2

Purposes of, and Approaches to, International Liability

2.1 INTRODUCTION

Much of the debate surrounding liability for environmental harm in international law has focused on the basic approach that states should adopt to best ensure that appropriate remedies are available to address environmental harms that have international dimensions. The central divide is concerned with whether liability rules ought to be directed at states, as the subjects of liability, or whether it is preferable to target operators of risky activities, with the primary function of states being to ensure recourse for injured parties within their national legal systems.[1] The debates about the most suitable approach have been strongly influenced by both conceptual and practical issues. In connection with the former, much ink has been spilt over whether states ought to be responsible for damages that arise from 'lawful' activities or whether liability ought to be restricted to harm that arises from a state's breach of international law. Extending liability to include damage from lawful activities leads to states potentially being held strictly liable for damages from risky or hazardous activities that occur within their territory or under their control.[2] Political opposition

[1] Much of this debate has unfolded within the work of the International Law Commission (ILC) on international liability for injurious consequences arising out of acts not prohibited by international law. For a brief summary of approaches in the ILC's work, see ILC, 'First Report on the Legal Regime for Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, by Mr. Pemmaraju Sreenivasa Rao, Special Rapporteur' (2003) UN Doc A/CN.4/531. For general discussions of debate, see also Alan Boyle, 'State Responsibility and Liability for Injurious Consequences of Acts Not Prohibited by International Law: A Necessary Distinction?' (1990) 39 ICLQ 1; Jutta Brunnée, 'Of Sense and Sensibility: Reflections on Environmental Liability Regimes as Tools for Environmental Protection' (2004) 53 ICLQ 351.

[2] ILC, 'First Report on the Legal Regime' (n 1); see also ILC, 'Twelfth Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law, by Mr. Julio Barboza, Special Rapporteur' (1996) UN Doc A/CN.4/475 & Corr.1 and Add.1 & Corr.1; but see Boyle (n 1).

from many states to strict liability has pushed legal developments on liability towards an approach that emphasizes allocation of loss amongst different (non-state) actors, and the development of mechanisms, such as insurance requirements and compensation funds, which facilitate recovery for victims of incidents.[3]

One consequence of the pragmatic turn in international rules of liability is that the rules tend to respond to contextual factors within particular issue areas or sectors involving risky activities, such that it is increasingly difficult to speak about a generalized law of liability.[4] Instead, there is a range of different approaches that have been adopted or proposed to address liability for environmental harm. As a starting point for this book, it is valuable to identify the different approaches that are available to address harm from activities that have transnational dimensions. The intention of this chapter is to consider how these approaches respond to the unique legal and practical issues associated with areas beyond national jurisdiction (ABNJ). As many of the specific questions respecting liability regimes are addressed in subsequent chapters, this chapter focuses primarily on the role of the state and the degree of institutionalization at the international level, but also seeks to situate the subsequent chapters in the context of these broader debates on how the international community ought to approach liability.

2.2 PURPOSES OF LIABILITY RULES

The choices that states and other international actors make respecting the different approaches to liability can be understood and analysed in light of the purposes for which liability rules are created. This is not to suggest that liability ought to be understood in purely instrumental terms,[5] but, as noted, much of the discussion of liability in international law has proceeded on pragmatic grounds. These purposes are not uniform across different activities or regimes, and will often reflect the underlying purposes of the governing treaties. While these purposes – compensation, environmental harm prevention and restoration, and the implementation of the polluter-pays principle – are consistently identified,[6] it remains important to tease out and elaborate upon these purposes, as they are of varying salience,

[3] These developments are examined in Robin Churchill, 'Facilitating (Transnational) Civil Liability Litigation for Environmental Damage by Means of Treaties: Progress, Problems, and Prospects' (2001) 12 Yrbk Intl Env L 3.

[4] In 1996, the ILC concluded that 'the trend of requiring compensation is pragmatic rather than grounded in a consistent concept of liability'. See ILC, 'Report of the Working Group on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law' (1996) UN Doc A/CN.4/L.533 and Add.1, 116, para 32.

[5] See, for example, Ernest J Weinrib, *The Idea of Private Law* (rev edn, OUP 2012) (arguing in favour of a non-instrumental and formalist conceptualism of liability rooted in the relationship between 'doer' and 'sufferer' of harms).

[6] For a comprehensive discussion of the objectives associated with liability, see Lucas Bergkamp, *Liability and Environment: Private and Public Law Aspects of Civil Liability for Environmental Harm in an International Context* (Kluwer Law International 2001) ch 3.

depending on the context of their application. For present purposes, it is useful to consider which objectives are likely to be of greater importance in relation to activities in global commons areas.

2.2.1 *Adequate and Prompt Compensation*

The provision of compensation to those who have suffered as a result of environmental harm is a foundational purpose of virtually every liability regime, and reflects the intention to ensure that those that suffer harms at the hands of another are not left to bear the burden of the loss. Compensation is one of the stated objectives in nearly every international civil liability regime,[7] the 1982 United Nations Convention on the Law of the Sea (UNCLOS),[8] as well as the 2006 International Law Commission's (ILC) Draft Principles on Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities (Draft Principles).[9] The standard for compensation identified in these international instruments is 'prompt and adequate compensation'.[10] The purpose of 'adequate' compensation is not necessarily to provide full reparation to the victims of harm.[11] Instead, the standard of adequate compensation allows for a variety of factors to be considered in determining the quantum of compensation.

The degree of compensation may be linked to the level of wrongdoing but this is not necessarily always the case. For example, under the rules of state responsibility, which address the consequences of an internationally wrongful act, the rule of compensation (or reparation) is to 'as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have

[7] See, for example, International Convention on Civil Liability for Oil Pollution Damage (adopted 29 November 1969, entered into force 19 June 1975) 973 UNTS 3 (1969 Oil Pollution Liability Convention) amended by Protocol to Amend International Convention on Civil Liability for Oil Pollution Damage (adopted 27 November 1992, entered into force 30 May 1996) 1956 UNTS 255 (1992 Oil Pollution Liability Convention) preamble; Vienna Convention on Civil Liability for Nuclear Damage (adopted 21 May 1963, entered into force 12 November 1977) 1063 UNTS 265, amended by Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (adopted 12 September 1997, entered into force 4 October 2003) 2241 UNTS 270 (1997 Vienna Convention) preamble; Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movement of Hazardous Wastes and Their Disposal (adopted 10 December 1999) UNEP/CHW.1/WG/1/9/2 (1999 Basel Liability Protocol) art 1.

[8] United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 397 (UNCLOS) art 235.

[9] ILC, 'Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, with Commentaries' (2006) UN Doc A/61/10 (Draft Principles) principle 3, 72.

[10] ibid.

[11] ibid commentary to principle 4, 74, para 8.

existed if that act had not been committed'.[12] State responsibility addresses wrongful conduct (by definition).[13] As such, the goal of restitution is linked directly to the wrongful conduct. The approach is corrective in the sense that the remedy seeks to undo (or 'wipe out') the loss associated with the wrongful act. The importance of wrongdoing is reflected in the 1999 Protocol on Liability and Compensation to the Basel Convention on Transboundary Movements of Hazardous Wastes (1999 Basel Liability Protocol), which provides for an exception to the limitations on liability where the damage in question is a result of a lack of compliance with the Convention or 'wrongful intentional, reckless or negligent acts or omissions'.[14]

However, wrongfulness is not always a requirement for liability or compensation; as such, the goal of compensation is oriented less towards restitution and corrective justice, than addressing the losses suffered by those affected by risky activities. In this regard, the standard of 'adequacy' can be explained by the severing of the relationship between the remedy and wrong, since there is not a clear (moral) correspondence between the defendant's act and the victim's loss.[15] There is still an important moral element to the goal of compensation, but one which may be linked with the victim's lack of responsibility for the losses they have suffered, rather than the degree of wrongdoing of others. This is most plainly seen in provisions in civil liability treaties involving contributory negligence, whereby the responsible party is relieved of liability, wholly or partially, on the basis of the victim's own acts or omissions.[16]

The shift in focus from state responsibility to allocation of losses suggests a corresponding shift from corrective to distributive justice. The attention to distributive issues, particularly between an innocent victim and not-at-fault states or operators, was evident from the earliest discussions of this topic at the ILC, where the Commission explored the idea of 'equitable' balancing as a means to address the distributive consequences of accidents, and in particular, the concern that 'an innocent victim should not be left to bear loss or injury'.[17] The ILC's Draft Principles move away from a substantive version of distributive justice based on equitable balancing, and suggest a more procedurally oriented approach to justice, noting:

[12] *Case Concerning the Factory at Chorzów (Germany v Poland)* (Merits) PCIJ Rep Series A No 17, 47.

[13] ILC, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries' (2001) UN Doc A/56/10 (ASR) art 1 ('The present articles apply to activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences.').

[14] 1999 Basel Liability Protocol (n 7) art 5.

[15] Ernest J Weinrib, 'Corrective Justice in a Nutshell' (2002) 52 UTLJ 349.

[16] See, eg 1969 Oil Pollution Liability Convention (n 7) art III (3).

[17] ILC, 'Third Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law, by Mr. Robert Q Quentin-Baxter, Special Rapporteur' (1982) UN Doc A/CN.4/360 and Corr.1, 63.

> It [compensation] is ipso facto adequate as long as the due process of the law requirements are met. As long as compensation given is not arbitrary, and grossly disproportionate to the damage actually suffered, even if it is less than full, it can be regarded as adequate. In other words, adequacy is not intended to denote 'sufficiency'.[18]

The need to balance compensation against other objectives is plainly seen in international civil liability structures where the parties have agreed to recovery caps and a range of exclusions.[19] Limits to recovery address the desire of the operators for commercial certainty associated with risks, including the facilitation of insurance and other risk pooling measures. Adequacy also captures the desirability of having readily accessible pools of funding that are available to satisfy successful claims. An award that provides for full (or partial) restitution of a claimant's losses cannot be viewed as adequate if it is not paid out due to impecuniosity or recalcitrance on the part of the responsible party. This aspect of adequacy similarly militates in favour of insurance, or other collective funds, that are available to satisfy claims.[20]

The extent to which compensation of private interests is likely to be a central objective of liability rules in areas beyond national jurisdiction depends on the density and nature of the activities in those areas. Certainly, there is potential for property and economic damages in areas beyond national jurisdiction. For example, cable infrastructure, established mining rights granted by the International Seabed Authority (ISA) under Part XI of UNCLOS or high seas fisheries activities may form the basis of an economic interest that may be protected from the wrongful conduct of others.[21] Emerging activities, such as the harvesting of marine genetic resources may also give rise to compensation claims.

A fundamental distinguishing feature of areas beyond national jurisdiction is the often collective and contingent nature of the rights in those areas, which complicates the rights to claim compensation, since the goal of compensation is premised on the presence of a victim, typically with clearly defined personal or property rights that have been abridged. Where those rights do not exist or are ill-defined, such as is often the case in global commons areas, the objective of compensation may be de-emphasized in favour of other objectives. For example, one could interpret the harm to fisheries resources as resources that may accrue to certain rights holders, such as recipients of allocations through international and state fisheries management regimes, or as harm to biological diversity that impacts the international community as a whole. It could, of course, be classified as both, but then it is less clear how the damages may be allocated. The relative absence of compensable

[18] Draft Principles (n 9) commentary to principle 4, 78, para 8.
[19] See, for example, 1969 Oil Pollution Liability Convention (n 7) art V.
[20] See discussion in Chapter 8.
[21] See, for example, UNCLOS (n 8) art 113 (injury to cables).

interests in the global commons explains, in part, the non-application of civil liability rules in areas beyond national jurisdiction.

Promptness requires that any procedures that are developed provide for efficient and accessible recourse for persons who have suffered damage. The goal of prompt compensation is responsive to concerns that the often-protracted nature of claims for compensation is unfairly burdensome on victims of harm, and may require specialized procedures to be developed to address access to compensation and ease of recovery.

2.2.2 *Environmental Harm Prevention and Restoration*

Liability rules and the compensation that flows from them are closely linked to the protection of the environment. The goal of environmental prevention and restoration has been central to the ILC's work on liability and is expressly identified as an objective (along with compensation) in its Draft Principles.[22] The role of liability rules as an economic incentive for less risky behaviour is central to the understanding of liability, and has animated the debates respecting the appropriate standard of liability for risky activities in domestic and international law.[23]

This objective is clearly identified in article 235 of UNCLOS, which links the obligation to ensure recourse is available to address liability and compensation in domestic legal systems to the obligation to protect and preserve the marine environment.[24] Under article 16 of the 1991 Antarctic Protocol,[25] environmental protection is the sole identified purpose for the elaboration of liability rules addressing damage arising from activities in the Antarctic Treaty area. In both cases, the rationale for privileging environmental protection reflects an understanding that the dominant form of loss is likely to be directly to the environment given the lower levels of economic activities in the Antarctic and marine areas beyond national jurisdiction.[26]

The underlying mechanism that links the imposition of liability to prevention is the deterrent effect of the consequences of liability, particularly awards of damages. Operators engaged in risky activities will be incentivized to avoid the imposition of

[22] Draft Principles (n 9) principle 3, 72 ('The purposes of the present draft principles are: (a) to ensure prompt and adequate compensation to victims of transboundary damage; and (b) to preserve and protect the environment in the event of transboundary damage, especially with respect to mitigation of damage to the environment and its restoration or reinstatement.'). See also Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (adopted 21 June 1993) (1993) 32 ILM 1228 (Lugano Convention) art 1.

[23] See Chapter 4.

[24] UNCLOS (n 8) art 235(1).

[25] Protocol on Environmental Protection to the Antarctic Treaty (adopted 4 October 1991, entered into force 14 January 1998) (1991) 30 ILM 1461 (1991 Antarctic Protocol).

[26] ATCM, 'Liability – Report of the Group of Legal Experts' (1998) XXII ATCM/WP1.

liability awards where the costs associated with compensation exceed the costs of operating with the requisite level of care to avoid causing harm. In this regard, third party insurance may be viewed as presenting a moral hazard, in that it reduces the individual operator's costs associated with liability payments, and thereby reduces the incentives for care.[27] The effect of insurance on the risk behaviour of operators in international settings has not been the subject of any extended analysis. For present purposes, the key point here is that there is a potential for tension between compensation and prevention objectives.

The prevention goal may also justify recovery for actions taken to prevent further harm to the environment, as seen in a number of civil liability regimes.[28] Typically, in these cases, recovery is available where an accident has occurred and steps have been taken to prevent further harm, and recovery for those actions is allowable. The prevention goal also raises the possibility that legal obligations could be triggered by the presence of risk, as opposed to its manifestation in the form of actual harm. This latter approach to prevention is most clearly seen in the Liability Annex to the Antarctic Protocol, where the definition of 'environmental emergency' includes an accidental event that 'imminently threatens to result in, any significant and harmful impact'.[29] The availability of compensation for response actions also reflects the more general preference for harm avoidance over remediation in international environmental law.[30]

The restoration goal is distinct in that, unlike prevention, it is not prospective, but rather responds to damage already suffered. As an objective, restoration can be viewed as an element of restitution, in that it seeks to reinstate a previous condition, but the loss does not necessarily accrue to a specific person or entity and may also relate to losses to the environment *per se*. The ILC qualifies this purpose in functional terms:

> The aim is not to restore or return the environment to its original state but to enable it to maintain its permanent functions. In the process it is not expected that expenditures disproportionate to the results desired would be incurred and such costs should be reasonable. Where restoration or reinstatement of the environment is not possible, it is reasonable to introduce the equivalent of those components into the environment.[31]

[27] Christopher Parsons, 'Moral Hazard in Liability Insurance' (2003) 29 Geneva Papers on Risk and Insurance: Issues and Practice 448.

[28] See, for example, 1969 Oil Pollution Liability Convention (n 7) art I, which defines 'preventive measures' as 'reasonable measures taken by any person *after* an incident has occurred to prevent or minimize pollution damage' (emphasis added).

[29] Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty on Liability Arising from Environmental Emergencies (adopted 17 June 2005) (2006) 45 ILM 5 (Liability Annex) art 2; see also Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety (adopted 15 October 2010, entered into force 5 March 2018) (2011) 50 ILM 105 (2010 Nagoya-Kuala Lumpur Supplementary Protocol).

[30] See Leslie-Anne Duvic-Paoli, *The Prevention Principle in International Environmental Law* (CUP 2018) ch 2.

[31] Draft Principles (n 9) commentary to principle 3, 73, para 7.

The Seabed Disputes Chamber (SDC), in its consideration of the responsibility of sponsoring states for activities in the Area, takes a similar view: '[i]t is the view of the Chamber that the form of reparation will depend on both the actual damage and the technical feasibility of restoring the situation to the *status quo ante*'.[32] The approach here is consistent with that taken in relation to compensation, in the sense that the goal is not a complete indemnification but rather an allocation of benefits and burdens associated with harmful incidents on the basis of fairness (proportionality) and feasibility. The attention being paid to feasibility and proportionality of response is likely to be salient in global commons settings, such as deep seabed mining, where restoration may be technically challenging or prohibitively expensive.[33]

2.2.3 *The Polluter-Pays Principle*

The polluter-pays principle tends to cut across the objectives discussed above, but given its prominence in international environmental governance institutions, including liability rules, it is helpful to discuss it separately. The polluter-pays principle focuses on which party ought to bear the burden of compensation requirements flowing from hazardous activities, favouring approaches that place liability with the operator, or more broadly, with the entity responsible for the creation of the risk.[34] In this latter regard, the polluter-pays principle is somewhat ambiguous about which entities are responsible as 'polluters',[35] and a number of civil liability regimes allocate responsibility amongst various actors involved in the chain of risky activities.[36] As a policy goal,[37] the polluter-pays principle seeks to internalize the cost of

[32] *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (Advisory Opinion of 1 February 2011) ITLOS Reports 2011 (*Activities in the Area* Advisory Opinion), para 197.

[33] Holly J Niner and others, 'Deep-Sea Mining with No Net Loss of Biodiversity – An Impossible Aim' (2018) 5 Front Mar Sci 53; see also Cindy Lee Van Dover and others, 'Biodiversity Loss from Deep Sea Mining' (2017) 10 Nat Geosci 464.

[34] Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th edn, CUP 2018) 240.

[35] Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment* (4th edn, OUP 2021) 559.

[36] 1969 Oil Pollution Liability Convention and 1999 Basel Liability Protocol (n 7).

[37] The legal status of the polluter-pays principle remains contested. It is referred to as 'a general principle of international environmental law' in the UNECE Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (adopted 21 May 2003) (UNECE Convention on Liability for Industrial Accidents). The polluter-pays principle also finds expression in, *inter alia*, the International Convention on Oil Pollution Preparedness, Response and Cooperation (adopted 30 November 1990, entered into force 13 May 1995) 1891 UNTS 77; the Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted 22 September 1992, entered into force 25 March 1998) 2354 UNTS 67 (1992 OSPAR Convention); and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (adopted 17 March 1992, 6 October 1996) 1936 UNTS 269 (1992 Watercourses and Lakes Convention). However, Birnie, Boyle and Redgwell question the extent and the

pollution, which should contribute to more economically efficient levels of pollution.[38] This links the polluter-pays principle to the goal of ensuring liability rules are not trade distorting by encouraging the internalization of environmental harm, as opposed to the state or international community subsidizing these costs by bearing them publicly.[39]

There is no reason to limit the application of the polluter-pays principle to areas under state jurisdiction. The principle is referenced in a number of oceans-based instruments, including the Convention for the Protection of the Marine Environment of the North-East Atlantic (1992 OSPAR Convention),[40] which includes some high seas areas.[41] The structure of the principle is not dependent upon the presence of sovereign jurisdiction, but rather the presence and impact of polluting activities.

The underlying economic goals of the polluter-pays principle, such as optimal resource allocation and minimizing trade distortions, may be particularly important in relation to resource development activities. However, insofar as a number of key forms of environmental harm in the global commons, such as ocean pollution from land-based sources or ocean acidification, may have diffused sources and cumulative impacts, the challenges with attribution may blunt the practical application of the polluter-pays principle.

2.2.4 *Economic Objectives*

The preambles to the 1992 Oil Pollution Liability Convention and the 1996 Hazardous and Noxious Substances Liability Convention (1996 HNS Convention) speak to another, perhaps, subsidiary, goal of liability regimes – the development of a level playing field amongst industry actors, in the form of 'uniform international rules and procedures for determining questions of liability and com-

capability to which the polluter-pays principle can be understood as an accepted legal principle, see Birnie, Boyle and Redgwell (n 35) 342 ('Principle 16 lacks the normative character of a rule of law'). But see Priscilla Schwartz, 'The Polluter-Pays Principle' in Ludwig Krämer and Emanuela Orlando (eds), *Principles of Environmental Law* (Edward Elgar 2018) 264.

[38] OECD, 'The Polluter-Pays Principle' (1992) OECD/GD (92)81.

[39] Draft Principles (n 9) principle 3, 74, para 11.

[40] 1992 OSPAR Convention (n 37).

[41] Other regional seas treaties that include the polluter-pays principle are the Convention on the Protection of the Marine Environment of the Baltic Sea Area (adopted 9 April 1992, entered into force 17 January 2000) 2099 UNTS 195, and the Convention on the Protection of the Marine Environment of the Black Sea Against Pollution (adopted 21 April 1992, entered into force 15 January 1994) 1764 UNTS 4, as well as the UNEP, 'Guidelines for the Determination of Liability and Compensation for Damage Resulting from Pollution of the Marine Environment in the Mediterranean Sea Area' (2008) UNEP(DEPI)/MEDI G.17/10, Annex V.

pensation'.[42] Liability rules can potentially distort competitive positions if some operators are subject to higher degrees of exposure through stronger domestic liability requirements, and consequential requirements for insurance. Harmonization of liability laws is, therefore, a distinct purpose for international rules that serves the goal of trade competitiveness, and will therefore be of greater relevance to sectors that are highly globalized and exposed to trade competitiveness concerns.[43] For example, the emphasis in the deep seabed mining regime on non-discrimination reflects competitiveness concerns that are likely to push states towards common or harmonized liability rules.[44]

Liability rules and procedures may in some instances be structured so as to create viable operating conditions for risky activities by supplying pools of funds to supplement insurance or other industry funds and by the imposition of liability limits. This is most clearly evident in the nuclear industry where the civil liability schemes are backstopped by state funds and which shield operators and their suppliers from unlimited liability claims that might otherwise make the industry unviable.[45] Liability regimes may also serve operators' economic interests by creating conditions of greater social acceptability of risky activity (what we might now call a 'social license to operate')[46] by providing public assurances that losses from accidents can be addressed by sufficiently funded mechanisms. Again, this rationale is salient to risky novel activities, like deep seabed mining and marine geoengineering.

2.3 APPROACHES TO THE FORM OF LIABILITY SCHEMES

The starting point for a discussion on approaches to liability is what might be considered the two default approaches to addressing liability: state responsibility and unharmonized domestic liability rules. These are the default approaches in the sense that a body of rules and practices already exist, and will operate alongside other liability schemes (to the extent that these rules are not displaced by other approaches). The deficiencies with the default approaches provide a framing for the other approaches, which are responsive to the shortcomings of the default approaches. The other approaches considered are generalized requirements for

[42] International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (adopted 3 May 1996) (1996) 35 ILM 1415 (1996 HNS Convention) preamble; see also 1969 Oil Pollution Liability Convention (n 7).

[43] Harmonization is also central to the European Council, Environmental Liability Directive 2004/35/CE (entered into force 30 April 2004) OJ L 143, 56.

[44] UNCLOS (n 8) art 152(1).

[45] See International Atomic Energy Agency, '1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage: Explanatory Text' (2007) IAEA International Law Series No 3, 5; see also Birnie, Boyle and Redgwell (n 35) 439.

[46] Michelle Voyer and Judith van Leeuwen, '"Social License to Operate" in the Blue Economy' (2019) 62 Resour Pol'y 102.

harmonization and minimum standards for domestic liability rules, and international civil liability schemes negotiated in connection with hazardous activities occurring within a specific sector, exemplified by the liability regimes respecting the carriage of oil by tankers or the operation of nuclear facilities. A further derivation on international civil liability rules are rules embedded directly within existing environmental treaty structures, which tie compensation more directly to the specific environmental goals of the treaty and may employ more regulatory-type mechanisms, such as administrative orders, that compel responsible parties to restore or otherwise address harm from hazardous activities. Finally, this chapter discusses 'loss and damage' as an alternative to liability, drawing on the collectivist approach to loss and damages from climate change.[47] This approach, at least as conceived under the Paris Agreement, expressly avoids any assignation of liability in favour of addressing losses through 'cooperative and facilitative' measures, such as risk pooling and insurance.[48]

2.3.1 *State Responsibility*

As an approach to liability, the rules of state responsibility flow from the requirement that breaches of international duties entail a corresponding obligation to make reparations to the state(s) to whom the duty was owed. The focus is, consequently, on states as the subjects of liability and as claimants. As a result, liability for harm occasioned by non-state entities must flow to states by attribution or, more likely, by virtue of a state's failure in its international obligations to oversee activities under its jurisdiction.[49] In a similar vein, non-state claimants are required to have states espouse their claims, and pursue them on their behalf.

Because state responsibility focuses on the behaviour of states and only indirectly on operators, its adequacy in addressing the goals of liability rules will depend on the presence of clearly defined primary obligations in international law that are likely to affect state behaviour and, indirectly, operator behaviour. The baseline rule that governs environmental responsibilities between states is the obligation of each state 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'.[50] As a rule governing transboundary interactions, the no-harm principle has

[47] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/10/Add.1, Annex, art 8.

[48] ibid art 8(3).

[49] See discussion in *Activities in the Area* Advisory Opinion (n 32), paras 107–116.

[50] Declaration of the United Nations Conference on the Human Environment (1972) UN Doc A/Conf.48/14/Rev.1 (1972 Stockholm Declaration) principle 21; Report of the United Nations Conference on Environment and Development (1992) UN Doc A/Conf.151/26/Rev.1, Annex I (1992 Rio Declaration) principle 2. See also Louis Sohn, 'The Stockholm Declaration on the Human Environment' (1973) 14 Harv Int'l LJ 423.

been repeatedly recognized as a customary rule in international law.[51] The application of the no-harm principle to the global commons is supported by the wording of both the 1972 Stockholm Declaration and the 1992 Rio Declaration, as well as by treaty provisions requiring states to take harm prevention measures in relation to the marine environment,[52] deep seabed,[53] fisheries[54] and the Antarctic.[55] While the no-harm principle provides a general basis for pursuing liability in the global commons, its application presents numerous difficulties.

The ILC, for example, was of the view that the application of rules respecting environmental harm to the global commons was sufficiently unique to warrant their exclusion from the ILC's work on liability (and subsequently on transboundary harm). The central preoccupation of the ILC when it started its work on liability in 1978 was the management of transboundary environmental risk.[56] In particular, it was recognized that states might undertake a range of activities that they may view as being beneficial, but which posed risks to other states. The first Special Rapporteur on the topic, Quentin-Baxter, viewed the dynamic as one of mutual limitations to state sovereignty, as captured by the maxim *sic utere tuo ut alienum non laedas*. In this regard, the focus of the topic on 'acts not prohibited by international law' emphasized procedural obligations that facilitate inter-state negotiations over planned activities and equitable obligations to compensate those that suffer harm.[57] Instead of developing general rules governing the acceptability of risky activities, the approach recognized the inherently contextual nature of transboundary risks. Compensation was understood to be an element of the wider set of practices regulating hazardous transboundary activities, but not the sole or even dominant goal.

The exclusion of harm to the global commons from the ILC's work on liability flowed from the contextual approach that was premised on the presence of a source state and affected state.[58] Since the duty to prevent harm was a corollary to state

[51] *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)* (Judgment) [2015] ICJ Rep 665 (Road Case); *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) [2010] ICJ Rep 14 (Pulp Mills); *Iron Rhine Arbitration (Belgium v Netherlands)* (Award) (2005) Oxford Reports on ICGJ 373.

[52] UNCLOS (n 8) art 192.

[53] ibid art 145.

[54] *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC)* (Advisory Opinion of 2 April 2015) ITLOS Reports 2015 (SRFC Advisory Opinion), paras 104–112.

[55] 1991 Antarctic Protocol (n 25) art 3.

[56] ILC, 'Report of the Working Group on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law' (1978) UN Doc A/CN.4/L.284 and Corr.1, notion of risk.

[57] ILC, 'Second Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law, by Mr. Robert Q Quentin-Baxter, Special Rapporteur' (1981) UN Doc A/CN.4/346, Add.1 and Add.2.

[58] See ILC, Yearbook of the International Law Commission (1998) vol I, 63, para 38.

sovereignty, it was traditionally invoked in connection with transboundary pollution between adjacent states. Since states have both a sovereign right to engage in economic activities (exploit their natural resources) within their territories, and the right to be free from harm to their territories, the harm principle was understood as being relational in character.[59] In the absence of clear sovereign rights in relation to the global commons, this relational character is absent, complicating the application of the harm principle in this context. In order to identify rights and obligations in relation to harm in the commons, the ILC felt it had to overcome the uncertain links between harm to the commons and individual state losses, or enter into an examination of collective rights, which it went beyond its mandate.[60]

In addition, the ILC characterized the principal forms of harm to the commons, which involved cumulative, multi-source impacts and harm to the environment *per se*, as being sufficiently distinct from those arising in transboundary contexts to further justify excluding areas beyond national jurisdiction from the scope of its work on liability.[61] As the topic evolved, and was divided into the subtopics of prevention of transboundary damage and allocation of loss, the exclusion of harm to the global commons environment was maintained.[62]

Despite the early reticence of the ILC to examine the primary obligations of states to protect areas beyond national jurisdiction, there is little reason to doubt that the fundamental obligation of states to prevent significant harm includes areas beyond national jurisdiction. This is, of course, reflected in the wording of both Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration.[63] The obligation is reflected in a number of instruments addressing state duties in relation to commons resources, including UNCLOS and the 1991 Antarctic Protocol.[64] The difficulty is not with the presence of the duty, but rather with the practicalities of its implementation, where the concerns raised by the ILC respecting causality, attribution and the quantification of damages remain significant barriers to implementing

[59] The domestic analogy here is to the common law tort of nuisance, which makes unreasonable interferences with the use and enjoyment of another's property actionable. As the characterization of an activity as a nuisance affects the ability of both parties to use and enjoy their property, the test becomes a balancing of factors that seeks to protect the reasonable proprietary expectations of the parties. In international law, the move away from focusing on the acceptability of impacts towards defining standards of reasonable behaviour is analogous to moving from a nuisance-based system to one based on negligence. Discussed in ILC, 'Second Report on International Liability' (n 57) paras 41–52.

[60] ILC, 'First Report on Prevention of Transboundary Damage from Hazardous Activities, by Mr. Pemmaraju Sreenivasa Rao, Special Rapporteur' (1998) UN Doc A/CN.4/487, paras 106–110; see also ILC, 'Report of the International Law Commission on the Work of Its Forty-Second Session' (1 May–20 July 1990) UN Doc A/45/10 (Report of the ILC), 104, para 527.

[61] Report of the ILC (n 60) 104, para 527.

[62] ILC, 'First Report on the Legal Regime' (n 1) para 37.

[63] 1972 Stockholm Declaration and 1992 Rio Declaration (n 50).

[64] UNCLOS (n 8); 1991 Antarctic Protocol (n 25).

the duty.[65] The issue of standing for harms to commons resources, including environmental resources presents a further barrier.[66]

A further shortcoming of state responsibility as a basis for liability is the structure of the due diligence standard that governs the no-harm principle, which makes states responsible for their failures to take reasonable steps to prevent harm, either in carrying out activities or in their oversight functions.[67] The application of the due diligence standard to harm prevention in the commons is supported by treaty language. Notably, in relation to deep seabed mining, article 139 of UNCLOS identifies the obligations of states 'to ensure' activities under their jurisdiction or control are carried out in conformity with the requirements of Part XI of the Convention. Article 139 goes on to specify that while damages from the failure of states to carry their responsibilities entails liability, they will not be liable for damages arising from the failures of entities under their control if they have 'taken all necessary and appropriate measures to secure effective compliance' with the relevant rules.[68] The nature of the due diligence obligation under article 139 was characterized in the following terms by the Seabed Disputes Chamber of the ITLOS (SDC):

> The sponsoring State's obligation 'to ensure' is not an obligation to achieve, in each and every case, the result that the sponsored contractor complies with the aforementioned obligations. Rather, it is an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result.[69]

A similar approach is found under the 1991 Antarctic Protocol, whereby the liability of states is limited to oversight failures.[70] Proving a lack of due diligence, especially in the absence of clear behavioural standards, poses difficulties, as it requires the identification of what oversight steps ought to be considered reasonable across highly diverse contexts involving states with very different regulatory capabilities.[71]

Due diligence also leaves injured states (or parties whose claims they have espoused) without a remedy where the overseeing state has exercised reasonable care. In cases of accidental or unforeseeable harm, or in cases where harm arose due to operator faults, but not a result of oversight deficiencies, an innocent victim is left without recourse under the rules of state responsibility. The inability of the rules of

[65] ILC, 'Second Report on the Protection of the Atmosphere, by Shinya Murase, Special Rapporteur' (2015) UN Doc A/CN.4/681, para 57; see also Duvic-Paoli (n 30) 241; Catherine Redgwell, 'The Wrong Trousers: State Responsibility and International Environmental Law' in Malcolm Evans and Panos Koutrakos (eds), *The International Responsibility of the European Union: European and International Perspectives* (Hart Publishing 2013).

[66] See Chapter 6.

[67] Road Case (n 51); Pulp Mills (n 51); *Nuclear Tests Case (Australia v France)* (Judgment) [1974] ICJ Rep 253, and *Nuclear Tests Case (New Zealand v France)* (Judgment) [1974] ICJ Rep 457.

[68] UNCLOS (n 8) art 139; see also Annex III art 22.

[69] *Activities in the Area* Advisory Opinion (n 32) para 110.

[70] 1991 Antarctic Protocol (n 25) art 10.

[71] See Chapter 4.

state responsibility to address the full range of circumstances that may demand compensation is tacitly acknowledged in article 304 of UNCLOS, which contemplates the further development of liability rules.[72]

Addressing this liability gap goes to the heart of the debate respecting activities that pose risks to the international environment. Foster frames the debate in terms of public or private liability for harm arising from hazardous activities, noting,

> To base a general liability scheme on operator liability instead will denote the acceptability of States' abdication, in corresponding measure, as primary agents in relationships between their respective populations in relation to a core public function: protecting populations and the environment from physical harm.[73]

Viewed in light of states' due diligence obligations, the question is not so much one of abdication, as states maintain international legal obligations related to the direct activities and oversight, unless it is explicitly excluded (potentially through channelling of liability away from the state).[74] The concern of states, which was ultimately reflected in the ILC's work, was one of the extent to which states are to become the insurers of risky activities under their jurisdiction. States have shown no appetite to take on such a role.

At a state-to-state level, the preference has been for loss shifting only in the face of fault.[75] In a transboundary context, a fault-based approach is potentially disciplined by considerations of reciprocity: states that expose their neighbours to risks face the possibility of being exposed to the same risks from their neighbours, since it will be more difficult to require higher levels of risk protection from others than they are willing to provide themselves.[76] It is less clear that such a dynamic is present in relation to the global commons, since the risks are imposed on the commons as a whole. States may be incentivized to engage in risky activities in relation to the commons where they can externalize the risk, but they do not face the direct threats from other states, since similar risky activities of other states will likewise be imposed on the commons. In effect, states receive the benefit of their risky activities, but the burdens are shared, leading to a risk-based tragedy of the commons.

2.3.2 *Unharmonized Domestic Liability*

The other default approach to addressing liability is to rely on domestic liability law and domestic courts to address harms arising from activities in the global commons. Instead

[72] UNCLOS (n 8) art 304; see also 1991 Antarctic Protocol (n 25) art 16.

[73] Caroline Foster, 'The ILC Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities: Privatizing Risk?' (2005) 14 RECIEL 265, 272.

[74] See discussion in Section 2.3.3, and Chapter 4.

[75] See discussions in Chapter 4.

[76] Karin Mickelson, 'Rereading Trail Smelter' (1994) 31 Canadian YBIL 219.

of (or in addition to) being governed by international legal obligations, liability would flow from domestic legal requirements respecting private law obligations (in tort or delict), but also potentially from public law remedies, such as environmental statutes that provide for civil remedies.[77] The advantage of domestic legal processes (over the law of state responsibility) is that it does not require state intervention and espousal of claims to initiate proceedings, allowing those who suffer harm direct access to legal remedies. On the other hand, litigants face a variety of obstacles in pursuing claims for damage arising from activities in the global commons, such as inconsistent approaches to access to domestic courts, lack of standing in domestic courts for both state and non-state actors claiming harm to commons resources and complications regarding choice of law questions given that the governing law cannot be determined with reference to the place of injury or accident (*lex loci delicti*) where the place or injury or accident is in areas beyond national jurisdiction.

The fundamental difficulty, however, is that recovery for harm to areas beyond national jurisdiction will be determined by a patchwork of domestic law, which will vary in both its procedural and substantive requirements. Recovery under these circumstances will depend upon an alignment of these requirements, such that a domestic state has sufficient links to the subject matter of the litigation (for example, either the plaintiff or defendant is a national), its courts are willing to accept jurisdiction over the litigation, the applicable law extends to areas beyond national jurisdiction and, if it does, provides for suitable remedies. In the event of a suit in a jurisdiction where the defendant does not have assets, a further hurdle of recognition and enforcement of the judgment will arise. Under unharmonized conditions, recovery will be unpredictable at best, and simply unavailable, at worst, with likely implications for the environmental protection goals of liability rules, since the deterrent effect of liability rules on behaviour will be dependent upon the effectiveness of the rules.

2.3.3 *Harmonized Domestic Liability Rules*

One response to the shortcomings of domestic liability rules is for states to develop minimum standards or other harmonization requirements that seek to provide a more consistent approach across domestic legal systems. Harmonization is consistent with, and implements, the duty on states to provide recourse for victims of environmental harm in their domestic legal systems, found in article 235 on UNCLOS. A similar obligation forms the basis of the ILC's Draft Principles, which provide a set of minimum standards that domestic legal systems ought to reflect to meet their obligation to provide for 'prompt and adequate' compensation. The Draft

[77] See, generally Monika Hinteregger, 'Environmental Liability' in Emma Lees and Jorge E Viñuales (eds), *Oxford Handbook of Comparative Environmental Law* (OUP 2019) 1025; Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 94 Stat 2767 (US) (CERCLA).

Principles identify minimum requirements for access to courts or other dispute settlement mechanisms for foreign claimants (on a non-discriminatory basis),[78] ensuring those bodies have the necessary jurisdiction to address transboundary claims,[79] indicating that rules should allow for no-fault recovery,[80] should provide for a full range of harms to be compensated, including damage to the environment itself, reinstatement measures and reasonable response measures[81] and should provide for national level insurance or compensation funds.[82] To a significant degree, the specifics of minimum standards identified by the ILC reflect the details of existing international civil liability treaties (discussed below), and are best understood as examples of how the general obligation to provide prompt and adequate compensation may be implemented.[83] Like civil liability treaties, and in keeping with the ILC's approach to prevention of transboundary harm, the ILC Draft Principles do not apply to areas beyond national jurisdiction.

Two important, and as yet unresolved, issues are the extent to which the lynchpin obligation of providing recourse to domestic courts for 'prompt and adequate compensation' is a customary rule of international law, and its application to areas beyond national jurisdiction. As noted, this obligation finds support in a number of general instruments addressing transboundary harm, such as the Nordic Convention,[84] and the UN Watercourses Convention,[85] but is framed in terms of non-discrimination, which does not provide a minimum standard, but only affords equal treatment. Principle 10 of the Rio Declaration contains a provision that guarantees '[e]ffective access to judicial and administrative proceedings, including redress and remedy'.[86] Principle 10 is reflected in the Aarhus Convention, which also includes provisions guaranteeing access to domestic courts, although, the requirements for access to justice appear to be more directed towards public law remedies than recourse for the purposes of pursuing compensation.[87] The one example of a treaty that provided for comprehensive obligations supporting this

[78] Draft Principles (n 9) commentary to principle 6(1), 86, para 2.
[79] ibid principle 6(1).
[80] ibid principle 4(2).
[81] ibid principle 2(a).
[82] ibid principle 4(3)–(5).
[83] Birnie, Boyle and Redgwell (n 35) 340–341('While the 2006 ILC Principles as a whole cannot be viewed as an exercise in codifying customary international law, they show how the Commission has made use of general principles of law as "an indication of policy and principle"').
[84] Convention on the Protection of the Environment (adopted 19 February 1974, entered into force 5 October 1976) 1092 UNTS 279 (1974 Nordic Convention) art 3.
[85] Convention on the Law of the Non-Navigational Uses of International Watercourses (adopted 21 May 1997, entered into force 17 August 2014) (1997) 36 ILM 700 (1997 Watercourses Convention) art 32.
[86] However, see 1992 Rio Declaration (n 50) principle 13.
[87] Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (adopted 25 June 1998, entered into force 30 October 2001) 2161 UNTS 447 (1998 Aarhus Convention) art 9.

duty, the Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, has failed to attract adherents.

There are numerous examples of courts awarding damages based on transboundary harms, but there is little evidence that the acceptance of these claims was based on a recognized general obligation to provide recourse to victims of environmental harms regardless of the location of the harm. The treaties on civil liability demonstrate a willingness to accept minimum standards, including access to domestic courts under certain conditions, such as channelling liability to operators (and away from the state) and implementation of risk pooling measures, but do not evince a general acceptance of the obligation to provide recourse. This points to a central difficulty associated with the development of a general obligation of recourse to pursue environmental compensation in domestic courts. In the absence of a more comprehensive set of common standards addressing issues such as standing, the basis and standard of liability, the scope of recoverable damages and recognition and enforcement of judgments, a general obligation is too vague to be of much practical value to victims of environmental harm.

The suggestion by the SDC that article 235 of UNCLOS is an aspect of a state's due diligence obligation raises the question of whether a general duty to provide recourse may flow from the customary due diligence obligation.[88] Understood as a preventive obligation, the argument draws on the deterrent effect that clear avenues of recourse would have on state behaviour; that is, since a state is required to take all reasonable steps that would prevent harm to another state or to areas beyond national jurisdiction, and providing recourse for harm occasioned is one such step, recourse ought to be viewed as an element of due diligence. The relationship between available avenues of recourse and reasonable standards of prudent behaviour respecting potentially environmentally harmful activities may be too attenuated to be generalized in such a manner. The alternative view of the SDC's characterization of article 235 as an element of due diligence is that in the very specific context of deep seabed mining, recourse is required to satisfy a sponsoring state's obligation to ensure contractor compliance with its obligations, which includes responsibility for damages occasioned by its wrongful acts (under Annex III, article 22).

Harmonized liability rules have taken two principal forms in international law: stand-alone, sector-specific civil liability regimes, and liability rules and procedures that are embedded within an existing multilateral environmental agreement.[89] The former are more activity-specific (i.e. transportation of oil by sea or operation of nuclear facilities), whereas the latter tend to address damages that relate to the particular environmental aims of the regime in question. That said, the approaches taken within these instruments draw on a common repertoire of mechanisms, such

[88] *Activities in the Area* Advisory Opinion (n 32) paras 139–140.
[89] See Brunnée (n 1).

as channelling liability, the use of a strict liability standard, limitations or caps on liability and the use of financial assurances.[90]

2.3.3.1 International Civil Liability Rules

International civil liability rules are a form of harmonization that is sector-specific, but are also facilitated by high degrees of international cooperation, particularly in relation to risk pooling measures. There are long standing civil liability schemes in relation to damages from nuclear facilities and transportation of oil by ship. More recently, civil liability treaties have been negotiated in relation to the transport of other hazardous substances.[91] The schemes have a number of common features that are intended to clarify responsibility, define the admissibility and extent of claims and provide a pool of resources to satisfy admissible claims. Liability, which is strict, is channelled to operators, who are required to hold a specified amount of insurance, and must contribute to compensation funds, whose purpose is to cover claims in excess of insured amounts. The particulars respecting the fund structure and contributions vary from regime to regime. Fund structures may involve a degree of risk sharing amongst parties beyond the frontline operator, such as including others who contribute to, or benefit from, the presence of the hazardous activity.[92] The amounts covered by the funds, which provide an upper limit to the available compensation, reflect the scale of potential claims, as well as pragmatic considerations respecting the willingness and ability of the contributors to provide funds.

Civil liability regimes respond quite directly to many of the shortcomings of unharmonized domestic liability rules by ensuring access to remedies, clear liability rules and other parameters affecting recovery, such as defining types of losses and damages covered by the scheme. Claims are brought and adjudicated within domestic courts, which contracting states are required to clothe with appropriate jurisdiction. The presence of an international organization, the International Oil Pollution Compensation Funds (IOPC Funds), facilitates the orderly management of claims through the negotiation of settlements and the conduct of litigation on behalf of the funds.

As an approach to addressing liability, international civil liability regimes direct responsibility, and consequently, deterrence, to private actors, and away from the state, which may obscure the state's oversight responsibilities from scrutiny in relation to incidents.[93] The exception is the nuclear facility regimes, where states

[90] See Sands and Peel (n 34) 772 (describing common features of international civil liability regimes).

[91] 1999 Basel Liability Protocol (n 7); 1996 HNS Convention (n 42).

[92] For example, the allocation of funding internationally between shipowners and receivers of oil under the oil transport liability regime, or between different parties in the chain of custody of hazardous waste under the 1999 Basel Liability Protocol (n 7).

[93] Foster (n 73).

have residual responsibilities to cover claims for compensation that exceed insurance and fund limits.[94] This reflects the higher degree of state involvement in nuclear facilities, and the inability of operators to acquire insurance or self-insure at the levels thought necessary to provide adequate compensation.

2.3.3.2 Liability Rules Contained in Existing Environmental Agreements

Beyond the nuclear, oil and hazardous substances sectors, there are a growing number of civil liability regimes that have been negotiated under the auspices of existing multilateral environmental agreements, notably the Basel Liability Protocol,[95] the Antarctic Protocol,[96] the UNECE Conventions on Transboundary Watercourses and Transboundary Effects of Industrial Accidents[97] and the 2010 Nagoya-Kuala Lumpur Supplementary Protocol.[98] The increased presence of liability rules as a further tool to address environmental aims responds to calls in the Stockholm Declaration, and then reiterated in the Rio Declaration, for the development of national and international rules governing 'liability and compensation for the victims of pollution and other environmental damage'.[99] The call for international cooperation on liability and compensation is echoed in the parent conventions of the instruments noted above,[100] as well as in UNCLOS and a number of regional seas conventions, indicating broad acceptance of the important role for liability in preventing and responding to environmental harm. The take-up by states of this call for cooperation has been mixed at best. Where liability rules have been developed, states have been slow to bring these instruments into force.[101]

[94] 1997 Vienna Convention (n 7) art VII (1).

[95] 1999 Basel Liability Protocol (n 7).

[96] 1991 Antarctic Protocol (n 25).

[97] 1997 Watercourses Convention (n 85); 1992 Watercourses and Lakes Convention (n 37); Convention on the Transboundary Effects of Industrial Accidents (adopted 17 March 1992, entered into force 19 April 2000) 2105 UNTS 457 (1992 Convention on Industrial Accidents).

[98] 2010 Nagoya-Kuala Lumpur Supplementary Protocol (n 29).

[99] 1992 Rio Declaration (n 50) principle 13; see also 1972 Stockholm Declaration (n 50) principle 22.

[100] See, for example, Cartagena Protocol on Biosafety (adopted 29 January 2000, entered into force 11 September 2003) 2226 UNTS 208, art 27, the basis for the negotiation of the Nagoya-Kuala Lumpur Supplementary Protocol; see also 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (adopted 7 November 1996, entered into force 24 March 2006) (2006) ATS 11 (1996 Dumping Protocol) art 15, which has not yet led to the development of further procedures regarding liability arising from the dumping or incineration at sea of wastes or other matter.

[101] Only the 2010 Nagoya-Kuala Lumpur Supplementary Protocol is in force. On the lack of action in relation to the liability provision in the regional seas agreements, see René Lefeber, 'The Liability Provisions of Regional Seas Conventions: Dead Letters in the Sea?' in Davor Vidas and Willy Østreng (eds), *Order for the Ocean at the Turn of the Century* (Kluwer Law International 1999) 507.

These agreements contain some of the same features found in the oil pollution liability schemes, such as the channelling of liability to the operator, the use of strict liability and liability caps and provisions for recourse within domestic legal systems, but they also reflect specific sectoral and regime conditions. Unlike the oil and nuclear liability conventions, the activities covered in these regimes are often more diffuse. For example, the UNECE Convention on Liability for Industrial Accidents addresses itself to transboundary water pollution from industrial accidents, and thus operates more like a general liability convention in relation to certain kinds of damages.[102] The 2010 Nagoya-Kuala Lumpur Supplementary Protocol, which addresses liability for damage 'resulting from living modified organisms which find their origin in a transboundary movement',[103] similarly addresses a potentially wide range of actors. However, this instrument provides states with high degrees of discretion in terms of the domestic rules they put in place.[104] The 2010 Nagoya-Kuala Lumpur Supplementary Protocol does not so much harmonize state approaches to liability than it provides guidance as to the acceptable approaches to domestic liability.[105]

One consequence of the diversity of potentially affected operators is that none of these agreements are supported by a compensation fund, which reflects the difficulty of risk pooling amongst diverse actors. Instead, the agreements provide for ad hoc insurance and financial security provisions. In the case of the Basel Liability Protocol, the parties agreed to use 'existing mechanisms' to address damages that exceeded coverage limitations,[106] which was ultimately determined to be the voluntarily funded Technical Cooperation Trust Fund. However, this body has none of the hallmarks of a compensation fund.[107]

These agreements reflect the environmental objectives of the parent agreements under which they have been negotiated, with greater attention paid to compensation for response measures, and damages associated with reinstatement. This is most clearly evident in the Liability Annex adopted under the 1991 Antarctic Protocol, which is focused entirely on the responsibilities of operators to respond to environmental emergencies and compensation for response measures taken by others.

Apart from the Liability Annex, none of the international civil liability regimes include damage to areas beyond national jurisdiction.

[102] UNECE Convention on Liability for Industrial Accidents (n 37) art 3.
[103] 2010 Nagoya-Kuala Lumpur Supplementary Protocol (n 29) art 3(1).
[104] ibid art 12.
[105] Sands and Peel (n 34) 797 (citing Anastasia Telesetsky, 'The 2010 Nagoya-Kuala Lumpur Supplementary Protocol: A New Treaty Assigning Transboundary Liability and Redress for Biodiversity Damage Caused by Genetically Modified Organisms' (2011) 14 ASIL Insight 2).
[106] 1999 Basel Liability Protocol (n 7) art 15(1). See Brunnée (n 1) 361.
[107] These structures are discussed in detail in Chapter 8.

2.3.4 *Administrative Approaches*

Given that environmental protection and remediation is a key objective of liability regimes, it should be recognized that these goals may be achieved through alternative measures that do not rely on liability rules *per se*, but rather respond to environmental harm through other collective mechanisms. Emergency or other administrative orders could be used to require actions that address environmental harm as a function of regulatory compliance, not civil liability. The domestic analogue would be statutory clean-up provisions and the associated ability of public authorities to take clean-up steps and recover funds from potentially responsible parties.[108] There is some limited potential for domestic administrative measures to be applied outside the territory of the issuing state,[109] but as discussed above, the need for a jurisdictional link limits the extraterritorial application of domestic laws to activities in the global commons.

The challenge in international law is that very few international organizations are endowed with direct regulatory authority over private actors, and as a consequence, civil liability regimes provide for recovery of reinstatement costs undertaken by domestic actors but do not provide a mechanism for direct regulatory action. The one exception to this is the ISA, which has direct oversight responsibilities in relation to deep seabed mining.[110] These powers include the authority to issue 'emergency orders'. This authority is limited to preventive action, but does provide that the executive organ of the ISA, the Council, may undertake actions on behalf of the contractor where the contractor fails to act, and may require financial security be posted to assure compliance.[111]

The Liability Annex adopted pursuant to the 1991 Antarctic Protocol obliges parties to require its operators to take 'prompt and effective response action to environmental emergencies'.[112] In the event such action is not taken, the party of the operator or other parties (where there is an imminent threat to the environment) may take steps themselves and seek recovery from the operator. The approach is quite narrow and prevention-oriented, in that it only addresses 'reasonable measures taken after an environmental emergency … to avoid, minimize or contain the impact' of that emergency, although these actions 'may include clean-up in appropriate circumstances'.[113] One interesting feature of the Antarctic Treaty system is

[108] CERCLA (n 77).
[109] See, for example, *Pakootas v Teck Cominco Metals, Ltd* (2006) 452 F.3d 1066 (9th Cir) (US), discussed in Jaye Ellis, 'Extraterritorial Excuse of Jurisdiction for Environmental Protection: Addressing Fairness Concerns' (2012) 25 LJIL 397.
[110] UNCLOS (n 8) art 161 (w); see also the International Seabed Authority's (ISA) Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (2013) ISBA/19/C/17 (PMN) reg 33.
[111] ibid.
[112] Liability Annex (n 29) art 5(1).
[113] ibid art 2.

that in the event appropriate response actions are not taken, the Liability Annex provides for recovery of an amount equal to the costs of the response action that should have been taken. In these circumstances, the recovered amount is paid into a fund created under the Annex that would be used to reimburse parties for response actions. The Annex does not empower a collective body, such as the Antarctic Treaty Consultative Meeting (ATCM), but rather permits individual states parties to seek recovery on behalf of the parties.

2.3.5 *Loss and Damage*

Loss and damage, as conceived by the parties to the 2015 Paris Agreement adopted under the auspices of the United Nations climate change regime,[114] is an alternative response to environmental damage that relies on collective responsibility to environmental harm, as opposed to individuated responsibility and liability. As an approach to losses resulting from environmental harm, the loss and damage provisions of the Paris Agreement are a product of the complicated political and legal circumstances surrounding climate change, where states vulnerable to climate change, particularly small island developing states threatened by sea-level rise, sought financial support from developed states to address the losses and damages suffered as a result of the adverse effects of climate change. These efforts were strongly resisted by developed states.[115] The resulting provision, article 8, in the Paris Agreement recognizes the importance of addressing loss and damage associated with climate change (although it does not define what that may be), and provides, in non-binding language, for future cooperation and facilitation to address loss and damage, including a permanent mechanism to coordinate these activities.[116] The specific areas of coordination include activities that address adaptation rather than losses *per se*, but also includes matters such as 'comprehensive risk assessment and management', 'risk insurance facilities, climate risk pooling and other insurance solutions' and 'non-economic losses' that respond more directly to conditions that might otherwise be addressed through liability rules. The parties in the decision adopting the Paris Agreement

[114] Paris Agreement (n 47) art 8.

[115] Discussed in Veera Pekkarinen, Patrick Toussaint and Harro van Asselt, 'Loss and Damage after Paris: Moving beyond Rhetoric' (2019) 13 CCLR 31; see also Linda Siegele, 'Loss and Damage (Article 8)' in Daniel Klein and others (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press 2017) 224.

[116] The mechanism, the Warsaw International Mechanism for Loss and Damage (WIM), was created in 2013 under the 1992 UN Framework Convention on Climate Change (UNFCCC), 'Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts' (31 January 2014) UN Doc FCCC/CP/2013/10/Add.1. The inclusion of the WIM in the Paris Agreement endowed a more permanent status on the WIM by embedding its role in a binding treaty. In 2022, the Parties to the Paris Agreement agreed to a funding mechanism that addresses loss and damage, Decision -CP. 27, -/CMA.4, 'Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage', 20 November 2022.

agreed 'that Article 8 of the Agreement does not involve or provide a basis for any liability and compensation'.[117]

Article 8 is of direct relevance to issues related to environmental harm in areas beyond national jurisdiction since it potentially contemplates within its scope harm to the oceans through acidification and warming of the oceans. It is doubtful that the effect of article 8, or the adopting decision, has the effect of displacing existing international or domestic law that governs the responsibility of states or private emitters for damages resulting from their greenhouse gas emissions.[118] But insofar as the loss and damage provision results in addressing harms that arise, these steps may best be seen as a form of mitigation of damages.

As an approach to addressing environmental harm, the loss and damage provision presents an alternative to liability by treating harm as a collective responsibility. In cases where the harm that arises is cumulative and may be difficult to attribute to specific polluters or responsible parties, whether states or private entities, collective measures may provide an alternative or supplementary pathway to address environmental harm. These conditions are certainly present in relation to environmental harms in areas beyond national jurisdiction and formed part of the ILC's justification for excluding global commons areas from their work on liability.[119] To be clear, loss and damage is not an approach to liability and should be viewed as an alternative as it lacks some of the key hallmarks of liability approaches, including the direct accountability of those who cause harm.

2.4 CONCLUSIONS

Approaches to liability are not mutually exclusive, nor are they watertight compartments. For example, state responsibility for environmental damages can, and often, will, operate alongside civil liability structures, and regulatory measures may operate alongside traditional forms of compensation. What emerges is a fairly complex landscape for the governance of compensation for environmental damage, whereby there is no best solution or easily transferable models. Instead, the approaches to liability are driven by a number of contextual factors that are themselves

[117] Paris Agreement (n 47) para 51.

[118] MJ Mace and Roda Verheyen, 'Loss, Damage and Responsibility after COP21: All Options Open for the Paris Agreement' (2016) 25 R ECIEL 197. Eight small island states made declarations upon signature or ratification of the Paris Agreement to the effect that acceptance of the Agreement did not constitute a renunciation of any rights under international law concerning state responsibility for the adverse effects of climate change and that no provision in the Agreement can be interpreted as derogating from principles of general international law or any claims or rights concerning compensation due to the impacts of climate change. United Nations, 'Paris Agreement' (*United Nations Treaty Collection*, 24 August 2022) <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=_en> accessed 24 August 2022.

[119] Report of the ILC (n 60).

interdependent. Amongst the key factors that are likely to influence the approach to liability are economic conditions relating to both the activities subject to potential liability and the interests affected by the harm caused; environmental conditions that influence questions such as attribution and the nature of the harm; the institutional context, including the presence of international organizations that can co-ordinate liability rules and the degree of state involvement; relatedly, the normative conditions that structure the purposes to which liability rules are directed; and last but not least, the political conditions, whether its popular demands for polluter to be held accountable or states seeking to preserve the position of powerful global or national actors. The alignment of these conditions within the global commons will vary between sectors and activities, and will be influenced by the existing rules and principles underlying commons environmental and economic regimes.