⁶⁶ the concept of waste minimization lies at the heart of the contemporary movement to 'Reduce, Reuse, Recycle'. The Basel Convention positively obliges States to ensure that the generation of hazardous and other wastes is reduced to a minimum taking into account social, technological and economic impacts,⁶⁷ and to prevent or minimize the consequences of pollution arising from the management of hazardous or other wastes.⁶⁸ Although light on specific details as to how to achieve waste minimization, in requiring parties to keep their wastes at home, the proximity principle, which requires waste to be managed and disposed of as close as possible to the point of generation,⁶⁹ is intended to operate to drive up the cost of waste disposal thereby producing economic incentives for pollution prevention and reduced waste generation.⁷⁰ This operation of the proximity principle as a manifestation of the preventive principle is evident, for example, in the 2002 Strategic Plan for the Implementation of the Basel Convention, which called for the 'active promotion and use of cleaner technologies and production, with the aim of the prevention and minimization of hazardous and other wastes subject to the Basel Convention'.⁷¹

⁶⁰ Convention on Long Range Transboundary Air Pollution (n 21).

⁶¹ Montreal Protocol on Substances that Deplete the Ozone Layer (n 21).

⁶² Kyoto Protocol (n 21).

⁶³ Sands and Peel (n 54) 560.

⁶⁴ Basel Convention (n 20) Preamble.

⁶⁵ Agenda 21, Report of the United Nations Conference on Environment and Development, I (1992) UN Doc A/CONF.151/26/Rev.1, Chs 20 and 21.

⁶⁶ The WSSD Johannesburg Plan of Implementation is available at <www.un.org/esa/sustdev/documents/WSSD_POI_PD/> (last accessed on 13 August 2015).

⁶⁷ Basel Convention (n 20) Art. 4 (2)(a).

⁶⁸ *Ibid.*, Art. 4 (2)(a) and (c).

⁶⁹ *Ibid.*, Art. 4 (2)(b).

⁷⁰ David Hunter, James Salzman and Durwood Zaelke, *International Environmental Law and Policy* (Foundation Press, 4th ed. 2011) 953.

⁷¹ See <www.basel.int/stratplan/index> (last accessed on 13 August 2015).

In addition to the principle of minimization of waste, prevention is further evident in the requirement that wastes be managed and disposed of in an environmentally sound manner. Defined in the Basel Convention as meaning 'taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes',⁷² the principle of environmentally sound management applies to waste disposal both within the jurisdiction of the generating State and in importing States. With respect to the former, parties are to ensure the availability of adequate disposal facilities for the environmentally sound management of hazardous and other wastes which, by operation of the proximity principle, are to be located as close as possible to the source of the waste.⁷³ With respect to the latter, exporting parties must require that wastes to be exported are managed in an environmentally sound manner in the State of import and any transit States,⁷⁴ while potential importing parties must prevent imports where they have reason to believe they will not be managed in an environmentally sound manner.⁷⁵ Under no circumstances can a party transfer its obligation to carry out environmentally sound management to other States although, per contra, it may impose additional requirements, consistent with the Convention, to better protect human health and the environment.⁷⁶

Beyond the requirements of environmentally sound management, the Basel Convention provides further guidance on the content of due diligence by requiring, for example, that transport and disposal of hazardous and other wastes may only be carried out by authorized persons and that transboundary movements must conform with generally accepted and recognized international rules and standards of packaging, labelling and transport, and take account of relevant internationally recognized practices. Transboundary movements must also be accompanied by a movement document from the point of exit to the point of disposal.⁷⁷ Illegal traffic of hazardous or other wastes must be considered a criminal activity and appropriate legal, administrative and other measures must be adopted to implement the provisions of the Convention and to prevent and punish its contravention.⁷⁸ Given the temporal nature of the

⁷² Basel Convention (n 20) Art. 2 (8).

⁷³ *Ibid.*, Art. 4 (2)(b).

⁷⁴ *Ibid.*, Art. 4 (8).

⁷⁵ *Ibid.*, Art. 4 (2)(g).

⁷⁶ *Ibid.*, Art. 4 (10) and 4 (11).

⁷⁷ *Ibid.*, Art. 4 (6).

⁷⁸ *Ibid.*, Art. 4 (3) and 4 (4).

obligation of due diligence, the specific content of the obligations of waste minimization and environmentally sound management and the measures needed to ensure their achievement will vary over time as new threats to human health and the environment are identified and new approaches to waste management, such as the integrated life-style approach,⁷⁹ are developed.

1.5 THE PRINCIPLE OF COOPERATION

The obligation on States to cooperate in addressing international issues is recognized as a fundamental rule of general international law emanating from the principle of ‘good-neighbourliness’ enunciated in Article 74 of the UN Charter.⁸⁰ Principle 24 of the Stockholm Declaration and Principle 27 of the Rio Declaration confirm the obligation on States to cooperate ‘in good faith and in a spirit of partnership’ in all matters concerning protection of the environment. While the precise nature and extent of the obligation remains a matter of contestation,⁸¹ its customary status, at least, is not contested.⁸² However, it is important to remember that the obligation to cooperate does not mandate a specific outcome or the prior consent of potentially affected states.⁸³ Principle 14 of the Rio Declaration merely requires States to cooperate ‘effectively’ to ‘discourage or prevent the relocation and transfer to other states of any activities and substances that cause severe environmental degradation or are found to be harmful to human health’, while Principle 19 merely requires States to ‘provide prior and timely notification and relevant information to potentially affected states on activities that may have a significant transboundary environmental effect and to consult with those states at an early stage and in good faith’. Rather, as Principle 19 indicates, the proper observance of the principle of cooperation (merely) requires fulfilment of certain procedural obligations such as those relating to environmental assessment, exchange of information, notification, consultation

⁷⁹ As called for in Agenda 21 (n 65) Ch 20, paras 20.1, 20.2 and 20.6.

⁸⁰ Charter of the United Nations (adopted on 26 June 1945, entered into force on 24 October 1945) 1 UNTS xvi.

⁸¹ *Pulp Mills* (n 13).

⁸² See, e.g., *Gabčíkovo-Nagymaros* (n 55) paras 141–142; *Mox Plant (Ireland v UK)* (Provisional Measures) ITLOS, Order of 3 December 1981, para. 83.

⁸³ *Lac Lanoux* Arbitration (*France v Spain*) (1957) 12 RIAA 281; 24 ILR 101 and *Pulp Mills* (n 13).

and negotiation 'on the basis of the principle of good faith and in the spirit of good neighbourliness'.⁸⁴

The requirements of cooperation are manifest in the Basel Convention in its provisions relating to, for example: notification to the Secretariat of national definitions of hazardous wastes; notification to other parties of decisions to prohibit imports; information exchange on transboundary movements and the potential and actual effects thereof on human health and the environment; dissemination of information on transboundary movements for the purpose of improving environmentally sound management and preventing illegal traffic; and information exchange on technical and scientific know-how, on sources of advice and expertise, and on the availability and capabilities of sites for disposal to States concerned.⁸⁵ However, the Basel Convention mandates a wholly new mode of cooperation, far more stringent than the mere consultation and notification requirements generally required by the principle of cooperation.

Embodied in the principle of 'prior informed consent', the Convention mandates the explicit prior consent of potentially affected States, a consent that must be based on information supplied by an exporter, which must be sufficient to enable the nature and the effects on human health and the environment of the proposed movement to be assessed. The importing State is then at liberty either to consent to the shipment, with or without conditions, or deny permission, or request additional information pending a final decision. In the absence of such consent and an agreement between the exporting State and the disposer specifying environmentally sound management of the waste in question, the State of export must not allow the transboundary movement to proceed. Transit States can also prohibit transit passage and export must not proceed unless and until their consent is obtained. Where consent is not obtained, or a transboundary movement cannot be completed, the exporting State is required to take back the waste unless alternative arrangements cannot be made for its environmentally sound management.⁸⁶ Any movement that takes place in violation of these requirements is to be considered illegal traffic and punished as a

⁸⁴ As in the language of Principle 7 of the 1978 UNEP Draft Principles of Conduct for the Guidance of States in the Conservation and Harmonious Exploitation of Natural Resources Shared by Two or More States, available at <www.unep.org/Documents.multilingual/Default.asp?DocumentID=65&ArticleID=1260&l=en> (last accessed on 13 August 2015).

⁸⁵ Basel Convention (n 20) Arts 3, 4 (1)(a), (f), (h).

⁸⁶ *Ibid.*, Art. 6.

criminal offence.⁸⁷ Similar provisions on prior informed consent are also found in the Bamako and Waigani Conventions.

This invocation of the principle of prior informed consent in the Basel Convention, and in other conventions dealing with trade in toxic or hazardous substances or wastes,⁸⁸ constitutes a far-reaching restriction on their trade and can be taken as powerful evidence of the recognition, in international law, of the shared responsibility of importing and exporting States for the protection of human health and the environment. Given that the principle is essentially an expression of State sovereignty, its customary status, at least in the context of the transboundary movement and disposal of toxic or hazardous wastes, seems accepted.⁸⁹

1.6 THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

The general principle that States should ensure the development and use of their resources in a manner that is sustainable has been known in international law since at least the 1893 *Bering Sea Fur Seals* arbitration.⁹⁰ However, the specific term 'sustainable development' finds its origins in the 1987 Brundtland Report.⁹¹ Defined there as meaning 'development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs', sustainable development is perhaps best understood not as a specific principle of international law but rather as the end goal or final objective of human activities,⁹² a goal which is to be pursued through the implementation of the various distinct legal principles embodied, for example, in the Rio Declaration and the 2002 WSSD Plan of Implementation. The ICJ refers to the term as a 'concept' rather than a principle,⁹³ and debate continues as to its

⁸⁷ *Ibid.*, Art. 9.

⁸⁸ See, e.g., the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (adopted on 10 September 1998, entered into force on 24 February 2004) (1999) 38 ILM 1.

⁸⁹ Birnie, Boyle and Redgwell (n 6) 476–7 and 486.

⁹⁰ (*Great Britain v United States*) (1893) 1 Moore's International Arbitration Awards 755.

⁹¹ Report of the World Commission on Environment and Development, *Our Common Future* (1987) 43.

⁹² See, e.g., Alan Boyle and David Freestone, 'Introduction' in Alan Boyle and David Freestone (eds), *International Law and Sustainable Development: Past Achievements and Future Challenges* (Oxford University Press 1999) 1.

⁹³ *Gabčikovo-Nagymaros* (n 55) para. 140.

normativity. Thus, while the objective of sustainable development may be to reconcile economic development with protection of the environment, the extent to which the concept can legally constrain the behaviour of States is debatable.

Nevertheless, this does not mean that the concept lacks any legal function. In the *Gabčíkovo-Nagymaros* case the ICJ held that new norms and standards, including the concept of sustainable development, had to be taken into consideration and given proper weight both when contemplating new activities and when continuing activities begun in the past.⁹⁴ In other words, sustainable development can be considered a factor orienting the behaviour of States and guiding the interpretation of relevant rules in the judicial process.⁹⁵ In this respect, it reflects a range of procedural and substantive commitments and obligations, most notably those relating to the sustainable use of natural resources, intergenerational equity, and integration of environmental considerations into economic and other development.

As the name implies, the principle of sustainable use recognizes that limits on the rate of use or manner of exploitation of natural resources are necessary to ensure attainment of both the intra and intergenerational objectives of sustainable development. What those limits might be is a matter for determination by States acting cooperatively. In the waste context, this is reflected, in particular, in the recognition of the need for waste minimization and the prevention or minimization of the consequences of pollution arising from the management of hazardous or other wastes. The exemption from the Basel regime of wastes destined for recycling or recovery is further evidence of the desire of the parties to ensure sustainable use of their resources, a desire that was made manifest in the Cartagena Declaration on the Prevention, Minimization and Recovery of Hazardous Wastes and Other Wastes adopted by the Conference of the Parties in 2011.⁹⁶

The point of sustainable use is not only to preserve resources for current, but also for future generations. Indeed, intergenerational equity is a fundamental aspect of the concept of sustainable development. However, intergenerational equity is not merely about preserving resources for future use but also implies the need to pass on to future generations a clean

⁹⁴ Ibid.

⁹⁵ Vaughan Lowe, 'Sustainable Development and Unsustainable Arguments' in Boyle and Freestone (eds) (fn 92) 19.

⁹⁶ Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on its tenth meeting, Doc UNEP/CHW.10/28, 1 November 2011, Annex IV.

and healthy environment. As Principle 1 of the Stockholm Declaration puts it, humans bear ‘a solemn responsibility to protect and improve the environment for present and future generations’. Even while associating intergenerational equity with the right to development, Principle 4 of the Rio Declaration requires that right to be fulfilled ‘so as to equitably meet developmental and environmental needs of present and future generations’. The elimination of ‘toxic colonialism’ through the export of environmental problems is, as noted at the outset, the fundamental *raison d’être* of the international legal regime for the transboundary movement of hazardous waste. When coupled with the requirements of self-sufficiency, proximity and the environmentally sound management of wastes by both generating and importing States, the regime provides strong environmental safeguards for both current and future generations.

The principle of integration, articulated in Principle 4 of the Rio Declaration and confirmed in the *Iron Rhine* case as a requirement of international law,⁹⁷ requires the integration of appropriate environmental measures into the design of economic development activities. As applied by the ICJ in the *Gabčíkovo-Nagymaros* case, implementation of the principle requires the collection and dissemination of environmental information and the conduct of environmental impact assessments. These elements are reflected in the Basel regime in the many obligations on parties to collect and disseminate, either unilaterally or through the Secretariat, information on the hazardous (or otherwise) nature of wastes and to cooperate in the dissemination of information regarding transboundary movements and the monitoring of effects on human health and the environment, as well as any accidents which are likely to present risks to human health or the environment.⁹⁸ While not explicitly stated, the requirement of at least some form of environmental impact assessment is implicit in the requirement that notifications regarding potential transboundary movements include sufficient information to enable the nature and the effects on health and the environment of the proposed movement to be assessed.⁹⁹

In some ways the principle of integration lies at the heart of the concept of sustainable development, which has always been articulated in terms of requiring States to ensure their development is compatible with the need to protect and improve the environment. In this respect, it is the integration principle which is said to serve as a basis for requiring ‘green

⁹⁷ See in the *Iron Rhine* case (n 51) paras 59 and 243.

⁹⁸ I.e., Basel Convention (n 20) Arts 3, 10, 13.

⁹⁹ *Ibid.*, Art. 6.

conditionality' in development assistance agreements.¹⁰⁰ Importantly for this volume, the integration principle also serves as a basis for the concept of the Green Economy and its support for the environmentally sound recycling and reclamation of valuable materials that can 'provide both economic opportunities and substantial environmental benefits by reducing the need to exploit non-renewable natural resources that might otherwise be mined in the absence of recycled materials'.¹⁰¹

1.7 THE PRECAUTIONARY PRINCIPLE

The final general principle considered here is the precautionary principle. In the international context, the precautionary principle – or approach, as it is also referred to – is of relatively recent vintage. The core of the principle is articulated in Principle 15 of the Rio Declaration, which states 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'.¹⁰² Importantly, Principle 15 also states that 'the precautionary approach shall be widely applied by states according to their capabilities'.

Despite its adoption in numerous environmental treaties and its invocation in international judicial and arbitral proceedings, neither the meaning nor the effect of the precautionary principle is yet agreed. On the one hand, it is argued that the principle provides the basis for early action to address threatening environmental issues. On the other hand, it is argued that application of the principle results in over-regulation and unwarranted limitations on human activity. Conflicting interpretations of the principle range from the requirement merely to act carefully when taking decisions that may have an adverse impact on the environment, to the requirement to regulate and possibly even prohibit activities and substances which may be environmentally harmful even in the absence of conclusive proof of such likely harm, to the requirement that the person wishing to carry out a particular activity must prove it will not cause environmental harm.¹⁰³ This latter interpretation, in particular, requires polluters to establish that their activities will not adversely affect the environment before they can

¹⁰⁰ Sands and Peel (n 54) 667.

¹⁰¹ Hunter, Salzman and Zaelke (n 70) 943.

¹⁰² For comprehensive examinations of the precautionary principle in international law see e.g. David Freestone, *The Precautionary Principle: The Challenge of Implementation* (Kluwer Law International 1996) and Trouwborst (n 12).

¹⁰³ Sands and Peel (n 54) 220.

be authorized to undertake the proposed activity, thus raising the connection between precaution and the requirements of environmental impact assessment.

Given these interpretive quandaries, it is perhaps not surprising that the status of the precautionary principle as a rule of customary international law remains uncertain. In the *Pulp Mills* case, the ICJ declined to comment on its customary status, stating only that 'a precautionary approach may be relevant in the interpretation and application of' the relevant treaty.¹⁰⁴ More recently, the ITLOS Seabed Disputes Chamber has held that the precautionary principle is 'an integral part of the general obligation of due diligence'¹⁰⁵ and that its incorporation into numerous treaties and other instruments has 'initiated a trend towards making this approach part of customary international law'.¹⁰⁶

Regardless of the lack of certainty as to the meaning, effect and customary status of the precautionary principle, it is clear that the Basel Convention reflects 'a strong form of the precautionary approach'¹⁰⁷ by allowing States to refuse to accept waste and by requiring a State of export to demonstrate that the wastes will be managed in an environmentally sound manner before any export can go ahead. The burden is shifted to the proponent of the activity to satisfy not only importing States but also any transit States that the proposed waste movement will not cause environmental harm. The same approach is also evident in the Bamako and Waigani Conventions.

1.8 CONCLUSION

In the absence of principles, international law is, at best, a set of arbitrary rules; at worst, a theoretical hoax of international lawyers. The general principles of international environmental law discussed in this chapter provide the critical theoretical foundation for the normative framework that has developed in international law regarding the management and transboundary movement of waste. However, as noted at the outset, the effectiveness of international law cannot be secured by principles alone. Rather, principles are only one element in an international system that requires recognition of the inter-linkages between principles, specific rules

¹⁰⁴ *Pulp Mills* (n 13) para. 164.

¹⁰⁵ *Responsibilities and Obligations of States* (n 14) para. 131.

¹⁰⁶ *Ibid.*, para. 135.

¹⁰⁷ Birnie, Boyle and Redgwell (n 6) 473.

and institutional mechanisms for securing compliance. This interactive process is particularly evident in the international regime relating to the management and transboundary movement of waste where operationalization of the basic principles of permanent sovereignty, no harm, prevention, cooperation, sustainable development and precaution has led to the development of new principles, such as those of self-sufficiency, proximity, waste minimization, environmentally sound management and prior informed consent, all of which are further operationalized in the detailed rules set out in the Basel Convention and other treaties dealing with waste management. Thus, while insufficiently detailed in themselves to create binding legal obligations, these principles provide valuable interpretive guidance both as to the manner in which the law has been developed and applied and, thanks in particular to their interpretational flexibility, as to the manner in which the law should continue to be developed and applied into the future.