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Compensation for Environmental Damage: Progressively Casting a Wider Net, but What's the Catch?

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Compensation for Environmental Damage: Progressively Casting a Wider Net, but What's the Catch?

M P Ram Mohan & Els Reynaers Kini***

ABSTRACT

In the case Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)—Compensation Owed by The Republic of Nicaragua to The Republic of Costa Rica (the Costa Rica case), the International Court of Justice (ICJ) had to ascertain the compensation amount due by Nicaragua for the environmental damage it had caused to Costa Rica. This was the first time the ICJ was asked to weigh in and settle an environmental damage compensation claim between two states. After a concise introduction in Part I, this Article will first review the distinction between state responsibility for wrongful acts (as applicable in the Costa Rica case) and the international liability of states in the absence of wrongfulness in Part II. In Part III a detailed analysis of the Costa Rica case will be undertaken, with as its starting point the explicit acknowledgment by the ICJ that compensation is, indeed, due for damage caused to the environment, in and of itself, even if that damage is caused to non-marketable components of the environment, such as damage to a wetland or damage to an ecosystem. Next, this Article will critique the absence of transparency in the ICJ judgment on the valuation method it applied to calculate the final compensation amount as well as the paltry sum which Nicaragua ultimately owed to Costa Rica in this case. The general reluctance by the ICJ to apply punitive damages, in principle, does open an interesting comparative law debate on how common law and civil law countries differ in applying punitive damages in environmental

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cases. Where punitive damages may not be uniformly applied in national jurisdictions, most domestic courts do readily appoint experts in environmental matters given the inherent technical and scientific nature of such disputes. Therefore, this Article suggests the view that moving forward the ICJ should more actively appoint its own independent experts in environmental disputes, rather than merely relying on the evidence brought forward by the parties. This would go a long way in arriving at more robust scientific conclusions which in turn would allow the ICJ to contribute in a more meaningful manner to the development of international environmental and climate change law. Part IV seeks to demonstrate how domestic responses by the judiciary or the legislature increasingly tend to go further and be more proactive compared to the approaches of international regimes and adjudicating bodies when addressing environmental damage claims. This is illustrated based on a brief analysis of both the Deepwater Horizon and Erika oil spill cases and contrasted with the cases handled and interpretation given by the International Oil Pollution Compensation Funds when interpreting terms such as “environment” and “environmental damage.” Part V offers some concluding thoughts on the overall contribution of the ICJ’s Costa Rica case, including the suggestion that the court could have adopted a more “proactive judicial policy” in such an important transboundary environmental dispute between states.

Keywords: Environmental damage; ICJ Costa Rica case; punitive damages; exemplary damages, international environmental law, climate change

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I. INTRODUCTION

The 2018 decision by the International Court of Justice (ICJ) in which it for the first time addressed compensation for environmental damage in the case *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)—Compensation Owed by The Republic of Nicaragua to The Republic of Costa Rica*¹ (the *Costa Rica* case) serves as the perfect opportunity to take stock of where international environmental law stands in terms of liability and compensation for environmental damage. One might recall that during the 1972 UN Conference of the Human Environment, states were called upon to cooperate to further develop international law regarding

1. *Certain Activities Carried Out by Nicaragua in Border Area (Costa Rica v. Nicar.), Judgment*, 2018 I.C.J. 16 (Feb. 2) [hereinafter *Costa Rica case*].

liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction.² This call for action was renewed during the 1992 UN Conference on Environment and Development whereby states were asked to “develop national law regarding liability and compensation for the victims of pollution and other environmental damage” and to “co-operate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.”³

While keeping in mind the distinct features between state responsibility for wrongful acts, the international liability of states in the absence of wrongfulness, and the civil liability of persons along with the secondary liability of states as addressed in international treaties (in Part II), this Article seeks to focus on the core elements and questions which one could find at the center of a Venn diagram between these various liability regimes (in Part III). To know: How are international bodies as well as domestic courts, international treaties, and national legislations, defining and interpreting environmental damage and applying it in concrete cases where compensation for environmental damage is in order? What is the standard of care applicable to the no harm obligation—is it based on a fault-based regime, strict, or even absolute liability? What are the legal consequences attached to a violation, in terms of reparation and compensation? Which methodology does one apply to calculate environmental harm? One will notice that judges and legislators at the international and domestic level don't necessarily operate in strict isolation, but rather tend to gradually influence each other, much like a natural osmosis process. Despite some of the progress made with regard to the theoretical aspects of compensation for environmental damage, this Article will also review how courts fill in the contours when deciding environmental damage claims, including their reliance on equity as well as punitive damages. This Article will further review whether international and domestic courts sufficiently rely on independent experts and valuation methods to calculate natural resource damages. Part IV more closely analyzes how the weaknesses of the international regime for civil liability for oil pollution has triggered interesting and more robust domestic legislative responses, based on a brief analysis of the *Deepwater Horizon* oil spill in the

2. See U.N. Conference on the Human Environment, *Report of the United Nations Conference on the Human Environment*, § 22, at 5, U.N. Doc. A/CONF.48/14/Rev.1 (June 1972) [hereinafter Stockholm Declaration].

3. See U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, § 13 at 3, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), annex I (Aug. 12, 1992).

United States and the *Erika* oil spill disaster in France. The red thread running through this Article is that there is a natural and mutual influence between international environmental law developments, be it soft law, treaties or judgments by the ICJ, and domestic legislative or judicial responses and reasonings. This Article reviews these various facets through the prism of the *Costa Rica* case and contrast some of the ICJ's approaches and conclusions vis-à-vis compensation for environmental damage with responses and methodologies adopted by domestic courts and national legislatures as well as international treaty regimes and adjudicating bodies. In doing so, Part V better places the *Costa Rica* case in the context of contemporary environmental law developments and identifies areas where the ICJ could have walked a more proactive judicial policy path.

II. ICJ'S JURISDICTION, STATE RESPONSIBILITY, INTERNATIONAL LIABILITY OF THE STATE AND CIVIL LIABILITY

A. ICJ's Jurisdiction

It is worth recalling that only states may be parties in cases before the court per the Statute of the ICJ.⁴ Article 36 of the statute specifies that the jurisdiction of the court comprises all cases which the parties refer to it and all matters specially provided for in the Charter of the United Nations or in treaties and conventions in force. The states party to the statute may also declare that they recognize as compulsory *ipso facto* and without special agreement, in relation to any other state accepting the same obligation, the jurisdiction of the court in all legal disputes concerning: (a) the interpretation of a treaty; (b) any question of international law; (c) the existence of any fact which, if established, would constitute a breach of an international obligation; and (d) the nature or extent of the reparation to be made for the breach of an international obligation.⁵ The primary sources guiding the ICJ in its decisions are international conventions, international customs, and the general principles of law; while the secondary sources include judicial decisions and the teachings of the most highly qualified publicists.⁶ Moreover, if the parties agree, the court may decide a case *ex aequo et bono* (that is, based on fair and equitable treatment).⁷

4. See Statute of the International Court of Justice.

5. *Id.* art. 36.

6. *Id.* art. 38.

7. *Id.*

B. State Responsibility for Wrongful Acts

Before delving into a more detailed analysis of the ICJ's *Costa Rica* case, it is worth disentangling some key distinctions between state responsibility and the international liability of a state. The 2001 Draft Articles on Responsibility of States for Internationally Wrongful Acts,⁸ although not codified in a binding treaty, are deemed by many to reflect international custom with regard to state responsibility,⁹ which the ICJ has also referred to in several of its judgments,¹⁰ including the *Costa Rica* case.¹¹

Article 1 of the 2001 Draft Articles contains a well-established principle of international law according to which every internationally wrongful act of a state entails the international responsibility of that state.¹² Article 2 then clarifies that there is an internationally wrongful act of a state when the conduct consisting of an action or omission (a) is attributable to the state under international law and (b) constitutes a breach of an international obligation of the state. Such international obligation can be contained in a treaty or imposed by either customary international law or the general principles of international law.¹³ The obligation to prevent harmful effects—or environmental damage—to others would be a primary rule of international liability, a breach of which engages state responsibility. The ICJ has held that customary international law establishes an obligation to respect the environment

8. Int'l Law Comm'n, *Report on the Work of Its Fifty-Sixth Session*, art. 59, U.N. Doc. A/56/10, Supplement No. 10 (2001) [hereinafter ILC Draft Articles on Responsibility of States]; see also Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries (2001), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf [<https://perma.cc/ZDH9-JJ2Q>] (archived Feb. 22, 2021); *Report On the Work of the Fifty-Third Session*, INT'L L. COMM'N, <https://legal.un.org/ilc/reports/2001/> (July 15, 2015) [<https://perma.cc/9HAS-UY2N>] (archived Feb. 22, 2021); Responsibility of States for Internationally Wrongful Acts (2001), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf [<https://perma.cc/56ER-PQ33>] (archived Feb. 22, 2021).

9. See *Sixth Committee (Legal), 71st Session*, UNITED NATIONS, https://www.un.org/en/ga/sixth/71/resp_of_states.shtml (last visited Feb. 22, 2021) [<https://perma.cc/43T6-K6UQ>] (archived Feb. 22, 2021).

10. See, e.g., Application of Convention on Prevention and Punishment of the Crime of Genocide (Bosn. & Herz. v. Serb. & Montenegro), 2007 I.C.J. 43, (Feb. 26); see also Rafael Nieto-Navia, *State Responsibility in Respect of International Wrongful Acts of Third Persons: The Theory of Control*, in GLOBAL TRENDS: LAW, POLICY & JUSTICE: ESSAYS IN HONOUR OF PROFESSOR GIULIANA ZICCARDI CAPALDO (2013). For reference to earlier versions of the ILC Draft Articles on Responsibility of States, see Gabčíkovo-Nagymaros Project (Hung./Slovk.), Judgment, 1997 I.C.J. (Sept. 25).

11. See e.g., *Costa Rica case*, *supra* note 1, ¶ 151; see also *Costa Rica v. Nicar.*, Judgment, 2018 I.C.J. ¶ 3 (separate opinion by Bhandari, J.) [hereinafter 2018 Costa Rica Judgment]; *Costa Rica v. Nicar.*, Judgment, 2018 I.C.J. ¶ 41 (dissenting opinion of Dugard, J.).

12. For a more detailed analysis, see PHILIPPE SANDS & JACQUELINE PEEL, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 702–06 (3d. ed. 2012).

13. See ILC Draft Articles on Responsibility of States, *supra* note 8.

of other states or areas beyond a state's national jurisdiction.¹⁴ This was initially embedded in Principle 21 of the Stockholm Declaration (according to which "States have . . . the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction"¹⁵) as well as UN General Assembly Resolutions, which lay down the basic rules governing the international responsibility of states with regard to the environment.¹⁶ Likewise, this obligation is found in the UN Convention on the Law of the Sea (UNCLOS)¹⁷ and multilateral environmental agreements, such as the 1992 Convention on Biological Diversity (CBD).¹⁸ As pointed out by Sands, this can be interpreted as an extension of the principle of "good-neighbourliness" contained in Article 74 of the UN Charter.¹⁹ In the context of transboundary environmental damage, reference must be made to the often-quoted 1941 *Trail Smelter* arbitration case,²⁰ in which a bilateral tribunal was set up to resolve a transboundary air pollution dispute when the United States claimed that sulphur dioxide gases emitted by the smelter company based in the Canadian town Trail caused environmental damage to its forests and crops. The tribunal held that

under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence. The decisions of the Supreme Court of the United States which are the basis of these conclusions are decisions in equity and a solution inspired by them, together with the régime hereinafter prescribed, will, in the opinion of the Tribunal, be "just to all parties concerned."²¹

It is worth pointing out that historically there's been a resistance by states to accept liability for the acts of private parties within their jurisdiction, in the absence of any involvement of state officials or agents. This trend has persisted into the present day, with the

14. See SANDS & PEEL, *supra* note 12, at 195–96, 199–200, 705 (referencing, *inter alia*, Legality of Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, ¶ 29, at 241–42).

15. Stockholm Declaration, *supra* note 2, § 21, at 5.

16. See SANDS & PEEL, *supra* note 12, at 198; G.A. Res. 2996 (XXVII) (Dec. 15, 1972).

17. See United Nations Convention on the Law of the Sea art. 193, Dec. 10, 1982, 1833 U.N.T.S. 397.

18. United Nations Convention on Biological Diversity art. 3, Dec. 29, 1992, 1760 U.N.T.S. 79.

19. SANDS & PEEL, *supra* note 12, at 197; U.N. Charter art. 74.

20. See generally *Trail Smelter Case* (U.S. vs. Can.), 3 R.I.A.A. 1905 (1941).

21. *Id.* at 1965 (emphasis added).

exception of a few treaties in which states accept secondary residual liability if an operator is unable to pay the full liability amount (further discussion to follow).²² As poignantly observed by Dr. Rao, in the *Trail Smelter* case, Canada did accept responsibility for the wrongful emissions of gases by a private smelter company.²³ This must be seen as both an exception and a voluntary act on the part of Canada. As such, it is certainly not indicative of general state practice with regard to international liability of states, particularly in the absence of a treaty in this regard.²⁴ Importantly, state responsibility remains largely based on fault, expressed in terms of a “due diligence test” or conduct expected from a good government, placing a quite high burden of proof in the context of environmental damage.²⁵

Importantly, Part II of the 2001 Draft Principles on Responsibility of States for Internationally Wrongful Acts then focuses on the legal consequences of an internationally wrongful act,²⁶ which includes the obligation of a responsible state to cease the internationally wrongful act and to offer guarantees of non-repetition.²⁷ Moreover, the responsible state is under an obligation to make full reparation for the injury caused by the internationally wrongful act whereby injury includes any damage caused, whether material or moral.²⁸ This echoes the well-established customary international law principle expressed in the 1927 *Chorzów Factory* case in which the Permanent Court of International Justice (PCIJ) held:

It is a principle of international law that the breach of an engagement involves an obligation to make reparation in an adequate form. Reparation therefore is the indispensable complement of a failure to apply a convention and there is no necessity for this to be stated in the convention itself.²⁹

The ILC Draft Principles enumerate and define the forms of reparation, which include restitution,³⁰ compensation,³¹ and

22. See discussion *infra* Part II–D.

23. Pemmaraju Sreenivasa Rao, *International Liability for Transboundary Harm Arising from Hazardous Activities: Principles on Allocation of Loss*, UNITED NATIONS: AUDIOVISUAL LIBR. OF INT'L L. (Aug. 26, 2011), https://legal.un.org/avl/lis/Rao_EL_video_2.html [perma.cc/B3CM-SJ7J] (archived Feb. 22, 2021).

24. *Id.*

25. For a detailed discussion, see Francisco Orrego Vicuna, *Responsibility and Liability for Environmental Damage under International Law: Issues and Trends*, 10 GEO. INT'L ENVTL. L. REV. 279, 283–84 (1998).

26. ILC Draft Articles on Responsibility of States, *supra* note 8, art. 28.

27. *Id.* art. 30.

28. *Id.* art. 31.

29. *Factory at Chorzów (Ger. v. Pol.)*, Judgment, 1927 P.C.I.J. (ser. A) No. 8, at 21 (July 26) [hereinafter *Chorzów Factory case*].

30. ILC Draft Articles on Responsibility of States, *supra* note 8, art. 35.

31. *Id.* art. 36.

satisfaction,³² either singly or in combination.³³ A state responsible for an internationally wrongful act is under an obligation to make restitution—that is, to reestablish the situation which existed before the wrongful act was committed, provided that restitution (a) is not materially impossible and (b) does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation.³⁴ Quite often in cases where damage has been caused to the environment, restitution whereby the environment is restored to that which existed before the wrongful act was committed will not be achievable. In such cases, the state responsible for an internationally wrongful act is under an obligation to compensate for the damage caused.³⁵ Article 36(2) of the 2001 Draft Principles complements this requirement by stating that the “compensation shall cover any financially assessable damage including loss of profits insofar as it is established.”³⁶ As discussed in further detail below,³⁷ assessing the precise environmental damage is not always straightforward, and domestic and international courts rely on different methodologies for their calculations, sometimes simply reverting to equity to settle the dispute.³⁸ As a third form of reparation, the ILC Draft Principles refer to “satisfaction,” which may consist in “an acknowledgement of the breach, an expression of regret, a formal apology or another appropriate modality.”³⁹

*C. International Liability of a State in the Absence of Wrongfulness:
Subsidiary State Liability More Readily Accepted*

Apart from state responsibility, the ILC also carved out the separate aspect of international liability of a state, where the state's liability is not based on its fault or any wrongful act, but rather focuses on the injurious consequences arising out of acts which are in itself not prohibited by international law.⁴⁰ These injurious consequences or damage caused beyond a state's boundary to persons, property, or the environment, deserve to be compensated. In other words, a state's

32. *Id.* art. 37.

33. *Id.* art. 34.

34. *Id.* art. 35.

35. *Id.* art. 36.

36. *Id.*

37. See discussion below, Part III–E.

38. See discussion below, Part IV.

39. ILC Draft Articles on Responsibility of States, *supra* note 8, art. 37. For an application by the ICJ, see Application of Convention on Prevention and Punishment of the Crime of Genocide (*Bosn. & Herz. v. Serb. & Montenegro*), 2007 I.C.J. 43, ¶ 462–63, at 233–34 (Feb. 26); see also *Costa Rica v. Nicar.*, Judgment, 2018 I.C.J. (separate opinion of Trinidadade, J.) (arguing for the importance of satisfaction as a means of reparation).

40. For an excellent analysis, see Sompong Sucharitkul, *State Responsibility and International Liability Under International Law*, 18 *Loy. L.A. Int'l & Comp. L.J.* 821 (1996).

international liability would be triggered based on proof of injurious consequences, independently of whether the act is attributable to that state. The *Trail Smelter* case discussed above is a good illustration in point.⁴¹ The privately owned Consolidated Mining and Smelting Company based in Trail (for which the Canadian government voluntarily took responsibility) did not itself engage in any unlawful activity; nor was the Canadian government negligent by not regulating the said company. But, the focus of the dispute shifted to the harm caused to the crops and trees in the neighboring state.⁴² The classic principles of state responsibility would not apply to such situations and yet needed to be addressed from a legal perspective.

As pointed out by Sompong Sucharitkul, the theory of international liability can be traced back to other cases as well, such as the *Lake Lanoux Arbitration*⁴³ and the *Corfu Channel* case,⁴⁴ in which the primary rule that a state must refrain from harming its neighbors was expanded to include the obligation to prevent harm in the territories of neighboring states.⁴⁵ Given these developments and the acknowledgment that the rules of state responsibility would not be able to be squarely applied to such situations, the ILC took it upon itself to set up two separate working groups, which culminated in the 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities⁴⁶ and the 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities.⁴⁷ Notably, neither of these drafts have been adopted in the form of a treaty thus far. But, states appearing before the ICJ do readily refer to them, prompting judges to take the ILC Draft Articles and Principles into account.⁴⁸

At the core of the 2001 Draft Articles on Prevention is the obligation that a state shall take all appropriate measures to prevent

41. *Trail Smelter Case* (U.S. vs. Can.), 3 R.I.A.A. 1905 (1941).

42. *See* Rao, *supra* note 23.

43. *Lake Lanoux Arbitration* (Fr. v. Spain), 12 R.I.A.A. 281 (1957).

44. *Corfu Channel* (U.K. & N. Ir. v. Alb.), Judgment, 1949 I.C.J. 244 (Dec. 15).

45. *See* Sucharitkul, *supra* note 40.

46. Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with Commentaries (2001), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_7_2001.pdf [<https://perma.cc/WR7Z-9X23>] (archived Feb. 23, 2021) [hereinafter ILC Draft Articles on Prevention].

47. *Analytical Guide to the Work of the International Law Commission*, INT'L L. COMM'N, <https://legal.un.org/ilc/guide/9.shtml> (last updated July 23, 2015) [<https://perma.cc/56DQ-2HET>] (archived Feb. 22, 2021); *see also* Int'l Law Comm'n, Report on the Work of Its Fifty-Eighth Session, U.N. Doc. A/61/10, Supplement No. 10 (2006); Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, with Commentaries (2006), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf [<https://perma.cc/4GWK-J2F6>] (archived Feb. 23, 2021).

48. *See, e.g., Pulp Mills on River Uruguay* (Arg. v. Uru.), Judgment, 2010 I.C.J. 14 (April 20) [hereinafter 2010 Pulp Mills case].

significant transboundary harm or, in any event, to minimize the risk thereof.⁴⁹ This is based on the fundamental principle *sic utere tuo alienum non laedas* (use your own property in such a manner as not to injure that of another)⁵⁰ as a well as a more prescriptive version of Principle 21 of the Stockholm Declaration.⁵¹ The 2001 Draft Articles on Prevention also state that any decision in respect of the authorization of an activity shall, in particular, be based on an assessment of the possible transboundary harm caused by that activity, including any environmental impact assessment (EIA),⁵² and the further obligation that a state shall provide the state likely to be affected with timely notification of the risk and shall transmit to it all relevant (technical) information.⁵³ Interestingly, the ICJ at a general level confirmed in the 2010 *Pulp Mills* case that “it may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource.”⁵⁴ In the 2010 *Pulp Mills* case the ICJ reiterated, by reference to the *Corfu Channel* case,⁵⁵ that the “principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory. It is ‘every State’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States.’”⁵⁶ From an environmental damage perspective, the ICJ further emphasized that a “State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State.”⁵⁷ This principle was further acknowledged in the 2015 *Costa Rica v. Nicaragua* case.⁵⁸

49. ILC Draft Articles on Prevention, *supra* note 46, art. 3.

50. Much has been written on the principle itself, both in the context of domestic tort law as well as pertaining to international law (and whether it can be treated as a principle of customary international law or not), the scope of which goes beyond the main focus of this article. See, e.g., Shinya Murase, (Special Rapporteur) *Second Rep. on the Protection of the Atmosphere*, ¶¶ 41–59, UN Doc A/CN.4/681 (Mar. 2, 2015).

51. ILC Draft Articles on Prevention, *supra* note 46, art. 3 (and related commentaries).

52. *Id.* art. 7.

53. *Id.* art. 8.

54. *Pulp Mills on River Uruguay* (Arg. v. Uru.), Judgment, 2010 I.C.J. 14, 83 (April 20). For a detailed analysis, see Cymie R. Payne, *Environmental Impact Assessment as a Duty under International Law: The International Court of Justice Judgment on Pulp Mills on the River Uruguay*, 1 EUR. J. RISK REG. 317, 317–24 (2010).

55. See *Corfu Channel* (U.K. & N. Ir. v. Alb.), Judgment, 1949 I.C.J. 244 (Dec. 15).

56. *Arg. v. Uru.*, 2010 I.C.J. 55–56, ¶ 101.

57. *Id.*

58. *Certain Activities Carried Out by Nicaragua in the Border Area* (Costa Rica v. Nicar.) and *Construction of a Road in Costa Rica Along the San Juan River* (Nicar. v. Costa Rica), Judgment, 2015 I.C.J. 665, ¶ 104 (Dec. 15), [hereinafter 2015 Costa Rica

Principle 1 of the ILC's 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities (2006 Draft Principles) delineates the scope as applying to transboundary damage caused by hazardous activities not prohibited by international law.⁵⁹ Like the 2001 Draft Articles on Prevention, the ILC's 2006 Draft Principles are concerned with primary rules of international law, the infringement of which would trigger state responsibility, without implying that the activity itself is prohibited.⁶⁰ As the ILC clarifies in its commentaries, in such instance, the "State Responsibility could be invoked to implement not only the obligations of the State itself but also the civil responsibility or duty of the operator."⁶¹ This legal implication, undoubtedly, is one of the prime reasons why states have not been keen on adopting the ILC's 2006 Draft Principles in the form of a binding treaty. Instead, the observable trend has been the adoption of sector-specific or environmental hazard-specific civil liability treaties where the prime liability rests on the operator, and the state takes up secondary or residual liability in the event of insufficiency of funds of the operator—as will be further discussed below.⁶²

The 2006 Draft Principles require each state to take all necessary measures to ensure that prompt and adequate compensation is available for victims of transboundary damage caused by hazardous activities located within its territory. These measures should include the imposition of liability on the operator, or other persons, where appropriate. Importantly, such liability should not require proof of fault.⁶³ In other words, it should be based on the well-established doctrines of strict liability (with the possible defenses such as an Act of God, the wrongful act of a third party, or the plaintiff's own fault) or absolute liability (where no such exceptions can be put up as a defense) for inherently hazardous activities, both of which are rooted in the tort law of most civil and common law countries.⁶⁴ Moreover, these

case] <https://www.icj-cij.org/files/case-related/150/150-20151216-JUD-01-00-EN.pdf> [https://perma.cc/JH4H-ECZF] (archived Feb. 15, 2021).

59. Int'l Law Comm'n, Report of the 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities – with commentaries on Its Fifty-Eighth Session, U.N. Doc. A/61/10, 62–63 (2006), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf [https://perma.cc/2JUC-CU26] (archived Feb. 15, 2021) [hereinafter 2006 Draft Principles].

60. *Id.*

61. *Id.*

62. See discussion *infra* Part II.D.

63. See 2006 Draft Principles, *supra* note 59, at Principles 3 and 4.

64. See, e.g., RATANLAL & DHIRAJLAL, THE LAW OF TORTS 493–509, 510–512, 885 (Akshay Sapre, ed., 28th ed., 2018) (referencing the Indian Supreme Court decision in M.C. Mehta And Anr v. Union of India & Ors, (1987) 1 SCR 819 (India) <https://indiankanoon.org/doc/1486949/> [https://perma.cc/7TL9-3PPG] (archived Feb. 19, 2021) [hereinafter *Oleum Gas Leak* case]).

measures should also include a requirement on the operator to maintain a financial security such as insurance and possibly the establishment of industry-wide funds at the national level. Importantly, in the event the measures are insufficient to provide adequate compensation, the state should also ensure additional financial resources.⁶⁵ Boyle rightfully criticizes the ILC's draft as being too cautious in some ways and lacking teeth by refraining from imposing hard obligations on states and making states directly liable if they fail to make such adequate provisions to compensate available.⁶⁶ The Draft Principles further suggest that all efforts should be made to conclude specific global, regional, or bilateral agreements in respect of particular hazardous activities to effectively address compensation, response measures as well as international and domestic remedies. These agreements should also include arrangements for industry and/or state funds to provide supplementary compensation in the event the financial resources of the operator are insufficient to cover the damage suffered as a result of the incident.⁶⁷ In fact, these draft principles do reflect existing state practices and the obligations contained in the international oil pollution conventions and civil nuclear liability treaties.⁶⁸

The Institut de Droit International (IDI)⁶⁹ brings together leading public lawyers and seeks to highlight the characteristics of the *lex lata* in order to promote its respect while simultaneously also making determinations *de lege ferenda* in order to contribute to the development of international law.⁷⁰ The IDI adopted a resolution on "Responsibility and Liability under International Law for Environmental Damage."⁷¹ In it, the IDI suggested that the rules of international law may also provide for the engagement of strict responsibility of the state on the basis of harm or injury alone, which would be appropriate in the case of ultrahazardous activities, including for damage caused by operators within a state's jurisdiction or control.⁷² In other words, what is envisaged here is that the state's responsibility would be triggered based on the harm alone even if the

65. 2006 Draft Principles, *supra* note 59, at Principle 4.

66. See A. E. Boyle, *Globalising Environmental Liability: The Interplay of National and International Law*, 17 J. ENV'T L. 3, 19–20 (2005).

67. 2006 Draft Principles, *supra* note 59, at Principle 7.

68. See discussion *infra* Part II.D.

69. See *generally About the Institute*, INSTITUT DE DROIT INTERNATIONAL, <https://www.idi-iil.org/en/a-propos/> [<https://perma.cc/JE5Z-GRMA>] (archived Mar. 17) (last visited Feb. 20, 2021) (provides additional information about the Institut de Droit International).

70. *Lex lata* (the law as it is); *de lege ferenda* (the law as it should be).

71. Institut de Droit International, *Responsibility and Liability under International Law for Environmental Damage*, Session of Strasbourg (1997), https://www.idi-iil.org/app/uploads/2017/06/1997_str_03_en.pdf [<https://perma.cc/8NFS-FV8L>] (archived Feb. 20, 2021) [hereinafter *IDI Resolution*].

72. *Id.* art. 4.

transboundary damage is caused by a private operator, akin to what happened in the *Trail Smelter* case. This is not how state practice has evolved so far. Not entirely in line with how the ILC approaches state responsibility, the IDI's Resolution indicates that "state responsibility" would refer to the consequences of a state's failure to exert sufficient regulatory control over activities within its jurisdiction to meet its international obligations.⁷³ The IDI, in quite a far-reaching manner, further suggests that an operator fully complying with applicable domestic rules and government controls may be exempted from liability in case of environmental damage.⁷⁴ This is in contrast with the ILC's 2006 Draft Principles, which pin the strict liability on the operator as the prime liable party in such cases, not the state.⁷⁵ Multilateral environmental agreements (MEAs) negotiated by states have been more nuanced and less far-reaching, with states agreeing to adopt domestic civil liability regimes holding operators liable based on strict liability.⁷⁶ In this case, a state's responsibility could be triggered if the state were to fail to comply with the obligation to establish such domestic civil liability regime as per the treaty,⁷⁷ but that's a much more narrow scope than what was suggested by the IDI. For instance, in the 2010 Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety (Nagoya-KL Supplementary Protocol),⁷⁸ which entered into force in 2018,⁷⁹ the parties agreed that they *shall* provide in their domestic law rules and procedures that address damage and apply their existing domestic law on civil liability (or develop new civil liability rules) for this purpose. Hence, having a civil liability regime in place is a specific treaty obligation resting on the state. The Nagoya-KL Supplementary Protocol, which addresses damage resulting from a transboundary movement of living modified organisms, requires the parties to ensure that the operator, in the event of damage, immediately informs the

73. See Teresa A. Berwick, *Responsibility and Liability for Environmental Damage: A Roadmap for International Environmental Regimes*, 10 GEO. INT'L ENVTL. L. REV. 257, 258 (1998).

74. *IDI Resolution*, *supra* note 71, art. 6.

75. 2006 Draft Principles, *supra* note 59, at Principle 4.

76. *IDI Resolution*, *supra* note 71, art. 6.

77. See, for instance, Convention on Biological Diversity, *Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety*, (Oct. 15, 2010), https://bch.cbd.int/protocol/NKL_text.shtml [<https://perma.cc/L5PM-ZH6T>] (archived Feb. 20, 2021) [hereinafter *Nagoya-KL Supplementary Protocol*]. As discussed above, the 2006 Draft Principles are phrased more cautiously and do not attach direct liability to the State for failing to adopt such domestic regimes, which can be seen as an inherent weakness.

78. *Id.*

79. See *Parties to the Cartagena Protocol and its Supplementary Protocol on Liability and Redress*, CONVENTION ON BIOLOGICAL DIVERSITY, <https://bch.cbd.int/protocol/parties/#tab=1> [<https://perma.cc/SUY8-L9JD>] (archived Feb. 20, 2021) (The Nagoya-KL Supplementary Protocol entered into force on March 5th, 2018).

competent regulatory authority, evaluates the damage, and takes appropriate measures. Under this protocol the competent authority may implement the appropriate response measures when the operator fails to do so and would have the right to recover the costs from the operator.⁸⁰ As observed by Emanuela Orlando, the success and the ultimate entry into force of the Nagoya-KL Supplementary Protocol lies precisely in the fact that there is a strong focus on domestic law, leaving flexibility to the parties to address the substantive liability for biodiversity damage as per their respective national regimes instead of inserting treaty provisions which would have held the states more directly liable.⁸¹ The Supplementary Protocol does explicitly state that it will not affect the rights and obligations of states under the rules of general international law with respect to the responsibility of states for internationally wrongful acts.⁸² Given the risk of conceptual blurring of lines between state responsibility and the international liability of a state, states may feel more comfortable adding such an explicit bright line. Moreover, with the exception of very few treaties,⁸³ the majority of MEAs adopted so far address civil liability for compensation of operators and not state liability directly, a trend that is not likely to change in the foreseeable future.⁸⁴

The IDI did mirror more closely existing states' practices based on existing treaties when it mentioned in Article 8 of its resolution that "subsidiary State liability"—that is, contributions by the state to international funds and other forms of state participation in compensation schemes—should be considered as back-up systems of liability in case the operator who is primarily liable would be unable to pay the required compensation.⁸⁵ These are well-established approaches under the oil pollution and nuclear civil liability conventions, which are driven by the knowledge that they regulate sectors with low probability, high impact type accidents, with an increased risk of a transboundary element and where, in the case of

80. *Nagoya-KL Supplementary Protocol*, *supra* note 77, art. 5.

81. See Emanuela Orlando, *From Domestic to Global? Recent Trends in Environmental Liability From a Multilevel and Comparative Law Perspective*, 24 *REV. EUR., COMPAR. & INT'L ENV'T L.* 289 (http://sro.sussex.ac.uk/id/eprint/57200/1/Orlando_edited_220915.pdf) [<https://perma.cc/K8YJ-8PRB>] (archived Feb. 20, 2021).

82. *Nagoya-KL Supplementary Protocol*, *supra* note 77, art. 11.

83. See, e.g., Convention on the International Liability for Damage Caused by Space Objects, Mar. 29, 1972, T.I.A.S. 7762, 961 U.N.T.S. 188, <https://treaties.un.org/doc/Publication/UNTS/Volume%20961/volume-961-I-13810-English.pdf> [<https://perma.cc/U8Q3-QP6Q>] (archived Feb. 20, 2021).

84. UNEP-Division of Environmental Policy Implementation, *Environmental Liability & Compensation Regimes: A Review*, at 56 (2003), <https://wedocs.unep.org/bitstream/handle/20.500.11822/29241/EnvLCRev.pdf?sequence=1&isAllowed=y> [<https://perma.cc/JPU2-VRA9>] (archived Feb. 20, 2021).

85. *IDI Resolution*, *supra* note 71, art. 8.

large-scale catastrophes, the states invariably step in from a public policy perspective.

The work of the ILC, as reflected in the 2006 Draft Principles as well as the earlier work undertaken by the IDI on Environmental Responsibility and Liability, is indicative of doctrinal developments pertaining to state liability but have not yet been codified. The IDI Resolution clearly had a more far-reaching state liability model in mind,⁸⁶ whereas the ILC focused, perhaps more pragmatically and realistically, on adequate compensation measures where the liability would be imposed on the operator based on strict liability. The 2006 ILC Draft Principles have not been adopted in a binding treaty as such. However, the ILC's call to further adopt multilateral or bilateral agreements for specific categories of hazardous activities seems to be the way this important topic is moving forward.

D. Civil Liability Treaties for Compensation in the Absence of Binding Principles of International State Liability

The United Nations Environmental Programme (UNEP), in its report on the status of environmental liability and compensation regimes, observes that there is a clear “general reluctance on the part of states to accept any form of responsibility for environmental damage,” including to be held responsible for the acts of private parties or the private industry.⁸⁷ As discussed above, under traditional international law principles, states are typically not directly responsible for the activities of private parties unless there was, for instance, a treaty obligation to do so. Alternatively, responsibility may arise if one can establish, based on fault-based liability, that the state failed to fulfill its responsibility to ensure that activities within their jurisdiction do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. Hence, UNEP concludes that state liability “remains a large gap in the current regimes dealing with liability and compensation” and is an area that deserves increased attention.⁸⁸ However, as mentioned, the ILC's 2006 Draft Principles have not been codified, nor has any other general or cross-sectoral international or regional agreement addressing environmental liability entered into force. We may add here that the EU's 2004 Directive on Environmental Liability (“ELD”) with regard to the prevention and remedying of environmental damage,⁸⁹ identifies

86. *See generally id.*

87. UNEP, *supra* note 84, at 56.

88. *Id.*

89. Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on Environmental Liability With Regard to the Prevention and Remedying of Environmental Damage, 2004 O.J. (L 143/56) 1, [hereinafter ELD] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32004L0035&from=EN> [<https://perma.cc/DH4J-SBFV>] (archived Feb. 21, 2021); *see generally Environmental*

only three types of damage: to protected species and habitats (as per the Wild Birds Directive (79/409/EEC)⁹⁰ and the Habitats Directive (92/43/EEC)⁹¹), to water (as per the Water Framework Directive (2000/60/EC)⁹²), and to land.⁹³ Although earlier drafts of the Directive did include rights to bring civil actions, the ELD as it currently stands is only a public or administrative law instrument, under which liability will be enforced solely by public authorities with no scope for private claims. The ELD's entry into force, in a way, also meant "the final nail in the coffin"⁹⁴ for the 1993 broad-based Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention),⁹⁵ which is now no longer expected to ever enter into force. Hence, we're left to analyze how international (as opposed to regional) agreements have addressed civil liability for environmental damage so far. As a first observation, many of those treaties simply haven't entered into force and the list of treaties that have is short.

1. Living Modified Organisms

Notably, the 2010 Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety,⁹⁶ previously referenced, entered into force in 2018. The Nagoya-KL Supplementary Protocol requires the parties to ensure

Liability Introduction, EUROPEAN COMMISSION,
<https://ec.europa.eu/environment/legal/liability/index.htm> [https://perma.cc/5RA9-QQ3D] (archived Feb. 21, 2021) (detailing more information about the ELD).

90. Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, 1979 O.J. (L 103), <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:l28046&from=EN> [https://perma.cc/MZ63-3SJJ] (archived Feb. 21, 2021).

91. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora 1992 O.J. (L 206) 7, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN> [https://perma.cc/7VM5-YQDV] (archived Feb. 21, 2021).

92. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, 2000 O.J. (L 327) 1 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02000L0060-20141120&from=EN> [https://perma.cc/LE54-EKH4] (archived Feb. 21, 2021).

93. Note that 'land' is not defined in the ELD nor exclusively governed by any specific Directive. See LUCAS BERGKAMP & BARBARA GOLDSTEIN, *THE EU ENVIRONMENTAL LIABILITY DIRECTIVE – A COMMENTARY* 66 (2013).

94. Jürgen Lefevere, *Environmental Liability*, FOUND. FOR INT'L ENV'T L. & DEV. (FIELD), at 8 (2001) https://www.ecologic.eu/sites/files/download/projekte/850-899/890/inventories/environmental_liability.pdf [https://perma.cc/FWZ4-ZQ74] (archived Feb. 21, 2021).

95. Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, June 26, 1993, ETS No. 150 [hereinafter Lugano Convention] <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/150> [https://perma.cc/A58Z-6KDC] (archived Feb. 21, 2021).

96. *Nagoya-KL Supplementary Protocol*, *supra* note 77.

that, in the event of damage resulting from a transboundary movement of living modified organisms, the operator immediately informs the domestic competent authority and takes appropriate measures. The protocol also provides the possibility that the competent authority could implement the appropriate response instead of the operator. The operator has a very broad right of recourse against any other person,⁹⁷ and parties retain the right to provide in their domestic law for financial security.⁹⁸

Interestingly, the Nagoya-KL Supplementary Protocol leaves significant discretion to the states in terms of causation and civil liability, which may explain why it is one of the few civil liability treaties for environmental damage that entered into force recently. As per the Supplementary Protocol, domestic law will determine how the causal link shall be established between the damage and the living modified organism.⁹⁹ Parties have a duty to ensure that a domestic law is in place to implement the treaty obligations and a duty to apply or adopt domestic laws pertaining to this type of damage; however, they retain the freedom to decide the standard of liability, including whether they opt for a strict or fault-based liability regime.¹⁰⁰ This approach offers more flexibility to the states vis-à-vis their domestic civil liability laws, which is distinct from the approach in the international civil liability treaties pertaining to the oil and nuclear sectors. It is worth pausing here for a moment and reviewing these treaties since many states have ratified them, and the oil pollution regime remains to date the only regime that has actually handled compensation claims, unlike the treaties addressing civil liability for nuclear damage.

2. Oil Pollution

Civil liability for damage caused by oil pollution is essentially governed by three well-developed international instruments adopted under the auspices of the International Maritime Organisation (IMO): the Convention on Civil Liability for Oil Pollution Damage, 1992 (CLC);¹⁰¹ the Convention on the Establishment of an International Fund for Compensation of Pollution Damage, 1992 (Oil Fund

97. *Id.* art. 9.

98. *Id.* art. 10.

99. *Id.* art. 4.

100. *Id.* art. 12.

101. The original 1969 Convention, which was adopted following the *Torrey Canyon* accident in 1967, has now been replaced. See Convention on the Civil Liability for Oil Pollution Damage, 1992, 973 U.N.T.S. 3 [hereinafter CLC 1992] http://library.arcticportal.org/1617/1/Liability_Convention_1992.pdf [<https://perma.cc/2R3R-RSFQ>] (archived Feb. 21, 2021); The 1992 Civil Liability Convention, IOPC FUNDS, <https://www.iopcfunds.org/about-us/legal-framework/1992-civil-liability-convention/> [<https://perma.cc/NH27-J8G7>] (archived Feb. 21, 2021).

Convention);¹⁰² and the 2003 Supplementary Fund Convention.¹⁰³ This led to the creation of the International Oil Pollution Compensation Funds (IOPC Funds)¹⁰⁴, which are two intergovernmental organizations (the 1992 Fund and the 2003 Supplementary Fund) that provide compensation for oil pollution damage resulting from spills of persistent oil from tankers, in circumstances where the shipowners' limit of liability has been exceeded or there is no financial security in place to cover the shipowners' liabilities.¹⁰⁵ The 1992 Fund is composed of state parties to the 1992 Fund Convention (about 115 member states), which covers the payment of compensation to people, businesses, or organizations that suffer losses due to pollution caused by persistent oils from tankers; this is the second tier of compensation, whereas the Supplementary Fund provides a third tier of compensation to victims in states which are party to the Supplementary Fund Protocol.¹⁰⁶ Under the CLC, the owner of the ship at the time of an incident shall be strictly liable for any pollution damage caused by the ship. This liability shall be channeled exclusively to the shipowner—who retains a right of recourse—and his insurer, but no claims of compensation can be made against other parties.¹⁰⁷ The compromise here is that the shipowner's liability shall be limited both in terms of amount (calculated based on the tonnage of the ship)¹⁰⁸ as well as in time.¹⁰⁹ Since their establishment, the funds have handled about 150 oil pollution incidents, with most claims handled within the fund regime and being settled out of court.¹¹⁰ When analyzing the ICJ's *Costa Rica* case, we shall also contrast how the IOPC Funds interpret

102. Convention on the Establishment of an International Fund for Compensation of Pollution Damage, (Nov. 27, 1992), ENV. & CLIMATE CHANGE CAN. A81/EN, https://www.jus.uio.no/english/services/library/treaties/06/6-07/imo_compensation_fund.xml [<https://perma.cc/7KUF-TGYS>] (archived Feb. 22, 2021).

103. Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992, ENV. & CLIMATE CHANGE CAN. (May 16, 2003), [hereinafter 2003 Supplementary Fund Convention], https://iopcfunds.org/wp-content/uploads/2018/06/Text-of-Convntions_e.pdf [<https://perma.cc/UL6T-AY6N>] (archived Feb. 22, 2021).

104. See IOPC FUNDS, <https://iopcfunds.org/about-us/> [<https://perma.cc/ENB3-2EM3>] (archived Feb. 21, 2021).

105. International Oil Pollution Compensation Funds (IOPC Funds), *Guidelines for Presenting Claims for Environmental Damage*, at 5, 2018 (hereinafter *IOPC Funds' Guidelines*), https://www.iopcfunds.org/uploads/tx_iopcpublishations/IOPC_Environmental_Guideline_s_ENGLISH_2018_WEB_01.pdf [<https://perma.cc/3YZA-4B5K>] (archived Feb. 22, 2021).

106. *Id.* at ¶¶ 1.1–1.2. The *Erika* oil spill (1993) and the *Prestige* oil spill (2002) raised concerns that the maximum compensation under the 1992 Fund Convention were insufficient to meet compensation needs, which prompted the adoption of the 2003 Supplementary Fund Convention. See *id.*

107. CLC 1992, *supra* note 101, art III.

108. *Id.* art V.

109. *Id.* art VIII.

110. See IOPC FUNDS, *supra* note 105, at 7, 17.

“environment” and “environmental damage” in a narrower sense compared to other regimes or treaties. Moreover, the narrow interpretation of environmental damage and the channeling of liability under the CLC and IOPC Funds regime has also led to a certain amount of public frustration when faced with large-scale oil spills involving multiple parties, as was illustrated by the 1999 *Erika* oil spill, off the coast of France. Public and parliamentary discussion subsequent to the *Erika* oil spill, in light of the French Court of Cassation decision in 2012, ultimately led to the adoption of a specific chapter in the French Civil Code concerning compensation for environmental damage in 2016, which will be discussed in more detail below.¹¹¹

3. Nuclear Damage

The civil liability for transboundary nuclear damage is governed by two similar international regimes (but with different parties): one was adopted under the auspices of the OECD, the 1960 Convention on Third Party Liability in the Field of Nuclear Energy¹¹² and the other under the auspices of the IAEA, the 1963 Vienna Convention on Civil Liability for Nuclear Damage.¹¹³ The Vienna and Paris regimes are governed by the same principles, whereby liability is exclusively channeled to the operator of a nuclear power plant (who has a limited right of recourse); strict liability will be imposed on the operator; the operator’s liability will be limited in amount (and has to be covered by insurance or other financial security) as well as limited in time; and exclusive jurisdiction is granted to the courts of the state in whose territory the nuclear incident occurred.¹¹⁴ Importantly, for the purpose of this paper, the installation states are also under an obligation to pay for claims of compensation for nuclear damage, which have been established against the operator by providing the necessary funds, should the insurance or financial security be inadequate to satisfy the claims.¹¹⁵ Both regimes also have adopted a respective convention on

111. See discussion *infra* Part IV(B).

112. Organisation for Economic Co-operation and Development, *Paris Convention on Third Party Liability in the Field of Nuclear Energy*, (July 29, 1960), [hereinafter Paris Convention] https://www.oecd-nea.org/jcms/pl_31788 (last visited Feb. 21, 2021) [<https://perma.cc/JU26-7UQ8>] (archived Feb. 22, 2021).

113. International Atomic Energy Agency, *Vienna Convention on Civil Liability for Nuclear Damage*, (May 21, 1963), IAEA-INFCIRC/500 [hereinafter Vienna Convention]; see generally IAEA INTERNATIONAL LAW SERIES NO. 3 (REVISED), INTERNATIONAL ATOMIC ENERGY AGENCY, THE 1997 VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE AND THE 1997 CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE — EXPLANATORY TEXTS (2017), https://www-pub.iaea.org/MTCD/Publications/PDF/P1768_web.pdf (last visited Feb. 21, 2021) [<https://perma.cc/6VHR-DKQA>] (archived Feb. 21, 2021).

114. See generally *id.*

115. Vienna Convention, *supra* note 113, art. VII.

supplementary compensation to increase the minimum national amounts of compensation that must be made available through public funds, as well as a third tier of compensation to be made available from public funds contributed jointly by all the parties to the conventions on supplementary compensation.¹¹⁶ Hence, here the state's secondary or subsidiary liability, in addition to the liability of the operator is explicitly agreed upon at a treaty level. The 1986 Chernobyl accident not only led to proposals to increase liability amounts, but also triggered a more general review of both the Vienna and the Paris regimes.¹¹⁷ This led to the amendment of the definition of "nuclear damage," which now includes the cost of measures to reinstate a significantly impaired environment; loss of income resulting from that impaired environment; and the cost of preventive measures, including loss or damage caused by such measures.¹¹⁸ Significantly, there have been no actual compensation cases handled by any domestic courts based on either the Vienna or Paris regimes.¹¹⁹ Further, unlike the IOPC Funds, the civil liability regimes for nuclear damage do not set up an international claims management body. Instead, they specify that the court of the contracting party in whose territory the nuclear incident occurred will have exclusive jurisdiction, to the exclusion of courts in other states.¹²⁰

This leaves us to observe that only very few civil liability treaties addressing transboundary environmental damage have been adopted, while even fewer have entered into force. In fact, only the IOPC Funds with regard to oil pollution have actually handled compensation

116. See Organisation for Economic Co-operation and Development, *Brussels Supplementary Convention*, OECD (Jan. 31, 1963), [hereinafter BSC] https://www.oecd-neo.org/jcms/pl_31528/brussels-supplementary-convention-full-text?histstate=1 (last visited Feb. 21, 2021) [<https://perma.cc/9PRY-HVQD>] (archived Feb. 22, 2021); see also International Atomic Energy Agency, *Convention on Supplementary Compensation*, IAEA (Sept. 12, 1997), <https://www.iaea.org/sites/default/files/infirc567.pdf> (last visited Feb. 21, 2021) [<https://perma.cc/QA68-GSFH>] (archived Feb. 22, 2021).

117. However, the 2004 Protocol to amend the Paris Convention has not yet entered into force. See Organisation for Economic Co-operation and Development, *2004 Protocol to Amend the Paris Convention*, NEA, (Feb. 12, 2004) https://www.oecd-neo.org/jcms/pl_20382 (last visited Feb. 22, 2021) [<https://perma.cc/36M9-YEQ2>] (archived Feb. 22, 2021).

118. See IAEA INTERNATIONAL LAW SERIES NO. 3 (REVISED), *supra* note 113, at 32–33 (analyzing new definition of nuclear damage in the Vienna Convention).

119. At the time of the 1986 Chernobyl accident, the former USSR was not Party to the Vienna Convention; and neither was Japan at the time of the 2011 Fukushima accident. Japan did join the CSC in 2015 (allowing it to enter into force), and Russia ratified the Vienna Convention since (signed in 1996 and ratified in 2005). See INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE, 2 (2020), https://www-legacy.iaea.org/Publications/Documents/Conventions/liability_status.pdf (last visited Feb. 22, 2021) [<https://perma.cc/ULB6-3897>] (archived Feb. 22, 2021); *Japan*, IAEA, <https://www.iaea.org/resources/legal/country-factsheets> (last visited Feb. 22, 2021) [<https://perma.cc/M3CH-2P3H>] (archived Feb. 22, 2021).

120. See, e.g., Vienna Convention, *supra* note 113, art. XI.

claims. To this extent, not much has changed in the last twenty-odd years.¹²¹ For instance, the 1989 Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels;¹²² the 1992 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents;¹²³ the 1997 Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea;¹²⁴ the much anticipated 1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Protocol);¹²⁵ and several more have *not* entered into force since their adoption, and may never either.¹²⁶ This led Anne Daniel to conclude that such international civil liability regimes, with their many years of negotiations amongst states, may simply provide “false comfort to proponents of such regimes.”¹²⁷ It also bolsters the view that the ICJ, whenever presented with an opportunity, serves a much-needed purpose of shedding clarity on topical legal issues or legal lacunae. The failure of international treaties or specialized MEAs to effectively address and oversee the compensation for transboundary

121. See Anne Daniel, *Civil Liability Regimes as a Complement to Multilateral Environmental Agreements: Sound International Policy or False Comfort?*, 12(3) RECIEL 225, 225–41 (2003).

122. See UNECE, *Convention on Civil Liability for Damage caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels*, UNECE (Feb. 1, 1990), https://www.unece.org/trans/danger/publi/crtd/crtd_e.html (last visited Feb. 22, 2021) [<https://perma.cc/YC9Q-USGG>] (archived Feb. 22, 2021).

123. Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents, (May 21, 2003), U.N. Doc. Doc. ECE/MP.WAT/11-ECE/CP.TEIA/9, [hereinafter Kiev Protocol] https://www.unece.org/fileadmin/DAM/env/civil-liability/documents/protocol_e.pdf (last visited Feb. 22, 2021) [<https://perma.cc/3P2J-FXJV>] (archived Feb. 22, 2021).

124. International Maritime Organization, *Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea 1996*, IMO (1996), https://www.hnsconvention.org/wp-content/uploads/2018/08/1996-HNS-Convention_e.pdf [<https://perma.cc/82UU-GMTZ>] (archived Mar. 18, 2021).

125. See Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, U.N. ENV'T PROG. (Dec. 10, 1999), [hereinafter Basel Protocol] <http://archive.basel.int/pub/protocol.html> (last visited Feb. 22, 2021) [<https://perma.cc/4BLG-GK8M>] (archived Feb. 22, 2021).

126. For an updated Annex with Tabular overview of various MEAs and their date of entry into force, see OECD Working Group Report, *Cost of Measures of Reinstatement of Impaired Environment*, 4th International Workshop on the Indemnification of Damage in the Event of a Nuclear Accident, (Oct. 2019), (working group Report on file with author), <http://aidn-inla.be/event/4th-international-workshop-on-the-indemnification-of-damage-in-the-event-of-a-nuclear-accident-lisbon/> [<https://perma.cc/6ZFG-E9FG>] (archived Mar. 18, 2021).

127. Daniel, *supra* note 121, at 225.

environmental damage further explains why developments in domestic regimes gain in relevance.

III. ICJ'S COSTA RICA CASE – TAKING STOCK

A. *Brief Background*

As pointed out by Jutta Brunnée, there are few international instances of states having pursued their transboundary environmental disputes.¹²⁸ Accordingly, there has not been an opportunity for the ICJ or arbitral bodies to interpret key terms or notions and “assist the development of customary international law in a way comparable to the contribution of courts in civil and common law systems.”¹²⁹ Therefore, when the ICJ is seized by such an environmental matter it is worth analyzing in detail whether any incremental legal developments can be observed, which we will review in this section.

The 2018 *Costa Rica* case touches upon but a small segment of a long chain of boundary disputes between Costa Rica and Nicaragua. These disputes have “complex historical roots” pertaining to the delimitation of their eastern border and the rights over the San Juan River, which both countries already tried to resolve way back by adopting the 1858 Cañas-Jerez Treaty.¹³⁰ In 2009, the ICJ settled the dispute regarding navigation rights on the San Juan river,¹³¹ but the ICJ separately resolved the dredging activities undertaken by Nicaragua in its 2015 judgment.¹³² In the latter case, the ICJ held that Nicaragua had violated Costa Rica’s territorial sovereignty and navigational rights but that it did not breach procedural or substantive environmental obligations through its dredging of the San Juan River.¹³³ It further ruled that the excavation of three *caños* (canals) and establishment of a military presence in parts of that territory were in breach of Costa Rica’s territorial sovereignty, and that Nicaragua consequently incurred the obligation to make reparation for the damage caused by its unlawful activities on Costa Rican territory.¹³⁴ In its 2015 judgment, the court ruled that Nicaragua had the obligation

128. Jutta Brunnée, *The Responsibility of States for Environmental Harm in a Multinational Context - Problems and Trends*, 34 *Les Cahiers de Droit* 827, 834–35 (1993).

129. *Id.*

130. Council on Hemispheric Affairs, *Dredging Up an Old Issue: An Analysis of the Long-Standing Dispute between Costa Rica and Nicaragua over the San Juan River*, CHA (Jan. 24, 2011), <http://www.coha.org/dredging-up-an-old-issue-an-analysis-of-the-long-standing-dispute-between-costa-rica-and-nicaragua-over-the-san-juan-river-2/> [<https://perma.cc/BF9M-CCVU>] (archived Feb. 22, 2021).

131. *See generally* Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicar.), Judgment, 2009 I.C.J. (July 13).

132. *See* 2015 Costa Rica case, *supra* note 58.

133. *Id.*

134. *Id.* at 1.

to compensate Costa Rica for the material damages caused by its unlawful activities; failing to reach agreement on the matter between the parties within twelve months, the court would settle this issue in a subsequent procedure.¹³⁵ The absence of agreement on the compensation amount led Costa Rica to file a new case before the ICJ in 2017 “to settle the question of the compensation due to Costa Rica for damages caused by Nicaragua’s unlawful activities.”¹³⁶ The “disputed territory” included a three square kilometers wetland area between the right bank of the disputed *caño* and the right bank of the San Juan river. Hence, the 2018 *Costa Rica* case was narrow in scope and limited to the issue of determining the amount of compensation to be awarded to Costa Rica for material damage, including environmental damage.¹³⁷

B. Damage to the Environment Per Se: An Explicit Recognition by the ICJ

The ICJ reiterated that the essential principle contained in the notion of an “illegal act” is that reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed had that act not been committed, by referring to the *Chorzów Factory* case.¹³⁸ While referring to the 2010 *Pulp Mills* case,¹³⁹ the ICJ also underlined that compensation may be an appropriate form of reparation, particularly in cases where restitution is materially impossible or unduly burdensome.¹⁴⁰ However, the ICJ was quick to add that compensation should not “have a punitive or exemplary character.”¹⁴¹ From the outset it is relevant to keep in mind that the 2018 *Costa Rica* case squarely falls in the legal paradigm relating to state responsibility for wrongful acts. Hence, the standard of liability will be fault-based liability, and the ICJ saw it as its duty to ascertain whether, and to which extent, each of the various heads of damage claimed can be established and were the consequence of the wrongful act of Nicaragua. With regard to environmental damage, the ICJ added:

[P]articular issues may arise with respect to the existence of damage and causation. The damage may be due to several concurrent causes, or the state of science regarding the causal link between the wrongful act and the damage may

135. *Id.* at 2.

136. *Costa Rica* case, *supra* note 1.

137. *Id.* ¶ 21.

138. *Id.* ¶ 29; *see also* *Chorzów Factory* case, *supra* note 29.

139. 2010 *Pulp Mills* case, *supra* note 48.

140. *Costa Rica* case, *supra* note 1, ¶ 31.

141. *Id.*

be uncertain. . . . Ultimately, it is for the Court to decide whether there is a sufficient causal nexus between the wrongful act and the injury suffered.¹⁴²

Hence, although this case deals with transboundary environmental damage caused to the wetland and forests located in Costa Rica by Nicaragua's various activities, the ICJ doesn't entertain the idea of applying a strict liability standard by merely focusing on the harm alone. On the other hand, the ICJ confirms, with regard to the valuation of damage, that the mere "absence of adequate evidence as to the extent of the material damage will not, in all situations, preclude an award of compensation for that damage" and referred to previous ICJ judgments where the amount of compensation was arrived at on the basis of "equitable considerations."¹⁴³ In this case, Nicaragua claims compensation for two categories of damage: first, for quantifiable environmental damage caused by Nicaragua's excavations of *caños* and secondly, for costs and expenses incurred as the result of Nicaragua's unlawful activities, including expenses incurred to monitor or remedy the environmental damage caused.¹⁴⁴

Most significantly, the ICJ, which had previously never adjudicated a claim for compensation for environmental damage before the *Costa Rica* case, asserted that "it is consistent with the principles of international law governing the consequences of internationally wrongful acts, including the principle of full reparation, to hold that compensation is due for damage caused to the environment, in and of itself."¹⁴⁵ As Judge Donoghue clarifies, the reference here to damage caused to the environment "in and of itself" clearly entails that ICJ explicitly recognizes that a state is entitled to seek compensation for "pure" environmental damage.¹⁴⁶ To elaborate further, the ICJ thereby acknowledged that damage to the environment includes not just damage to physical goods, such as minerals and other natural resources which are traded in the market, but also to the "services" that they provide to other natural resources, for example as a habitat, and more broadly to society at large.¹⁴⁷ Reparation will be due for such damage, if established, although the damaged goods and services may not have been traded in the market or otherwise had any economic use.¹⁴⁸ The ICJ hereby echoes a clear trend noticeable in domestic laws and multilateral environmental agreements where the term "environment" is no longer limited to natural resources such as air, water, soil, fauna, and flora, but now undoubtedly encompasses

142. *Id.* ¶ 34.

143. *Id.* ¶ 35.

144. *Id.* ¶ 36.

145. *Id.* ¶ 41.

146. *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar)*, Judgment, 2018 I.C.J., ¶ 3 (Feb. 2) (separate opinion by Donoghue, J.).

147. *Id.*

148. *Id.*

ecosystem services.¹⁴⁹ Broader definitions now cover property that forms part of cultural heritage; environmental values or non-service values such as aesthetic aspects of the landscape.¹⁵⁰ Such non-service values include the enjoyment of nature because of its natural beauty and its recreational attributes. Principle 2 of the 2006 Draft Principles, discussed above, supports the use of a broader notion of “environment” as well.¹⁵¹ Moreover, as Philippe Sands points out, clear support for the provision of compensation for environmental damage under the rules of state liability was also provided by Security Council Resolution 687 adopted in 1991¹⁵² when it reaffirmed that Iraq was “liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, or injury to foreign Governments, nationals and corporations” occurring as a result of its unlawful invasion of Kuwait. The globally binding UN Security Council Resolution 687 determined that a state can be liable for the environmental damage and depletion of natural resources that result from its unlawful use of force (without, however, further defining environmental damage).¹⁵³ As a result, the UN Compensation Commission (UNCC) was created in 1991 as a subsidiary organ of the UN Security Council to process claims and pay compensation for losses and damage suffered as a direct result of Iraq’s unlawful invasion and occupation of Kuwait in 1990–91. Interestingly, the Governing Council of the UNCC did not exclude claims for “pure” ecological loss, as in their view “there was nothing in the language or context of the UNSC Resolution 687 . . . that mandated or suggested an interpretation restricting the term ‘environmental damage’ to damage to natural resources with commercial value.”¹⁵⁴ The experience of the UNCC, which concluded its claim-processing in 2005, remains very relevant, as it handled about 168 claims relating to the environment (referred to as “F4” claims) and ultimately awarded about USD \$5.26 billion in environmental damages—“the largest amount of compensation ever

149. See Nilufer Oral, *ICJ Renders First Environmental Compensation Decision*, ICUN (Apr. 9, 2018), <https://www.iucn.org/news/world-commission-environmental-law/201804/icj-renders-first-environmental-compensation-decision-summary-judgment> [https://perma.cc/9D4U-X8RQ] (archived Feb. 22, 2021).

150. See, for instance, in the domestic environmental laws of countries as diverse as India, New Zealand, France. See OECD Working Group Report, *supra* note 126.

151. Principle 2(b) defines “environment” to include natural resources, both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors, and the characteristic aspects of the landscape. See 2006 Draft Principles, *supra* note 59, at 64.

152. S.C. Res. 687, ¶ 16 (Apr. 8, 1991).

153. SANDS & PEEL, *supra* note 12, at 708.

154. Peter H. Sand, *Environmental Damage Claims from the 1991 Gulf War: State Responsibility and Community Interests*, in FROM BILATERALISM TO COMMUNITY INTEREST: ESSAYS IN HONOUR OF BRUNO SIMMA 1241, 1250 (Ulrich Fastenrath, Rudolf Geiger, Daniel-Erasmus Khan, Andreas Paulus, Sabine von Schorlemer & Christoph Vedder eds., 2011).

awarded in the history of international environmental law.”¹⁵⁵ Moreover, the UNCC developed experience with the “*multilateral* dimension of the tortfeasor State’s responsibility, and of community interest in full remediation of the damage caused” as opposed to the more traditional state responsibility for wrongful acts on a bilateral basis.¹⁵⁶

The noticeable exception to this general trend is the IOPC Funds regime for the oil sector, discussed above.¹⁵⁷ The IOPC Funds’ Guidelines underscore the fact that the CLC and Oil Fund Conventions do *not* provide compensation for “pure” environmental damage. Rather, they cover the costs of reinstatement of the damaged environment to restore those lost services, as far as possible.¹⁵⁸ The 1992 Fund Claims Manual explicitly states that “compensation is not paid in respect of claims for environmental damage based on an abstract quantification calculated in accordance with theoretical models.”¹⁵⁹

C. Compensation for Environmental Harm—an Opaque Calculation?

The main criticism against the 2018 *Costa Rica* case undoubtedly lies in the fact that it failed to shed clarity on the valuation method it ultimately relied upon to calculate the final compensation amount for environmental damage which Nicaragua owed to Costa Rica.¹⁶⁰

155. Peter H. Sand, *Compensation for Environmental Damage From the 1991 Gulf War*, 35(6) ENVTL. POL’Y & L. 244, 245 (2005). Note that in the UNCC F4 claims, just like in the *Costa Rica* case, *supra* note 1, the issue of liability had already been pre-determined, and, hence, the dimension of liability standards (fault-based, strict or absolute liability) did not have to be addressed. *See also* United Nations Compensation Commission, *Home*, UNCC, <https://uncc.ch/> (last visited Feb. 22, 2021) [<https://perma.cc/K48P-8MFJ>] (archived Feb. 22, 2021). For instance, compensation was sanctioned for loss of rangeland and habitats (Jordan got USD 160 million); for shoreline preserves (Kuwait obtained USD 8 million); and for replacing ecological services there were irreversibly lost (Saudi Arabia received USD 46 million). *See id.* Note that the UNCC established criteria for claims in respect of environmental damage and the depletion of natural resources based upon a Working Paper submitted by the United States, which in turn drew upon its domestic legislation, including the Oil Pollution Act, 1990 adopted following the *Exxon Valdez* spill in 1989. *See SANDS & PEEL, supra* note 12, at 721–23.

156. *See* Sand, *supra* note 155, at 1243–44.

157. *See infra* Part II(D)(ii); *see also*, OECD Working Group paper, *supra* note 126.

158. IOPC Funds’ Guidelines, *supra* note 105, ¶ 1.14.

159. IOPC FUNDS, *CLAIMS MANUAL: 2019 EDITION*, 14 IOPC (2019) [hereinafter IOPC CLAIMS MANUAL], https://www.iopefunds.org/uploads/tx_iopecpublications/2019_Claims_Manual_e.pdf (last visited Feb. 22, 2021) [<https://perma.cc/9AAS-48E6>] (archived Feb. 22, 2021).

160. *See* Oral, *supra* note 149; Diane Desierto, *Environmental Damages, Environmental Reparations, and the Right to a Healthy Environment: The ICJ Compensation Judgment in Costa Rica v. Nicaragua and the IACtHR Advisory Opinion on Marine Protection for the Greater Caribbean*, EJIL: TALK! (Feb. 14, 2018), <https://www.ejiltalk.org/environmental-damages-environmental-reparations-and-the-right-to-a-healthy-environment-the-icj-compensation-judgment-in-costa-rica-v-nicaragua-and-the-iacthr-advisory-opinion-on-marine-protection/>

Sharing the valuation methodology followed in a more transparent manner would have proven all the more relevant given that the ultimate compensation amount granted by the ICJ was but about 5 percent of what Costa Rica had requested,¹⁶¹ with a meager USD \$2,700 for the restoration of Costa Rica's wetland protected under the 1971 Convention on Wetlands for International Importance especially as Waterfowl Habitat (Ramsar Convention).¹⁶² As Judge Dugard underlines, the paucity of this award does not bode well and "will do little to emphasize the importance of the protection of a Ramsar wetland site."¹⁶³ It must be added here that, quite surprisingly, it was Costa Rica which claimed only about USD \$2,700 for the compensation of the damage to the wetland,¹⁶⁴ and to the frustration of several judges, the country did not adduce convincing evidence to support this claim either.¹⁶⁵ As discussed further below, this is one more reason why court-appointed independent experts could have assisted the ICJ in a meaningful manner when addressing this important aspect of damage to an internationally recognized and protected Ramsar wetland site.

The methodology proposed to be followed by Costa Rica to calculate the damage to a wetland was the "ecosystem services approach."¹⁶⁶ Costa Rica underpinned its position by referring to the UNEP Guidelines, certain domestic legislations, as well as the Report of the Ramsar Advisory Mission.¹⁶⁷ According to the ecosystem services approach, the value of an environment is comprised of goods and services that have a "direct use value" (such as timber) and those that have an "indirect use value" (such as elements in the environment which have flood prevention utility). Both types of goods and services need to be taken into account to arrive at a total valuation of the

[<https://perma.cc/AZAR-G244>] (archived Feb. 22, 2021); Monaliza Da Silva, *Compensation Awards in International Environmental Law: Two Recent Developments*, 50 N.Y.U. J. INT'L L. & POL. 1417, 1425 (2018).

161. See also Da Silva, *supra* note 160; Desierto, *supra* note 160.

162. Costa Rica case, *supra* note 1, ¶ 87; see also UNESCO, *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, UNESCO (Feb. 2, 1971), https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf [<https://perma.cc/CX2N-RUQ2>] (archived Feb. 22, 2021); Costa Rica case, *supra* note 1, ¶ 41.

163. See Costa Rica case, *supra* note 11, ¶ 32 (dissenting opinion by Dugard, J.).

164. Costa Rica only claimed USD 2,708.39 for the restoration of the wetland. See Costa Rica case, *supra* note 1, ¶¶ 57, 87.

165. See, e.g., Costa Rica case, *supra* note 146, at 7 ("I have voted against paragraph 157 (1) (b) awarding US\$2,708.39 to Costa Rica for the "value for restoration of the wetland" ... I consider that Costa Rica has not met its burden to prove the facts on which it bases this element of its claim, and thus that the Court should have rejected it.") (separate opinion by Donoghue, J.).

166. Costa Rica case, *supra* note 1, ¶ 45.

167. *Id.* ¶ 46.

environmental damage.¹⁶⁸ Additionally, in order to ascribe a monetary value to the environmental goods and services, Costa Rica relied on the “value transfer approach.” Per this standard, a monetary value is assigned to the damage by reference to a value drawn from the study of other ecosystems considered to have similar conditions as the ecosystem at hand, unless a “direct valuation approach” can be applied if the data is available.¹⁶⁹ Nicaragua, on the other hand, supported the “ecosystem service replacement cost” whereby compensation is given “to replace the environmental services that either have been or may be lost prior to recovery of the impacted area,” the value of which is calculated by “reference to the price that would have to be paid to preserve an equivalent area until the services provided by the impacted are have recovered.”¹⁷⁰ Nicaragua further supported its methodology by submitting that this was the standard approach followed by the UNCC.¹⁷¹

Before calculating the amount of compensation due, the court clarified that the valuation methods presented by the parties were both used in domestic and international practice and, therefore, were both relevant, but the court underlined that these were not the only methods available.¹⁷² The ICJ decided neither to choose between them nor use one exclusively. Instead, it chose to somewhat cherry-pick and use certain elements of either method wherever it offers a “reasonable basis for valuation.”¹⁷³ In its view, international law does not prescribe any specific method of valuation for compensation of environmental damage, and this would allow it to “take into account the specific circumstances and characteristics of each case.”¹⁷⁴ Adopting a flexible approach that would allow one to take into account the latest developments and methodologies is in itself a sound enough approach. However, the absence of clarity on which precise methodology was ultimately adopted by the ICJ, in the absence of independent expert advice on natural resource valuation methodologies, is nevertheless problematic. For instance, the UNCC Panel explicitly shared that it would be relying on the well-documented and researched “habitat equivalency analysis” (HEA).¹⁷⁵ One may academically disagree with the HEA methodology, but at least the explicit reference to it offered transparency to the parties as well as the broader group of stakeholders. Therefore, although an ICJ Judgment is only binding

168. *Id.* ¶ 47.

169. *Id.*

170. *Id.* ¶ 49.

171. *Costa Rica case, supra* note 1, ¶ 50.

172. *Id.* ¶ 52.

173. *Id.*

174. *Id.* ¶ 53.

175. *See Sand, supra* note 154, at 1251.

inter partes,¹⁷⁶ the ICJ missed an opportunity to shed light on its preferred valuation methodology. This at a time when there is ample experience globally with regard to environmental damage calculation, and experts could have readily been consulted. In failing to do so the ICJ may have undermined its position as the international judicial body *par excellence* to settle this type of transboundary environmental damage dispute.¹⁷⁷ As Judge *Ad Hoc* Dugard,¹⁷⁸ in his dissenting opinion, stated: “[I]nvariably this monetary quantification will be seen as the measure of the Court’s concern for the protection of the environment in an age in which most nations agree on the need for a national and international commitment to the preservation of the environment of our planet.”¹⁷⁹

The area affected by the unlawful activities of Nicaragua was about six hectares, and Costa Rica claimed compensation for six types of environmental goods and services: (1) standing timber, (2) other raw material, (3) air quality services (such as carbon sequestration), (4) natural hazards mitigation, (5) soil formation and erosion control, and (6) biodiversity in terms of habitat and nursery (based on studies that quantify the value of biodiversity in other countries).¹⁸⁰ Costa Rica calculated the loss over a period of fifty years, the time required for the affected area to recover (and then applied a 4 percent discount rate at which the ecosystem will recover). This is how Costa Rica arrived at a total compensation amount of USD \$2,880,745.¹⁸¹ Nicaragua asserted that based on the “replacement cost” methodology, Costa Rica would be entitled to a replacement cost of USD \$309 per hectare per year (the rate which Costa Rica pays landowners and communities by way of incentive to protect habitat as per its domestic laws). Calculated over a period of twenty to thirty years and accounting for a 4 percent discount rate, the value of the replacement costs would come to an (average) amount of USD \$30,000—about one one-hundredth of Costa Rica’s claim.¹⁸² Nicaragua, for the sake of argument but without admission, did submit its own calculation based on Costa Rica’s ecosystem services approach but made adjustments to it. The result amount based on this “corrected analysis” was USD \$84,296 for the

176. See ELS REYNAERS KINI, *THE PRECAUTIONARY PRINCIPLE, MULTILATERAL TREATIES AND THE FORMATION OF CUSTOMARY INTERNATIONAL LAW*, 174 (Interuniversitaires Suisses eds., (EDIS), 2008).

177. See Desierto, *supra* note 160.

178. Under Article 31, paragraphs 2 and 3, of the Statute of the Court, a State party to a case before the International Court of Justice which does not have a judge of its nationality on the Bench may choose a person to sit as judge ad hoc in that specific case under the conditions laid down in Articles 35 to 37 of the Rules of Court. See Statute of the International Court of Justice, *supra* note 4.

179. Costa Rica case, *supra* note 1, ¶ 5.

180. *Id.* ¶¶ 55, 70 (with reference to biodiversity calculations of countries such as Mexico, Thailand and the Philippines).

181. *Id.* ¶ 57.

182. *Id.* ¶ 58.

four (accepted) categories of goods and services.¹⁸³ Although the court considered that Nicaragua's "corrected analysis" underestimated the value to be assigned, it largely built on this methodology by making some adjustments. That's how the ICJ ultimately arrived at a sum of USD \$120,000 for the impairment or loss of the environmental goods and services¹⁸⁴—an amount to which Judge *Ad Hoc* Dugard in his dissenting opinion took great objection given that it constitutes but a "mere token for substantial harm caused to an internationally protected wetland by the egregious conduct of Nicaragua."¹⁸⁵ Indeed, the court did not elaborate how it arrived at USD \$120,000 as a total compensation amount for environmental damage, only slightly upwards from Nicaragua's calculation set at USD \$84,296, leaving Judge Dugard to guess that possibly the court relied on "equitable considerations" in its final calculation.¹⁸⁶

The ICJ first put some claims aside, as the court was of the view that Costa Rica had not demonstrated that the affected area lost its ability to mitigate natural hazards.¹⁸⁷ With regard to soil formation and erosion control, the parties agreed that Nicaragua removed about 9,500 cubic meters of soil from the *caños*, but because these had subsequently been refilled with soil and substantial revegetation was observed, the court found that there was insufficient evidence to enable the court to determine any loss.¹⁸⁸ However, with regard to the four remaining categories of environmental goods and services, sufficient evidence was brought before the court indicating that Nicaragua removed close to three hundred trees and cleared 6.19 hectares of vegetation, and that there was, hence, a sufficient causal link between the harm caused and Nicaragua's activities.¹⁸⁹ Of course, at a more general level, the ICJ had already implicitly found, in its 2015 judgment, that there was a "sufficiently direct and certain causal nexus" between Nicaragua's activities and the injury suffered by Costa Rica, which is why the court held that Nicaragua had to pay Costa Rica compensation.¹⁹⁰

Once explicit causation was established for each of the specific compensation claims, the ICJ turned to the valuation aspect but underlined that it "cannot accept the valuations proposed by the Parties."¹⁹¹ It found Costa Rica's assessment of a fifty-year recovery period unsupported in evidence, particularly in the absence of baseline

183. *Id.* ¶ 84.

184. *Id.* ¶¶ 85–86.

185. Costa Rica case, *supra* note 11, ¶ 7 (dissenting opinion by Dugard, J.).

186. *Id.* at ¶ 20.

187. Costa Rica case, *supra* note 1, ¶ 74.

188. *Id.*

189. *Id.* ¶ 75.

190. See 2018 Costa Rica Judgment, *supra* note 11, at ¶¶ 8–9 (separate opinion by Bhandari, J.).

191. Costa Rica case, *supra* note 1, ¶ 76.

conditions. Moreover, the ICJ was of the view that the different components of the ecosystem require different periods of recovery and no single period of fifty years can be applied.¹⁹² As we will further discuss below, various domestic laws addressing natural resource damage calculations will differentiate the recovery times of the various components (be it, affected trees, birds, soil, etc.) in the ecosystem restoration plans as well.¹⁹³ However, as pointed out by Judge *Ad Hoc* Dugard in his dissenting opinion, ultimately the ICJ does not clarify which recovery periods it takes into account for the various goods and services in question. It is anyone's guess whether it accepted twenty to thirty years as suggested by Nicaragua or ten to twenty years for biodiversity. The court simply does not clarify, thereby casting a cloud on the court's overall valuation.¹⁹⁴

The ICJ refused to follow Nicaragua by applying Costa Rican law's domestic incentive rate.¹⁹⁵ Instead, it announced that the most appropriate valuation approach would be to view it from the perspective of the "ecosystem as a whole" by adopting an "overall assessment" of the impairment or loss of environmental goods and services prior to their recovery, "rather than attributing values to specific categories of environmental goods and services and estimating recovery periods for each of them."¹⁹⁶ From a theoretical perspective, the "ecosystem approach" is sound, particularly for wetlands and complex habitats. The ecosystem approach has also been adopted by the trustees under the US Oil Pollution Act (OPA),¹⁹⁷ such as in the context of the 2010 *Deepwater Horizon* oil spill incident, where the environmental damage affected not just a single species or habitat type, but entailed a wide range of injuries across habitats and species.¹⁹⁸ Nevertheless, the ICJ erred in presenting the ecosystem approach and the calculation of specific categories of harm as mutually exclusive. Rather, injury quantification of individual resources and services (e.g., the impact on specific species of mammals, birds, algae, etc.), and their respective recovery rates without intervention, can provide useful information, which is data-driven (based on field and lab studies) and can help in providing crucial information to estimate

192. *Id.*

193. See further discussion *infra* at Part IV – A.

194. See Costa Rica case, *supra* note 11, ¶¶ 15, 20 (dissenting opinion by Dugard, J.).

195. Costa Rica case, *supra* note 1, ¶ 77.

196. *Id.* ¶ 78.

197. US Oil Pollution Act, 33 U.S.C. §§ 2701 et seq. (1990).

198. See detailed discussion *infra* Part IV – A; see also Trustees, *Plan for Deepwater Horizon Oil Spill Natural Resource Injury Restoration: An Overview*, NOAA (Oct. 2015) [hereinafter Trustees' Plan], ¶¶ 1, 11, https://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Overview_10-08-15_for-posting.pdf [https://perma.cc/NTM8-G3U2] (archived Feb. 15, 2021).

the overall ecosystem impacts (and subsequent restoration planning).¹⁹⁹

Moreover, in the *Costa Rica* case, the ICJ failed to ultimately follow its own ecosystem approach or even clarify how it made its own calculations, as pointed out by Judge *Ad Hoc* Dugard.²⁰⁰ In his dissenting opinion, Judge Dugard takes objection to the fact that in the “corrected analysis” upon which the court relies, the court attaches a value to each head of damage, but ultimately does so in isolation of each other.²⁰¹ Furthermore, Judge Dugard questions the approach of the court *vis-à-vis* the calculation of the valuation of felled trees.²⁰² Although the court declared that “the most significant damage to the area from which other harms to the environment arise is the removal of trees by Nicaragua,”²⁰³ including its impact on other goods and services, such as air quality services and biodiversity, Judge Dugard points out that the court simply fails to address the value to be attached to the felling of three hundred trees, many of which were over one hundred years old, which in his view is simply “inexplicable.”²⁰⁴ The court does not elucidate *how* the felled trees are to be valued, and one is left to guess whether the valuation is based on the average price of standing timber or the value to be attached to each of the felled trees over a fifty-year (or less) recovery period—“we simply do not know.”²⁰⁵ This lack of explanation is quite regrettable, particularly since by now there is abundant experience in various jurisdictions on how to calculate the loss of trees, with domestic courts routinely appointing experts to help them in the determination of the value to be assigned to this type of damage, including efforts to factor in the value of the oxygen that a tree would have given in a lifetime.²⁰⁶ As a result, Judge

199. Trustees’ Plan, *supra* note 198, ¶¶ 12–13. The Regulations associated with the US Oil Pollution Act further define injury as “an observable or measurable adverse change in a natural resource or impairment of a natural resource service. Injury may occur directly or indirectly to a natural resource and/or service”. *Id.* As per the Trustees’ Plan, the types of injuries include “adverse changes in survival, growth and reproduction; health, physiology, and biological condition; behavior; community composition; ecological processes and function; physical and chemical habitat quality or structure; and public services.” *See id.*

200. *Costa Rica* case, *supra* note 11, ¶ 10 (dissenting opinion by Dugard, J.).

201. *Id.* ¶ 15.

202. *Id.*

203. *Costa Rica* case, *supra* note 1, ¶ 79.

204. *Costa Rica* case, *supra* note 11, ¶ 16 (dissenting opinion by Dugard, J.).

205. *Id.*

206. *See, e.g., Association for Protection of Democratic Rights & Others Vs The State of West Bengal & Others*, SCR, Supreme Court of India (2020) (regarding felling of 356 trees, of which some are heritage trees and as old as 80 years, for the construction of railway over bridges and the expansion of a national highway), <http://www.ingoesdiaenvironmentportal.org.in/files/file/tree-felling-Jessore-road-SC-order.pdf> [<https://perma.cc/JG3N-NLU3>] (archived Feb. 15, 2021). The expert Report submitted to the Supreme Court took into account the products the trees would produce over 100 years of their natural lifetime and the valuation included oxygen, micro-nutrients, compost and bio-fertilizer. Each individual tree would be worth at least Rs. 74,500 (= USD 1025)

Dugard opines that the total amount of compensation of USD \$120,000 is “a grossly inadequate valuation for environmental damage caused to an internationally protected wetland.”²⁰⁷ In his view a “much higher compensation is warranted,” one which would take into account the impairment of trees, raw materials, biodiversity, air quality services, and should have included the valuation for the impairment of soil formation as well as the implications of the felling of trees on climate change and the gravity of this type of intentional harm caused by a state to an internationally protected wetland.²⁰⁸ What Judge Dugard further questions is the mere ephemeral reference to equity or equitable considerations which could have been taken into account while quantifying the damage, particularly given the importance of the protection of the environment as well as the impact on climate change, and the gravity’s of Nicaragua’s actions.²⁰⁹ This is echoed more forcefully by Judge Bhandari who submits that in this case where the evidence presented to the court did not enable it to quantify the compensation amount, the court should have awarded a “lump sum amount of compensation based on equitable considerations.”²¹⁰ He reasons this is particularly so because it would be consistent with the court’s “previous jurisprudence on compensation” and would have allowed it to explain “in more detail how it determined the *quantum* of compensation awarded for environmental harm.”²¹¹

Quite on point, Judge *Ad Hoc* Dugard frames the importance of this case and the quantification of the harm by felling of trees and lost carbon sequestration against the larger context of climate change concerns and current awareness about these interlinkages.²¹² Here, the ICJ side-stepped the dimension of whether a single state will ever be able to claim compensation based on the impairment of carbon sequestration subsequent to the damage of natural resources (such as felling of trees). As Judge Dugard rightfully observes, the obligation not to engage in wrongful deforestation that results in the release of carbon in the atmosphere and the correlated loss of carbon sequestration services, is an obligation *erga omnes*. However, in his view, the state most immediately affected by this damage should be entitled to full compensation.²¹³ Yet, the ICJ did not address this point

to be multiplied by its age. Out of this Rs. 74,500, the cost of oxygen was estimated to be Rs. 45,000 (= USD 620). *See id.* For one 100-year old tree the cost would, hence, be Rs. 7,450,000 (= USD 102,180). *See id.*

207. Costa Rica case, *supra* note 11, ¶¶ 18–21, 30 (dissenting opinion by Dugard, J.).

208. *See id.*

209. *See id.* ¶ 29.

210. Costa Rica case, *supra* note 11, ¶¶ 11–12 (separate opinion of Bhandari, J.) (with reference to the 2012 *Diallo* case).

211. *Id.*

212. Costa Rica case, *supra* note 11, ¶¶ 33–39 (dissenting opinion by Dugard, J.).

213. *Id.* ¶ 35.

at all and, in doing so, “it missed an opportunity to contribute to the progressive development of customary international law on the mitigation of climate change.”²¹⁴ These missed opportunities and the delicate maneuvering by the ICJ as if crossing a legal minefield are reminiscent of the failure by the World Court to be more forthcoming about the status of the precautionary principle in international environmental law, despite the numerous explicit references by several ICJ judges in separate or dissenting opinions,²¹⁵ as well as the growth of domestic jurisprudence in this regard.²¹⁶ Judge Bhandari underlines the view of many of his predecessors, according to which the growing awareness of the need to protect the environment is shown by “the crystallization of the precautionary approach into a customary rule of international law.”²¹⁷ With reference to international treaties as well as domestic developments, Judge Bhandari opines that “it would seem appropriate for the court to rely more explicitly on the precautionary approach in future disputes raising issues of international law.”²¹⁸ As former ICJ Judge Kooijmans finely reminds us, the ICJ is a collegial body that has to find a fine balance between judicial activism and judicial restraint.²¹⁹ More often than not, the “final product of deliberations, whether a judgment or an advisory opinion, will usually be more determined by the specificities of the case” than by a battle between those approaches, because “what binds all judges is the need to decide a case on the basis of the facts and the applicable law,” but it is “often in the separate and dissenting opinions of individual judges

214. *Id.*, ¶¶ 36, 39.

215. See ELS REYNAERS KINI, *supra* note 176, at 54–60, 141–44 (with reference, *inter alia*, to the 1995 *Second Nuclear Test* case; the 1996 *Advisory Opinion – Nuclear Weapons*; the 1997 *Gabčíkovo-Nagymoros* case; and the 2010 *Pulp Mills* case, *supra* note 48).

216. See *Vellore Citizens' Welfare Forum v. Union of India and others*, (1995) 5 SCC 647, <https://indiankanon.org/doc/1934103/> [<https://perma.cc/5R9A-RFGW>] (archived Feb. 15, 2021) (in which it held that “We have no hesitation in holding that ‘Sustainable Development’ as a balancing concept between ecology and development has been accepted as a part of the Customary International Law though its salient feature have yet to be finalised by the International Law Jurists.” It also held that: “In view of the above mentioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country. Even otherwise once these principles are accepted as part of the Customary International Law there would be no difficulty in accepting them as part of the domestic law. It is almost accepted proposition of law that the rule of Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the Courts of Law.”).

217. *Costa Rica* case, *supra* note 11, ¶¶ 13-15 (separate opinion by Bhandari, J.).

218. *Id.* ¶ 15.

219. See Pieter Kooijmans, *The ICJ in the 21st Century: Judicial Restraint, Judicial Activism, or Proactive Judicial Policy*, 56 INT'L & COMPAR. L. Q. 741, 741–53 (2007).

that the characteristics of the two approaches are more clearly recognizable.”²²⁰

D. *The Gravity of a State’s Acts: The Fine Line Between Equity and Punitive Damages*

1. Punitive Damages—International Law

Judge Dugard highlights that the paltry sum of USD \$120,000 is a worrying outcome of the 2018 *Costa Rica* case in terms of the signal it sends to the international community. Without “advocating the imposition of punitive damages,” he thinks the court should have at least taken into account the gravity of Nicaragua’s conduct.²²¹ Particularly because this case involved “serious environmental harm and that this was not the result of a negligent misinterpretation of a historical boundary but of a willful and deliberate strategy to extend the territory of Nicaragua by damaging and re-shaping the environment of an internationally protected wetland.”²²² In short, he raises the valid point that given the serious violation of a wetland and consequential impact of reduced carbon sequestration, which has a climate change impact, the court “should have reflected that seriousness by placing a higher monetary sum on the valuation of the environmental goods and services impaired by Nicaragua.” In failing to do so, the sum of USD \$120,000 “fails to meet the standards of fairness and equity propounded by the tribunal in the *Trail Smelter* case.”²²³ Driven by the same concern about the inadequacy of the compensation amount, Judge Bhandari submits that the ICJ could have seized the opportunity “to develop the law of international responsibility beyond its traditional limits by elaborating on the issue of punitive or exemplary damages.”²²⁴ In his view, the preservation and protection of the environment “ought to be one of the supreme obligations under international law in the twenty-first century,” and as a result an “extraordinary situation warrants a remedy that is correspondingly extraordinary.”²²⁵ He further submits that “this case

220. *Id.*

221. *Costa Rica* case, *supra* note 11, ¶ 46 (dissenting opinion by Dugard, J.).

222. *Id.* at 137, ¶ 48.

223. *Id.*

224. *Id.* 102, ¶ 17 (separate opinion by Bhandari, J.).

225. *Id.* ¶ 18; *see also* *Samaj Parivartana Samudaya v. State of Karnataka*, (2013) 8 SCC 24–25, ¶ 33 (India), <https://indiankanoon.org/doc/37541448/> [<https://perma.cc/M3TY-B8J3>] (archived Feb. 20, 2021) (“The mechanism provided by any of the Statutes in question would neither be effective nor efficacious to deal with the extraordinary situation that has arisen on account of the large scale illegalities committed in the operation of the mines in question resulting in grave and irreparable loss to the forest wealth of the country besides the colossal loss caused to the national exchequer. The situation being extraordinary the remedy, indeed, must also be extraordinary”).

presents such an extraordinary situation, and that the law of international responsibility ought to be developed to include awards of punitive or exemplary damages in cases where it is proven that a State has caused serious harm to the environment.”²²⁶ Judge Bhandari further refers to domestic court practices in India²²⁷ and the United States,²²⁸ where exemplary or punitive damages are imposed in cases of serious environmental harm to act as a deterrent against any similar harm in the future.²²⁹ It is relevant to briefly illustrate the diversity in domestic practices, particularly between common law and civil law regimes, to better place in perspective the ICJ’s reluctance in imposing punitive or exemplary damages.

2. Punitive Damages in Environmental Tort Law Cases in the United States

Almost twenty years after the Exxon Valdez oil spill occurred, the United States Supreme Court had to address three specific questions under maritime law in the *Exxon Shipping Co.* case: (1) whether a shipowner may be liable for punitive damages, (2) whether punitive damages had been barred implicitly by federal statutory law making no explicit provision for them, and (3) whether the award of USD \$2.5 billion in this case is greater than what maritime law should allow.²³⁰ The US Supreme Court held that the federal statutory law does not bar a punitive award on top of damages for economic loss, but that the

226. Costa Rica case, *supra* note 11, ¶ 18 (separate opinion by Bhandari, J.).

227. *See id.* ¶ 19 n.32 (citing *M.C. Mehta v. Kamal Nath*, (2002) 6 SCC 213, ¶ 24, <https://indiankanoon.org/doc/1239689/> [<https://perma.cc/534S-WXWQ>] (archived July 14, 2021)).

228. *See id.* ¶ 20 n.36 (citing *Exxon Shipping Co. v. Baker*, 554 U.S. 471, 481 (2008)).

229. *Id.* ¶¶ 19–20 (separate opinion by Bhandari, J.).

230. *See Exxon Shipping Co.*, 554 U.S. at 475–76. Exxon paid around USD 2.1 billion in cleanup efforts. Exxon pleaded guilty to violations of the Clean Water Act, the Refuse Act, and the Migratory Bird Treaty Act and agreed to pay a USD 150 million fine, later reduced to USD 25 million plus restitution of USD 100 million. A civil action by the United States and the State of Alaska for environmental harms ended with a consent decree for Exxon to pay at least USD 900 million toward restoring natural resources, and it paid another USD 303 million in voluntary settlements with fishermen, property owners, and other private parties. The remaining civil cases were consolidated into this one case against Exxon, Hazelwood, and others. The District Court for the District of Alaska divided the plaintiffs seeking compensatory damages into three classes: commercial fishermen, Native Alaskans, and landowners. At Exxon’s behest, the court also certified a mandatory class of all plaintiffs seeking punitive damages, whose number topped 32,000. *Id.* at 479. For a further critical analysis, see also Ronen Perry, *Economic Loss, Punitive Damages, and the Exxon Valdez Litigation*, 45 GA. L. REV. 407, 409–10 (2011) (The author criticizes the *Exxon Valdez* litigation for its “wholesale rejection of numerous claims for purely economic loss” whereby “liability for economic loss was strictly limited under the renowned *Robins Dry Dock v. Flint*, leaving many victims uncompensated. On the other hand, liability was expanded through an award of punitive damages to relatively few successful claimants.”)

award “should be limited to an amount equal to compensatory damages.”²³¹ The US Supreme Court reminded that the “prevailing American rule limits punitive damages to cases of ‘enormity,’”²³²—that is, cases “in which a defendant’s conduct is outrageous, owing to gross negligence, willful, wanton, and reckless indifference for others’ rights, or even more deplorable behavior.”²³³ Hence, the “consensus today is that punitive damages are aimed at retribution and deterring harmful conduct.”²³⁴ After reviewing various options, the Supreme Court concluded that the most preferable approach was to “peg punitive awards to compensatory damages using a ratio or maximum multiple” and considered that “a 1:1 ratio . . . is a fair upper limit in such maritime cases.”²³⁵ Applied to the *Exxon Valdez* case, where the district court had calculated compensatory damages at USD \$505.5 million, the Supreme Court capped the maximum punitive damages based on this “punitive-to-compensatory ratio of 1:1” at USD \$507.5 million, down from USD \$2.5 billion.²³⁶ The Supreme Court’s 1:1 ratio with regard to maritime punitive damages has been criticized for being unduly restrictive and with the warning that the same reasoning cannot be applied beyond the realm of maritime law.²³⁷ It also has led authors to argue in favor of state legislatures to “regulate punitive damages so that appellate courts will not interfere with punitive damages awards, as happened in the *Exxon* case.”²³⁸ Some authors submit that if one looks closely, “even the BP compensatory damages settlement has an aura of societal damages that surrounds it,” as it included a “provision for supra-compensatory multipliers applicable to

231. *Exxon Shipping Co.*, 554 U.S. at 471. The Supreme Court also placed punitive damages in historical context by reminding that “modern Anglo-American punitive damages have their roots in 18th century English law and became widely accepted in American courts by the mid-19th century. *See, e.g.*, *Day v. Woodworth*, 13 How. 363, 371 (1851).

232. *Exxon Shipping Co.*, 554 U.S. at 471 (citing *Day v. Woodworth*, 13 How. 363 (1851)).

233. *Id.*

234. *Id.* at 471, 493, 493 n.9 (citing relevant case law).

235. *Id.* at 471.

236. *Exxon Shipping Co. v. Baker*, 554 U.S. 471, 515 (2008).

237. *See* Jeff Kerr, *Exxon Shipping Co. v. Baker: The Perils of Judicial Punitive Damages Reform*, 59 EMORY L.J. 727, 732 (2010); *see also* John C. Cruden, Steve O’Rourke & Sarah D. Himmelhoch, *The Deepwater Horizon Oil Spill Litigation: Proof of Concept for the Manual for Complex Litigation and the 2015 Amendments to the Federal Rules of Civil Procedure*, 6 MICH. J. ENV’T. & ADMIN. L. 65, 101, 122 (2016) (the article points out that in the *Deepwater Horizon* oil spill case, the court found that “BP’s conduct was so egregious that punitive damages under the General Maritime Law were appropriate; however, such damages could not be imposed due to the Fifth Circuit’s legal requirement that the conduct must have involved certain high-level corporate officials to qualify.”).

238. *See* Leo M. Romero, *Punishment for Ecological Disasters: Punitive Damages and/or Criminal Sanctions*, 7 U. SAINT THOMAS L.J. 154, 154 (2009).

certain claimants.”²³⁹ Catherine Sharkey views these “supra-compensatory multipliers as a form of classwide societal damages embedded within the settlement.”²⁴⁰

Stepping away from punitive damages in the maritime law field, courts in the United States regularly impose higher punitive to compensatory damages ratios, including in environmental tort law cases. For example, in *Johansen v. Combustion Engineering, Inc.*,²⁴¹ the US Court of Appeals for the Eleventh Circuit allowed a 100:1 punitive to compensatory damages ratio.²⁴² Subsequently, in *State Farm Mutual Automobile Insurance Co. v. Campbell* (a non-environmental case),²⁴³ the US Supreme Court “tightened constitutional constraints on the discretion of state courts to impose punitive damages in tort cases” and reversed the Utah Supreme Court’s ruling that had allowed an award of punitive damages which was 145 times larger than the compensatory damages amount.²⁴⁴ It reviewed its earlier “three guideposts” for courts to follow when imposing punitive damages, which it had issued in its 1996 *BMW of North America v. Gore* case²⁴⁵ to know: (1) the degree of reprehensibility of the defendant’s misconduct, (2) the disparity between the actual or potential harm suffered by the plaintiff and the punitive damages award, and (3) the difference between the punitive damages awarded by the jury and the civil penalties authorized or imposed in comparable cases.²⁴⁶ In *BMW of North America*, the Supreme Court added that “[a]lthough it is not possible to draw a mathematical bright line between the constitutionally acceptable and the constitutionally unacceptable that would fit every case, . . . the ratio here is clearly outside the acceptable range.”²⁴⁷ Although the US Supreme Court in *State Farm* did not formulate a bright-line rule, it did indicate that “single-digit multipliers are more likely to comport with due process, while still achieving the State’s goals of deterrence and retribution.”²⁴⁸ After the *State Farm* case was remanded by the

239. Catherine M. Sharkey, *The BP Oil Spill Settlements, Class-wide Punitive Damages, and Societal Deterrence*, 64 DEPAUL L. REV. 681, 682 (2015).

240. *Id.*

241. *Johansen v. Combustion Eng’g, Inc.*, 170 F.3d 1320, 1339 (11th Cir. 1999).

242. *Id.* For a criticism of this Judgment, see Evan M. Tager, *Punitive Damages Claims in Environmental Tort Cases: Lessons from Johansen v. Combustion Engineering, Inc.*, 30 ENV’T L. REP. NEWS & ANALYSIS 10196, 1200–01 (2000).

243. *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408 (2003).

244. See *US Supreme Court Tightens Limits on Punitive Damages*, ENV’T L. ADVISORY, GOODWIN PROCTER (April 2003), [hereinafter GOODWIN PROCTER] https://www.goodwinlaw.com/~media/Files/Publications/Newsletters/Environmental%20and%20Energy%20Advisory/2003/Supreme_Court_Tightens_Limits_On_Punitive_Damages.ashx [<https://perma.cc/73PZ-Z86H>] (archived February 20, 2021).

245. *BMW of N. Am. v. Gore*, 517 U.S. 559, 574–75 (1996).

246. *Id.*

247. *Id.* at 580–83.

248. *State Farm Mut. Auto. Ins. Co.*, 538 U.S. at 425; see also GOODWIN PROCTER, *supra* note 244.

US Supreme Court in 2003, the Utah Supreme Court in its 2004 ruling capped the punitive damages award to USD \$9 million,²⁴⁹ “obviously the highest single-digit-ratio possible.”²⁵⁰ As pointed out by David Rapport and Paul Richter, this “suggests a strong commitment to States’ rights, and minimal compliance with federal meddling into an area of the law traditionally occupied by the States.”²⁵¹ Rapport and Richter further reviewed forty-five-odd cases the year after the US Supreme Court’s *State Farm* ruling and found a surprising wide range of punitive-to-compensatory damages still being applied by various courts.²⁵² Punitive damages, accepted in US case law since the 1850s, do see a push-and-pull between the US Supreme Court and state-level courts, but the fact is that they are a well-entrenched method of supplementing the compensatory damages amount when a defendant’s conduct is established to be outrageous.

3. Exemplary Damages as Addressed by the Judiciary in India

Similarly, although not quite as routinely as in the United States, courts in India do impose “exemplary damages” in environmental cases in addition to compensatory damages, particularly in the event of large-scale irregularities and extraordinary situations, in which case it is ruled that the remedy “must also be extraordinary.”²⁵³ Punitive or exemplary damages in the context of environmental damage were first explicitly addressed in a case that attracted considerable media attention when it was discovered that the family of the then Minister of Environment and Forests had obtained a “regularisation” to change the natural course of a river to suit the requirements of their hotel business.²⁵⁴ The Supreme Court of India seized the matter *suo motu* (on its own motion) based on the newspaper coverage and not only imposed compensation by way of cost for the restitution of the environment,²⁵⁵ but it also held that “the person guilty of causing

249. *Campbell v. State Farm Mut. Auto. Ins. Co.*, 98 P.3d 409, 410 (Utah 2004).

250. See David E. Rapoport & Paul D. Richter, Rapoport Weisberg & Sims P.C., *Punitive Damages After State Farm v. Campbell: The First Year* 7 (2004), <https://www.rapoportlaw.com/Helpful-Information/Publications/PDF-PunitiveDamageAfterStateFarm.pdf> [<https://perma.cc/QVT7-SWWE>] (archived Mar. 18, 2021).

251. *Id.*

252. *Id.* at Annex.

253. *Samaj Parivartana Samudaya*, 8 SCC at ¶ 33.

254. See *M.C. Mehta v. Kamal Nath*, (1997) 1 SCC 388 (India), <https://indiankanoon.org/doc/1514672/> [<https://perma.cc/35GR-H2XZ>] (archived February 20, 2021).

255. The question of whether the NGT also has the jurisdiction to take up matter *suo motu* (on its own motion) – which most often means based on the coverage in newspaper articles – was raised most recently in *In re Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram Village*, Review Application No. 19/2020, ¶¶ 1, 14 (June 1, 2020) (India), : <https://greentribunal.gov.in/orderpdf/orderlist.pdf> (archived

pollution can also be held liable to pay exemplary damages so that it may act as a deterrent for other not to cause pollution in any manner.”²⁵⁶ Imposing an additional societal damage amount as part of the total compensation calculation had already been addressed by the Supreme Court in 1987 in the *Oleum Gas Leak* case,²⁵⁷ issued in the aftermath of the Bhopal Gas tragedy with the knowledge that it would influence the court’s decision handling the *Bhopal* case. In addition to firmly stating that an absolute liability standard will apply to an industry that is “hazardous or inherently dangerous,”²⁵⁸ the Supreme Court in the *Oleum Gas Leak* case also held that the

measure of compensation . . . must be correlated to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect. The larger and more prosperous the enterprise, the greater must be the amount of compensation payable by it for the harm caused on account of an accident in carrying on of the hazardous or inherently dangerous activity by the enterprise.²⁵⁹

Hence, exemplary or punitive damages are well accepted in Indian jurisprudence. The principle that larger companies engaged in inherently dangerous activities, to which an absolute liability standard applies, will have to pay a larger compensation amount based on the wealth of the company is also widely applied. That said, the Supreme Court of India has confirmed these principles in broad terms, but one does not find the same level of detailed analysis by the courts in terms of the precise ratio between punitive and exemplary damages. Hence, the precise contours and criteria to be applied remain very much *ad hoc* and case specific. For instance, in the 2013 *Sterlite Industries* case,²⁶⁰ where one of India’s largest copper smelter plants was found to have polluted the environment and operated for several years without any valid permit, the Supreme Court referred to the ratio of the *Oleum Gas Leak* case and then reviewed the financial performance

Mar. 18, 2021) (the issue of the NGT’s *suo motu* jurisdiction has been appealed before the Supreme Court.).

256. *M.C. Mehta v. Kamal Nath*, (2000) ¶ 24, SCR, Supreme Court of India <https://indiankanoon.org/doc/111294/> [<https://perma.cc/5Q3C-4Q3F>] (archived February 20, 2021).

257. *Oleum Gas Leak* case, (1987) 1 SCC 395, <https://indiankanoon.org/doc/1486949/> [<https://perma.cc/SH4B-K57F>] (archived Mar. 19, 2021).

258. *Id.* And, therefore will not be subject to any of the exceptions recognized under a strict liability standard (such as, act of God, act of third party, consent of victim and statutory authority). *See id.* ¶ 31 (The Supreme Court of India extensively discusses and distinguishes the absolute liability principle from the strict liability standard as set out in the *Rylands vs. Fletcher* case of 1868 (UK, House of Lords.).

259. *Id.* ¶ 32.

260. *Sterlite Industries (I) Ltd. vs Union of India And Ors.*, (2013) 4 SCC 575, ¶ 39, <https://indiankanoon.org/doc/26352158/> [<https://perma.cc/FA64-B528>] (archived February 20, 2021).

of the company on a profit before depreciation, interest, and taxes (PBDIT) basis as stated in its annual report. It then held that the company should be liable to pay compensation of about USD \$13.25 million,²⁶¹ corresponding to a tenth of its PBDIT amount, for having polluted the environment and for operating for years without the necessary environmental permits.²⁶²

It may be relevant to add here that, in 2010, India decided to create specialized “National Green Tribunals” (NGTs) across the country, which have jurisdiction over all civil cases where a “substantial question relating to the environment” is involved.²⁶³ These NGTs may rule and issue orders on relief and compensation to the victims of pollution and other environmental damage but also for the restitution of the environment.²⁶⁴ Quite significantly, the NGT Act explicitly states that “the Tribunals while passing any decision, order or award, shall apply the principle of sustainable development, the precautionary principle and the polluter pays principle.”²⁶⁵ After ten years of functioning, a critical review study was undertaken by the Centre for Science and Environment (CSE) to assess how the NGTs calculated the penalties and compensation amounts and which methodologies it had applied over the years.²⁶⁶ The conclusion of the report is that the various NGT benches use their wide discretion, but most often fail to share the parameters or formula applied when calculating the compensation for environmental damage.

For example, in the 2014 *M/s Das Offshore Co.* case, the NGT was faced with the situation where a company had constructed a project in a wetland and mangrove area without undertaking any EIA report or obtaining any prior approval and thereby placed the regulatory

261. The Supreme Court Judgment refers to “Rs. 100 Crores,” which corresponds to 1 billion Indian Rupees. *See id.* ¶ 39.

262. *Id.* ¶ 39.

263. Such questions must arise out of the implementation of environmental laws which are annexed to the National Green Tribunal Act (NGT Act). *See* National Green Tribunal Act art. 14, No. 19 of 2010, Acts of Parliament, 2010 (India) [hereinafter NGT Act],

https://greentribunal.gov.in/sites/default/files/act_rules/National_Green_Tribunal_Act_2010.pdf; *see also* NATIONAL GREEN TRIBUNAL, <https://greentribunal.gov.in/>.

264. *Id.* art.15.

265. *Id.* art. 20.

266. CENTER FOR SCIENCE AND ENVIRONMENT, GREEN TRIBUNAL, GREEN APPROACH – THE NEED FOR BETTER IMPLEMENTATION OF THE POLLUTER PAYS PRINCIPLE 8, 12 (2018) [hereinafter CSE REPORT],

<http://www.indiaenvironmentportal.org.in/files/file/green-tribunal-green-approach-report.pdf> [https://perma.cc/P5PX-8QAZ] (archived February 20, 2021) (The Report reviewed cases involving: (A) projects activities carried out without obtaining the required permit and affecting the environment; (B) violations of clearance conditions impacting the environment; (C) industrial units operating without consents and violating pollution standards; (D) Damage to the environment from large-scale pollution; (E) negligence of civic responsibilities and negligence by authorities resulting in pollution; (F) activities directly affecting the livelihood of communities.).

authorities with a *fait accompli*.²⁶⁷ The NGT held that ordering the demolition of all the structures and restoration of land “will be rather harsh and more disproportionate to the evil acts committed by the Respondent. . . . It would be appropriate therefore, to impose a heavy penalty on the Respondent . . . for restoration of environmental damage caused due to project activities in question.” Further, it imposed a penalty amount of USD \$3.3 million out of which a fifth had to be payable for mangrove plantation programs in the area, which it felt would be “just and proper.”²⁶⁸

In some other recent cases, the NGT ordered very significant amounts towards environmental compensation. For example, in the 2016 *Bagga* case, the NGT ordered companies engaged in illegal mining to pay about USD \$33.3 million by way of environmental compensation.²⁶⁹ Similarly, in 2018, the NGT awarded about USD \$25.7 million towards environmental compensation in a case involving vast illegal construction activities in the *Goel Ganga Developers* case.²⁷⁰ The NGT reiterated in the *Bagga* case that “once the nexus between the activity, particularly illegal activities, and the consequential damage to the environment and ecology is established, the liability in terms of . . . the NGT Act arises.”²⁷¹ Simultaneously, it also acknowledged that there “could be cases where it is not possible to determine such liability with exactitude but that by itself would not be a ground for absolving the defaulting parties from their liability,”²⁷² thereby echoing to an extent what the ICJ stated in the 2018 *Costa Rica* case as well.²⁷³

What does emerge as a clear current trend in India is that the NGTs follow the Supreme Court’s benchmark, which it posited in the 2014 *Goa Foundation* case relating to illegal mining, which ordered the companies to pay 10 percent of the sale proceeds of the minerals

267. Naim Sharif Hasware v. M/s Das Offshore Engineering P Ltd., (2014) Application No.15(THC)/2014, ¶¶ 8, 37 (National Green Tribunal), https://cdn.downtoearth.org.in/dte/userfiles/images/pune%20judgement_24_12_2014.pdf [<https://perma.cc/4UJQ-NCD8>] (archived February 20, 2021) (The NGT refers to Indian Rupees 25 Crores, and Indian Rupees 5 Crores respectively.).

268. *Id.* ¶ 37.

269. See Gurpreet Singh Bagga & Ors. v. Ministry of Environment and Forests & Ors. (2016) Original Application No. 184 of 2013 (National Green Tribunal), <http://www.indiaenvironmentportal.org.in/files/minor%20minerals%20Yamuna%20Saharanpur%20NGT.pdf> [<https://perma.cc/74BE-YH7P>] (archived February 20, 2021).

270. In appeal, this compensation amount has since been reduced by the Supreme Court. See M/S. Goel Ganga Developers India v. Union of India Through Secretary, (2018) ¶ 57, [hereinafter *Goel Ganga Developers*] <https://indiankanoon.org/doc/63473709/> [<https://perma.cc/Y436-QH9D>] (archived February 20, 2021).

271. See Gurpreet Singh Bagga, *supra* note 269, at 133–34, ¶ 92.

272. *Id.*

273. See *Costa Rica* case, *supra* note 11, at 25–26, ¶ 35.

extracted by way of compensation.²⁷⁴ Subsequently, the Supreme Court and the NGTs more generally have almost always calculated the amount of environmental compensation based on a 5 percent ratio of the project cost.²⁷⁵ This has been criticized by some authors as not always being adequate or scientific enough.²⁷⁶ As pointed out by Nath and Rosencranz, the absence of a clear methodology by the NGT to determine the compensation amounts “leads to a situation wherein the compensation either grossly underestimates or overestimates the environmental damage involved.”²⁷⁷ That said, the Supreme Court in 2018 confirmed its approach again, in no uncertain terms, when addressing the appeal filed by the developer in the *Goel Ganga Developers* case.²⁷⁸ The Supreme Court stated:

[W]e are definitely of the view that the project proponent who has violated law with impunity cannot be allowed to go scot-free. This Court has in a number of cases awarded 5% of the project cost as damages. This is the general law. However, in the present case we feel that damages should be higher keeping in view the totally intransigent and unapologetic behavior of the project proponent. He has maneuvered and manipulated officials and authorities . . . Therefore, in the present case, we are clearly of the view that the project proponent should be and is directed to pay damages of Rs.100 crores (about USD 13.2 million) or 10% of the project cost whichever is more.²⁷⁹

Although the judiciary in India does tend to rely on court-appointed independent experts to shed clarity on complex environmental issues, particularly when parties adduce insufficient or contradictory evidence, it is generally observed that in more blatant cases of noncompliance and damages to the environment, general civil courts as well as the specialized NGTs end up using their discretion and calculate compensatory damages to the environment based on equity and by imposing punitive damages. The most recent trend in India, posited by the Supreme Court in 2018 and followed by the NGTs, is to award minimum 5 percent of the project cost by way compensation for environmental damage, which can be increased taking into account the gravity of the environmental damage and the behavior of the defendant.

274. See *Goa Foundation v. Union Of India & Ors*, (14 Oct. 2014), <https://indiankanoon.org/doc/193275439/> [<https://perma.cc/JG6N-MX7F>] (archived February 20, 2021).

275. See CSE REPORT, *supra* note 266, at 8 (“In all matters, except one, the penalty has been stipulated as ‘five per cent of the project cost’”).

276. See Raghuvveer Nath & Armin Rosencranz, *Determination of Environmental Compensation: The Art of Living Case*, 12 NAT’L U. JURID. SCI. L. REV. 1, 3 (2019).

277. *Id.* at 7.

278. As per section 22 of the NGT Act, any person aggrieved by any award, decision, or order of the NGT may file an appeal to the Supreme Court within 90 days. See NGT Act, *supra* note 263, §22

279. See *Goel Ganga Developers*, *supra* note 270, ¶ 57.

4. Punitive Damages in Civil Law Countries and the Understandable Reluctance by the ICJ Given the Different Domestic Approaches

However, the notion of punitive damages is not as readily accepted by the judiciary in many civil law countries. For example, as pointed out by Marco Cappelletti, the Italian Supreme Court, in its 2007 decision addressing the enforcement of a US punitive damages award, explicitly held that “Italian tort law is meant to serve a compensatory function and that there is no room for any goal other than corrective justice within domestic tort law.”²⁸⁰ There are, of course, nuances and different approaches amongst civil law countries in Europe. But, generally speaking, “it is true that, in principle, the continental civil law systems disapprove of punitive damages.”²⁸¹ Moreover, the EU-wide “Rome II Regulation,” which was adopted to resolve the conflict of laws in cases of non-contractual obligations in civil and commercial matters, acknowledges that considerations of public interest justify giving the courts of the member states the possibility, in exceptional circumstances, of applying exceptions based on public policy and overriding mandatory provisions.²⁸² It further clarifies:

In particular, the application of a provision of the law designated by this Regulation which would have the effect of causing non-compensatory exemplary or punitive damages of an excessive nature to be awarded may, depending on the circumstances of the case and the legal order of the Member State of the court seized, be regarded as being contrary to the public policy (*ordre public*) of the forum.²⁸³

As pointed out by Helmut Koziol, this reflects a certain balanced approach whereby punitive damages are not outright found to be unacceptable, but only punitive damages “of an excessive amount” would be capable of violating the *ordre public*.²⁸⁴

The comparative analysis of punitive damages across different countries would go well beyond the scope of this Article, but suffice it to observe that most common law countries seem to more readily embrace it, albeit that the quantification of it remains controversial. This also explains why, with their varied domestic backgrounds, the fifteen judges of the ICJ do not find a sinecure in their position where

280. Marco Cappelletti, *Punitive Damages and the Public/Private Distinction: A Comparison Between the United States and Italy*, 32 ARIZ. J. INT'L & COMPAR. L. 800, 800 (2015).

281. Helmut Koziol, *Punitive Damages – A European Perspective*, 68 LA. L. REV. 741, 748 (2008).

282. Council Regulation 864/2007, On the law applicable to non-contractual obligations (Rome II), 32nd “whereas” clause, 2007 O.J. (L 199) 40, 42 (EC), <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0864&from=en> [<https://perma.cc/R892-QZQP>] (archived on February 22, 2021).

283. *See id.*

284. Koziol, *supra* note 281, at 750.

they can pronounce themselves unequivocally on punitive damages in the context of public international law.²⁸⁵ Further, the ILC's 2001 Draft Articles on Responsibility of States clearly indicate that Article 36 on Compensation "is purely compensatory" and "is not concerned to punish the responsible State, nor does compensation have an expressive or exemplary character."²⁸⁶

As further observed by Veronika Fikfak, it is interesting to note that, more recently, before the European Court of Human Rights (ECtHR), the "proposals for the ECtHR to adopt a more assertive approach to damages and adopt punitive damages are increasingly vocal, even within the Court."²⁸⁷ Notably, this more "activist" call to at least analyze the merits of exemplary damages in cases of serious harm to the environment stands in sharp contrast with the legal contours adopted under the sectoral IOPC Fund regime handling claims for oil pollution specifically, where the IOPC Fund Claims Manual explicitly states that compensation will not be paid for damages of a punitive nature on the basis of the degree of fault of the wrongdoer.²⁸⁸ It is important to keep in mind that the smooth functioning IOPC Funds regime is also premised upon the insurance world, and, therefore, to a certain extent influenced and limited by different pragmatic concerns, where the predictability of compensation amounts and relative swiftness of payments of amounts are interconnected and will take precedence.

E. Use of Experts & Valuation Methods

1. On the Use of Court-Appointed Experts

The 2010 *Pulp Mills* case triggered significant discussion around the unsatisfactory approach by the ICJ in its non-use of experts and the court's handling of evidence in "complex factual situations and highly technical matters."²⁸⁹ In the *Costa Rica* case, the critique is

285. For an overview of the current fifteen Judges of the ICJ, see *Current Members*, ICJ, <https://www.icj-cij.org/en/current-members> [https://perma.cc/5M49-MVTE] (archived on February 22, 2021). For an overview of their election procedure, see Statute of the International Court of Justice, *supra* note 4, art. 4–19.

286. ILC Draft Articles on Responsibility of States, *supra*, note 8, art. 36.

287. Veronika Fikfak, *Changing State Behaviour: Damages before the European Court of Human Rights*, 29 EUR. J. INT'L L. 1091, 1096 (2018); see also DINAH L. SHELTON, REMEDIES IN INTERNATIONAL HUMAN RIGHTS LAW 13 (2d ed. 2005) (discussing the relevance of deterrence in the context of human rights law).

288. IOPC CLAIMS MANUAL, *supra* note 159, ¶ 1.4.13.

289. *Costa Rica* case, *supra* note 11, ¶ 22; see also Loretta Malintoppi, *Fact Finding and Evidence Before the International Court of Justice (Notably in Scientific-Related Disputes)*, 7 J. INT'L DISPUTE SETTLEMENT, 421 (2016); Cymie Payne, *Mastering the Evidence: Improving Fact Finding by International Courts*, 41 ENVTL. L. J., 1191 (2011); James Gerard Devaney, *The Law and Practice of Fact-Finding before the International Court of Justice* (Aug. 2014) (Thesis, European University Institute).

mainly directed at its “opaque reasoning” on how it arrived at its final calculation of the amount to be compensated.²⁹⁰ This case did lend itself to detailed calculations of the harm caused to environmental goods and services based on expert views. Yet, instead one is left with a false sense of a scientific analysis, which is never really shared in a transparent manner either and where one must assume the timid or implicit application of equity served merely as a stop-gap arrangement to cover up the absence of a sound methodology and certainly not to make a bold statement about the importance of the protection of the environment.

The ICJ also failed to explain at times why it decided not to rely on the submissions made by experts, such as the soil science expert brought forward by Costa Rica.²⁹¹ This confirmed the ICJ’s general reluctance in appointing experts in its proceedings, which nevertheless would be particularly advisable in environmental matters. Both domestic courts and international tribunals tend to rely extensively on experts. Diane Desierto poignantly observes that the ICJ had examined experts in 2015 to determine to environmental damage in its judgment leading up to the 2018 *Costa Rica* case,²⁹² making it “somewhat surprising that the Court did not also conduct an examination of experts to assess and estimate environmental damages” in this case.²⁹³ After all, Article 50 of the ICJ Statute offers such flexibility as it allows the court to appoint any individual, body, bureau, commission, or other organization that it may select, with the task of carrying out an enquiry or giving an expert opinion.²⁹⁴ The current sitting judge, Mohamed Bennouna, explains it by the fact that the ICJ, like other courts and tribunals (with reference, for instance, to the International Tribunal for the Law of the Sea (ITLOS)), has generally preferred that the parties engage their own experts and present their findings to the court.²⁹⁵ Indeed, the ICJ throughout its history, has actually “rarely appointed its own experts” and in his view such appointments should remain the exception rather than the rule.²⁹⁶ Interestingly, Judge Bennouna does opine that there may be “significant benefit in having an expert report, for example, in assessing monetary value of the expropriated property” (with reference to the *Chorzów Factory* case),²⁹⁷ damage to property cases (such as in

290. See Desierto *supra* note 160.

291. Costa Rica case, *supra* note 11, ¶¶ 25–28.

292. *Id.* ¶¶ 75, 112.

293. See Desierto, *supra* note 160.

294. Statute of the International Court of Justice, *supra* note 4, art. 50.

295. Mohamed Bennouna, *Experts before the International Court of Justice: What for?*, 9 J. INT’L DISP. SETTLEMENT 345, 345-51 (2018).

296. *Id.* at 347–48.

297. *Factory at Chorzów* (Ger. V. Pol.), Judgment, 1927 P.C.I.J. (ser. A) No. 8, at 21 (July 26).

the *Corfu Channel* case),²⁹⁸ or “damage to the environment.”²⁹⁹ However, the 2018 *Costa Rica* case gives no indication that the court even considered this opportunity. The resultant compensation amount based on broad references to the court’s own blended methodology, which mixes elements of both parties’ proposals (leading to the ICJ’s “revised-corrected-ecosystem services approach”), does little to inspire confidence of its willingness to rely on the expert insights of scientists trained in this type of environmental damage calculations, whereas this would have certainly benefited sharpening and recalibrating its own methodology.

This reluctance of sorts by the ICJ to establish a robust approach in matters involving complex technical and scientific elements has been criticized by several international law scholars as well as by ICJ judges themselves.³⁰⁰ Judges Al-Khasawneh and Simma in their joint dissenting opinion in the 2010 *Pulp Mills* case opined:

the Court has an unfortunate history of persisting, when faced with sophisticated scientific and technical evidence in support of the legal claims made by States before it, in resolving these issues purely through the application of its traditional legal techniques.³⁰¹

James Devaney further submits that this “reactive approach to fact-finding” where the court largely relies on the parties to put evidence before the court “falls short of adequacy both in cases involving abundant, particularly complex or technical facts and in those cases involving a scarcity of evidence,” and suggests that the ICJ should adopt a “clear strategy for the use of expert evidence.”³⁰²

This reluctance by the ICJ to appoint independent experts to guide the court in a more objective manner stands in sharp contrast with the practice adopted by domestic courts in several jurisdictions, such as India and Australia, when addressing highly technical environmental matters.³⁰³ Indeed, in India, civil courts and the NGTs routinely

298. *Corfu Channel* (U.K. & N. Ir. V. Alb.), Judgment, 1949 I.C.J. 244 (Dec. 15).

299. Bennouna, *supra* note 295, at 350.

300. See CSE REPORT, *supra* note 266.

301. Case Concerning Pulp Mills of the River Uruguay, (Arg. V. Uru.), Judgement 2010 I.C.J. at ¶ 12 (Apr. 20) (joint dissenting opinion of Al-Khasawneh J. and Simma J.) <https://www.icj-cij.org/public/files/case-related/135/135-20100420-JUD-01-01-EN.pdf> [<https://perma.cc/NZN6-L2NS>] (archived Feb. 22, 2021).

302. See James Gerard Devaney, *Reappraising the Role of Experts in Recent Cases Before the International Court of Justice* 62 GER. Y.B. INTL L. (2019), <http://eprints.gla.ac.uk/207676/> [<https://perma.cc/TP38-8ECP>] (archived Feb. 22, 2021).

303. See *G. Sundarajan vs Union of India and Others (Kudankulam case)*, (2013) SCR ¶ 187–88, <https://indiankanon.org/doc/184104065/> (here the Supreme Court refers to case law, which it further confirms, according to which “normally, a Court should be slow to interfere with the opinion expressed by the Experts and it would normally be wise and safe for the courts to leave the decisions to experts who are more familiar with the problems which they face than the courts generally can be which has been the consistent view taken by this Court.”).

appoint experts from government-owned research institutes to offer their independent scientific analysis to help them decide complex environmental technical matters, particularly in cases where parties submit opposing expert opinions.³⁰⁴ Typically, the expert evidence so obtained tends to offer the necessary clarity and is generally followed by the courts as is.³⁰⁵ Interestingly, for several decades now, Australia has developed experience with “hot tubbing” or a concurrent expert evidence paradigm, where the expert witnesses from all the parties are called to a joint session to focus on the disparities in their submissions.³⁰⁶ This method seeks to move beyond the more typical adversarial approach between the experts of the various parties and in this manner tries to weed out the bias from their submissions while also addressing possible misgivings with regard to their base assumptions as briefed to them by their respective clients.³⁰⁷ Hot tubbing has been extensively used in Australia in environmental and land disputes and was adopted in the UK in 2013 as well.³⁰⁸ The ICJ may not be able to be as creative and adopt a hot-tubbing approach in its engagement with the expert witnesses of the parties, but even court-appointed experts would be preferable above the ICJ’s questionable development of their own valuation methodologies, as in the *Costa Rica* case, whereby the judges clearly enter a scientific and technical field well beyond their own legal training. In environmental matters, which require scientific assessments and calculations, it may be advisable to have the cobbler stick to his last.

2. On Valuation Methods

Admittedly, the valuation of natural resource damages (NRD) remains complex, but the ICJ could have acknowledged and used the scientific methodologies and expertise built in this field since the 1980s. One of the first domestic laws to address NRD assessments and

304. Government officials and experts from the National Environmental Engineering Research Institute (NEERI) routinely undertake site visits and prepare Reports on the request of the courts to place them in a better position to decide complex environmental matters. For more information, see *Home*, CSIR-NAT’L ENV’T ENG’G RSCH. INST. [https://www.neeri.res.in/#googtrans\(en|en\)](https://www.neeri.res.in/#googtrans(en|en)) [<https://perma.cc/5G8A-XXPT>] (archived Feb. 22, 2021).

305. Steven Rares, *Using the “Hot Tub”: How Concurrent Expert Evidence Aids Understanding Issues*, (Oct. 12, 2013), <https://www.fedcourt.gov.au/digital-law-library/judges-speeches/justice-raises/rares-j-20131012> [<https://perma.cc/2B6K-WDLV>] (archived on February 22, 2021).

306. *Id.* ¶ 1.

307. *Id.* ¶¶ 34, 47.

308. For a brief comparison between the “hot-tub” experience in Australia and UK, see Antonia Croke & Louise Mallon, *Hot-tub: Lessons from Australia*, COM. LITIG. NEWSL. (Oct. 2013), <https://www.ashurst.com/en/news-and-insights/legal-updates/hot-tub-lessons-from-australia-commercial-litigation-newsletter-october-2013/> [<https://perma.cc/WW3D-2ALP>] (archived on February 22, 2021).

related valuation techniques was the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).³⁰⁹ The United States adopted this law in 1980 in the context of spills of hazardous substances.³¹⁰ By reference, these valuation techniques were subsequently incorporated in the 1990 Oil Pollution Act (OPA),³¹¹ and both CERCLA and OPA are governed in this regard by the Natural Resource Damage Assessment (NRDA) Regulations.³¹² Both CERCLA and OPA rely on federal agencies and state agencies to serve as natural resource “[t]rustees”³¹³ who are authorized to assess and recover damages, on behalf of the public, from potentially responsible parties as compensation for injuries to natural resources that result from releases of either hazardous substances (CERCLA) or oil spills (OPA).³¹⁴

In the first instance, the trustees will try to adopt a “scaling” approach to determine the optimal scale of restoration actions that can be determined by non-market valuation methods, service-to-service, or resource-to-resource approaches, such as habitat equivalency analysis (HEA), whereby the services lost from a natural resource injury will be calculated and restoration alternatives will be developed accordingly so that these will provide the same amount of services to the public.³¹⁵ HEA scales injured resources and lost services on a “one-to-one trade-off basis,” and would typically entail improvements to replacement ecosystems or the creation of a new site to provide equivalent

309. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C §§ 9601-75.

310. See, e.g., EPA, *Natural Resource Damages: A Primer*, EPA <https://www.epa.gov/superfund/natural-resource-damages-primer> [<https://perma.cc/4Q3E-X58W>] (archived on February 22, 2021); N.Y. Department of Environmental Conservation, *Natural Resource Damages*, N.Y. DEPT ENV'T CONSERVATION, <https://www.dec.ny.gov/regulations/2411.html> [<https://perma.cc/Y7DA-EX8U>] (archived on February 22, 2021).

311. US Oil Pollution Act, *supra* note 197.

312. See Orlando, *supra* note 81, at 7.

313. For more information about Trustees, see EPA, *Natural Resources Damages: Trustees*, EPA <https://www.epa.gov/superfund/natural-resource-damages-trustees> [<https://perma.cc/FSX5-DKD9>] (archived on February 22, 2021).

314. See Richard W. Dunford, Thomas C. Ginn, & William H. Desvousges, *The Use of Habitat Equivalency Analysis in Natural Resource Damage Assessments*, 48 *ECOLOGICAL ECON.* 49–70, https://www.researchgate.net/publication/223476160_The_use_of_habitat_equivalency_analysis_in_natural_resource_damage_assessments; M. Baker et al., *Restoration Scaling Approaches to Addressing Ecological Injury: The Habitat-Based Resource Equivalency Method*, 65 *ENV'T MGMT* 161 (2020), [<https://perma.cc/8SWC-7RUQ>] (archived on February 22, 2021).

315. W. Douglass Shaw & Marta Wlodarz, *Ecosystems, Ecological Restoration, and Economics: Does Habitat or Resource Equivalency Analysis Mean Other Economic Valuation Methods Are Not Needed?*, 42 *AMBIO*, 628, 639 (2013). For more on scaling methods, see National Oceanic and Atmospheric Administration, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. *Damage Assessment, Remediation, and Restoration Program*, <https://darrp.noaa.gov/economics/habitat-equivalency-analysis> [<https://perma.cc/B6T7-2D5A>] (archived on February 22, 2021).

ecosystem services until restoration is complete.³¹⁶ It is worth pointing out that the UNCC accepted HEA as an “appropriate method for determining the nature and extent of *compensatory remediation* in order to make up for the loss of ecological services.”³¹⁷ Moreover, the 2004 EU-wide Environmental Liability Directive (ELD) incorporates HEA as a legally binding method as well.³¹⁸ Just as with the trustees model under CERCLA and OPA, the ELD is only a public/administrative law instrument, where liability will be enforced solely by public authorities with no scope for private claims. Most importantly, from a valuation perspective is that this service-to-service or resource-to-resource scaling “does not require quantification of lost services in monetary terms”³¹⁹ as restoration costs are “easier to estimate.”³²⁰ The trustees under US law do have further discretion to rely on other valuation methods as well if the resource-to-resource or service-to-service scaling would be deemed to be insufficient.³²¹ That is, even if recovery is obtained for the costs of restoration, clean-up and prevention, and ongoing monitoring and assessments, the trustees can also claim additional monetary compensation for damages for the reduction in the quantity or quality of the public’s use of a resource for the entire period between the occurrence of the injury and the completion of the restoration.³²² In that case, valuation methodologies which do try to place a monetary value on the loss of the resource will have to be relied upon. Some of these valuation techniques remain

316. European Commission, *Science for Environment Policy: Habitat Equivalency Analysis Reveals Highest Priority Projects for Damaged Ecosystems*, EUR. COMM’N, https://ec.europa.eu/environment/integration/research/newsalert/pdf/habitat_equivalency_analysis_reveals_highest_priority_projects_for_damaged_ecosystem_restoration_434na3_en.pdf [<https://perma.cc/6KKR-LAK2>] (archived on February 22, 2021).

317. Sand, *supra* note 157, ¶ 4.

318. Environmental Liability Directive, *supra* note 93; see also European Commission, *Environmental Liability Directive: Protecting Europe’s Natural Resources*, EUR. COMM’M, https://ec.europa.eu/environment/legal/liability/pdf/eld_brochure/ELD%20brochure.pdf [<https://perma.cc/THN5-G3HE>] (archived on February 22, 2021) (including hypothetical example of applying HEA to a polluted wetland).

319. For more on HEA, see National Oceanic and Atmospheric Administration, *Habitat Equivalency Analysis: An Overview*, NOAA, (Revised 2000), <https://casedocuments.darrp.noaa.gov/northwest/cbay/pdf/cbhy-a.pdf> [<https://perma.cc/3P6D-2AF9>] (archived on February 22, 2021). For the context of coral reefs, see Milon, J. Walter & Richard E. Dodge, *Applying Habitat Equivalency Analysis for Coral Reef Damage Assessment and Restoration*, 69 BULL. MARINE SCI. 975 (2001) (“[i]n the U.S., habitat equivalency analysis (HEA) has emerged as a novel tool that combines biological and economic information to identify replacement habitats of an appropriate scale to substitute for the interim losses”).

320. See also Orlando, *supra* note 81, at 8.

321. Thomas J. Schoenbaum, *Liability for Damages in Oil Spill Accidents: Evaluating the USA and International Law Regimes in the Light of Deepwater Horizon*, 24 J. ENV’T. L., 395, 414 (2012).

322. For more, see Philippe Sands & Richard B. Stewart, *Valuation of Environmental Damage – US and International Law Approaches*, 5 RECIEL, 290, 293–94 (1996).

more controversial than others, and include the travel cost method,³²³ hedonic pricing,³²⁴ and contingent valuation.³²⁵ For instance, the UNCC rejected claims based on the travel cost method, but, more recently, the trustees overseeing the *Deepwater Horizon* oil spill natural recourse injury restoration, found it a fully acceptable valuation method.³²⁶ The travel cost method accounts for lost trips, substitute trips, and diminished-value trips. Multiplying the number of lost recreational user days by the value of a lost user day provides an estimate of the value of the recreational losses (damages). Hence, with regard to lost recreational use of the shoreline and coastal resources, the trustees calculated that the *Deepwater Horizon* spill caused the public to lose more than 16 million user days of boating, fishing, and beach-going activities. The total recreational use damages due to the spill were then estimated at USD \$693 million.³²⁷

To complete the overview on trends when addressing damages for environmental injury, it is relevant to keep in mind that almost all the multilateral environmental agreements as well as the civil liability treaties for oil pollution and nuclear damage define “damage” in such a manner as to limit it to (1) the costs of reasonable measures of reinstatement of the impaired environment, (2) the costs of preventive measures, and (3) costs relating to the monitoring and assessing of the damage. In doing so, these treaty regimes more pragmatically “avoid the need to determine directly the monetary value of the injured environment itself,” although environmental benefits will step in when assessing whether these measures are reasonable.³²⁸ This pragmatic compromise adopted in international treaties is largely explained by the intense negotiations between a very large number of parties, not all of them which have equal experience domestically in dealing with such valuation techniques.³²⁹ As mentioned, the IOPC Funds’ guidelines underscore the fact that this oil pollution compensation

323. The travel cost method (TCM) assesses the willingness of individuals to travel to find alternative recreation sites. The TCM was relied upon by the Trustees in the *Deepwater Horizon* Oil Spill case; but was rejected by the UNCC, for instance. For a clear understanding of ecosystem valuation methods for non-economists, see *Travel Cost Method*, ECOSYSTEM VALUATION, https://ecosystemvaluation.org/dollar_based.htm [<https://perma.cc/9E8N-2Z3E>] (archived June 19, 2021).

324. *Id.* Hedonic pricing measures environmental amenities by comparing the value of the adversely affected area with similar unaffected areas. For an overview of different dollar-based ecosystem valuation methods, see *id.*

325. Contingent valuation bases the value of goods and services on the result of surveys. For an excellent overview and further references on the pros and cons of contingent valuation in the context of the *Deepwater Horizon* oil spill, see Timothy Taylor, *Contingent Valuation and the Deepwater Horizon Spill*, CONVERSABLE ECONOMIST BLOG <https://conversableeconomist.blogspot.com/2018/03/contingent-valuation-and-deepwater.html> [<https://perma.cc/YM2A-5TFU>] (archived Feb. 22, 2021).

326. See Trustees’ Plan, *supra* note 198, at 31–32.

327. See *id.*

328. Sands & Stewart, *supra* note 322, at 292.

329. See also Daniel, *supra* note 121.

regime will not provide compensation for “pure” environmental damage and will only allow claims of compensation for the costs of reinstatement of the damaged environment to restore those lost services.³³⁰ As mentioned, the 1992 Fund Claims Manual explicitly states that “compensation is not paid in respect of claims for environmental damage based on an abstract quantification.”³³¹ The IOPC Funds’ Claims Manual also makes it clear that compensation will not be paid for damages of a punitive nature on the basis of the degree of fault of the wrongdoer.³³² Some authors, such as Sands and Stewart, go as far in their criticism as to argue that compensation for impairment of non-use values in some ways can even be equated with exemplary or punitive damages.³³³ However, as observed by Emanuela Orlando, despite their flaws, both CERCLA (1980) and OPA (1990) “can be considered as a landmark development in the evolution of environmental liability” by offering a valuable solution to the very complex question of quantification and assessment of ecological damage,³³⁴ which also clearly served as a model for the EU-wide ELD adopted in 2004. Relatedly, some domestic courts, such as in India, may also order the environmental regulatory bodies to devise a clear method and formula to calculate environmental damages, which are otherwise difficult to assess, in order to add transparency to the process.³³⁵

Therefore, these developments which necessarily bring along a vast number of experts in this area should have at least alerted the ICJ in the *Costa Rica* case to the possibility of relying on experts appointed by the court to enlighten them on these complex valuation methods, some of which by now are well established and accepted in various jurisdictions.

330. IOPC Claims Manual, *supra* note 159, at ¶ 1.4.13.

331. *Id.*

332. *Id.*

333. See Sands & Stewart, *supra* note 322, at 294.

334. See Orlando, *supra* note 81.

335. See, for instance, in the context of environmental damage caused by hazardous wastes: Paryavaran Suraksha Samiti & Anr. v. Union of India & Ors., National Green Tribunal, Principal Bench, New Delhi, (App. No. 593/2017, (W.P.)(Civil) No. 375/2012), (19 Feb. 2019), <http://www.indiaenvironmentportal.org.in/files/file/ETP-CETP-STP-NGT-order.pdf> [<https://perma.cc/6RRV-54FC>] (archived Feb. 16, 2021). See also CENT. POLLUTION CONTROL BD Compliance Report, O.A. No. 804/2017, Earlier App. No. 36/2012, *Rajiv Narayan & Anr. Vs Union. of India & Ors* (10 May, 2019), <http://www.mppcb.mp.gov.in/proc/HW/Environment-compensation-guidelines-by-CPCB.pdf> [<https://perma.cc/J9E7-X4FE>] (archived Feb. 16, 2021); Ministry of the Environment, Forest & Climate Change, *Enforcement Framework for Effective Implementation of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016*, Central Pollution Control Board (CPCB), (July 2019), <http://www.mppcb.mp.gov.in/proc/HW/Enforcement-framework-for-effective-implementation-guidelines-of-CPCB.pdf> [<https://perma.cc/422S-DXP9>] (archived Feb. 16, 2021).

IV. DOMESTIC DEVELOPMENTS—MOVING BEYOND THE CONSTRAINTS
AND LOOPHOLES OF INTERNATIONAL REGIMES AS ILLUSTRATED BY THE
DEEPWATER HORIZON OIL SPILL AND THE ERIKA TANKER INCIDENTS

Domestic regimes in many ways offer more comprehensive legal responses but also the necessary flexibility to evolve when addressing compensation for environmental damage. This is a vast topic in itself, but the point can be briefly illustrated in the context of two well-covered and relatively recent oil pollution accidents: the 2010 *Deepwater Horizon* oil pollution disaster in the Gulf of Mexico of the United States, a common-law country, and the 1999 *Erika* tanker disaster which occurred off the coast of Brittany, France, a civil-law country. Keep in mind that the United States ultimately never ratified the conventions of the IOPC Funds regime, although it took part in the negotiations, and this is “mainly because compensation under the international scheme—which would have been exclusive if adopted—was deemed too low.”³³⁶ Apart from illustrating the different legal responses in a common-law and civil-law country when faced with large-scale oil spills, these two cases offer the additional advantage of comparison with the international conventions on liability and compensation for oil pollution as governed by the IOPC Funds regime. Additionally, when reviewing some of these domestic legal developments, one cannot help but agree with Anne Daniel who posited that there’s a risk that civil liability treaties, which address specific types of environmental damage, and which most often take years to negotiate but ultimately rarely enter into force, risk offering but “false comfort,”³³⁷ including when compared to the progress made in various domestic regimes. International bodies, be it the ICJ or the panels within the IOPC Funds regime, would do well to take note too.

A. *Deepwater Horizon Oil Spill Incident*

As is well documented, in April 2010 the *Deepwater Horizon* mobile drilling unit exploded, caught fire, and eventually sank in the Gulf of Mexico. Eleven workers died and several more were injured.³³⁸ It also resulted in a massive release of oil and other substances from BP’s Macondo well. For eighty-seven days after the explosion, the well continuously discharged oil and natural gas into the northern Gulf of Mexico. Approximately 3.19 million barrels (134 million gallons/507 million liters) of oil were released, by far the largest offshore oil spill in the United States’ history.³³⁹ The total volume of oil released is about

336. Ronen Perry, *The Deepwater Horizon Oil Spill and the Limits of Civil Liability*, 86 WASH. L. REV. 1, 7 (2011); see also Orlando, *supra* note 81, at 13–14.

337. See Daniel, *supra* note 121.

338. See, e.g., Trustees’ Plan, *supra* note 198, at 1.

339. *Id.* at 5.

twelve times more than the 1989 Exxon Valdez oil spill that took place in Alaska.³⁴⁰ Oil spread from the deep ocean to the surface and nearshore environment, from Texas to Florida, affecting about 2,100 km of shoreline.³⁴¹ The US *Deepwater Horizon* case led to both complex civil litigation³⁴² and criminal prosecution.³⁴³

In April 2016, the federal court in New Orleans entered a consent decree resolving civil claims against BP.³⁴⁴ This settlement resolves the US government's civil penalty claims under the Clean Water Act, the government's claims for natural resource damages under the Oil Pollution Act, and encompasses a related settlement of economic damage claims of the Gulf states and local governments.³⁴⁵ As confirmed by the US Department of Justice, this resolution of civil claims is worth more than USD \$20 billion and is the largest settlement with a single entity in the history of federal law enforcement.³⁴⁶ The Department of Justice confirmed that under the consent decree, BP will pay USD \$5.5 billion for a Clean Water Act civil penalty, USD \$8.1 billion in natural resource damages, USD \$700 million to address injuries to natural resources that are presently unknown but may come to light in the future, and USD \$600 million

340. *Id.*

341. *Id.* at 4–5.

342. See John C. Cruden, Steve O'Rourke, & Sarah D. Himmelhoch, *The Deepwater Horizon Oil Spill Litigation: Proof of Concept for the Manual for Complex Litigation and the 2015 Amendments to the Federal Rules of Civil Procedure*, 6 MICH. J. ENV'T & ADMIN. L. (2016).

343. In short: In 2013, BP Exploration and Production Inc. pleaded guilty to fourteen criminal counts for its illegal conduct leading to and after the 2010 Deepwater Horizon disaster, and was sentenced by the Eastern District of Louisiana to pay USD 4 billion in criminal fines and penalties, the largest criminal resolution in US history. According to the sentence imposed pursuant to the plea agreement, more than USD 2 billion dollars will directly benefit the Gulf region. By order of the court, approximately USD 2.4 billion of the USD 4.0 billion criminal recovery is dedicated to acquiring, restoring, preserving, and conserving—in consultation with appropriate state and other resource managers—the marine and coastal environments, ecosystems and bird and wildlife habitat in the Gulf of Mexico, and bordering states harmed by the Deepwater Horizon oil spill. This portion of the criminal recovery is also to be directed to significant barrier island restoration and/or river diversion off the coast of Louisiana to further benefit and improve coastal wetlands affected by the oil spill. An additional USD 350 million will be used to fund improved oil spill prevention and response efforts in the Gulf through research, development, education, and training. See *Summary of Criminal Prosecutions*, EPA (2013), https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2468 [<https://perma.cc/VL9J-J2TS>] (archived Feb. 16, 2021).

344. U.S. Department of Justice, *Deepwater Horizon*, U.S. DEP'T JUST., <https://www.justice.gov/enrd/deepwater-horizon> [<https://perma.cc/5WGW-VNGQ>] (archived Feb. 20, 2021).

345. *Id.*

346. *Id.*

for other claims.³⁴⁷ The US Department of Justice further acknowledged that this settlement includes both the largest civil penalty ever paid by any defendant under any environmental statute, and the largest recovery of damages for injuries to natural resources.³⁴⁸

Because the injuries affected such a broad array of linked resources and ecological services over such a large area, the trustees proposed a restoration plan that uses a comprehensive and integrated ecosystem approach to appropriately address these ecosystem-level injuries. This approach is outlined in the “comprehensive restoration plan,” which will allocate funds from the BP settlement for restoration over the next fifteen years.³⁴⁹ Just to illustrate the detailed level of fact-based analysis that can be undertaken, it is relevant to appreciate that the trustees conducted a detailed assessment to determine the nature, degree, geographic extent, and duration of injuries from the *Deepwater Horizon* incident to both natural resources (such as water column organisms, bottom-dwelling organisms, nearshore ecosystems, birds, sea turtles, and marine mammals) as well as the services they provide to the public (such as recreational beach use and fishing). To quantify the injuries, the trustees compared the injured resources and services with baseline conditions—that is, the condition that would have existed if the *Deepwater Horizon* incident had not occurred. Because of the vast scale of the incident and potentially affected resources, the trustees evaluated injuries to a set of representative habitats, communities, species, and ecological processes. The trustees evaluated many endpoints, including mortality, immune system suppression, reproductive impairment, growth inhibition, behavioral impairment, developmental defects, etc.³⁵⁰ The trustees used more than just counts of animals killed by the spills, because so many of the animals killed were not visible. The trustees’ “Plan for *Deepwater Horizon* Oil Spill Natural Resource Injury Restoration” offers a detailed overview of how they assessed injury (including exposure and

347. *Id.* Other costs include claims under the False Claims Act, royalties, and reimbursement of NRD assessment costs and various other expenses due to the incident. *See id.*

348. *Id.*; *see also* NAT’L OCEANIC & ATMOSPHERIC ADMIN., GULF SPILL RESTORATION: A COMPREHENSIVE RESTORATION PLAN FOR THE GULF OF MEXICO, (Feb. 2016) <https://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan/> [https://perma.cc/V5L3-4SUP] (archived Feb. 20, 2021). Furthermore, under the economic damage settlement, BP will pay USD 4.9 billion to the Gulf States in a parallel settlement that resolves their economic damage claims arising from this incident. In other related agreements, BP will also pay up to another USD 1 billion to resolve similar claims the company faces from various local governments in the Gulf region. U.S. DEP’T OF JUST., *supra* note 344.

349. *See* U.S. Department of Justice, *supra* note 344; NAT’L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 348.

350. Trustees’ Plan, *supra* note 198, at 13.

toxicity) per natural resource and their methodology for injury quantification.³⁵¹

Additionally, from an international law perspective, it is noteworthy that the *Deepwater Horizon* incident exposed how the oil pollution conventions solely relate to oil pollution primarily involving tankers but do not cover oil pollution from *fixed platforms*, as was the case in the *Deepwater Horizon* incident.³⁵² Hence, even if the United States had been a party to the IOPC Funds regime, the relevant conventions would not have applied to the case at hand. This also exposes a legal lacuna in the IOPC Funds regime, which may need to be addressed in the future.

B. *The Erika Oil Spill Disaster—A Trigger to Strengthen the Domestic Regime*

In 1999, the *Erika* tanker (registered in Malta) broke in two off the coast of Brittany, France, spilling some 19,800 tons of heavy oil and causing damage to around 400 km of shoreline.³⁵³ By 2012, about 7,100 claims for compensation had been submitted to the IOPC Funds in respect of the incident for a total of EUR €389 million; out of which Steamship Mutual, the shipowner's insurer, paid EUR €12.8 million and the 1992 fund about EUR €117 million.³⁵⁴ Some one thousand claims totaling EUR €32 million were rejected.³⁵⁵

Criminal charges were also brought against the master of the *Erika*, the representative of the registered owner, and various other entities.³⁵⁶ What is relevant for the purpose of this Article, with its focus on civil liability, is that a number of claimants including the

351. *See id.* For instance, the trustees estimated that about 84,500 birds of at least 93 species died as a direct result of the spill, and that an additional 17,900 chicks died before they could fledge because their parents perished and did not return to nest. They further quantified that between 4,900 and 7,600 large adult sea turtles and between 56,000 and 166,000 small juvenile sea turtles, were killed by the oil spill. They further estimated that the spill caused a 35% increase in death of the bottlenose dolphins and a 46% increase in failed reproduction. These injuries are estimated to result in up to a 51% decrease in the dolphin population, which will require approximately 39 years to recover. *See id.*

352. For further analysis, see Marissa Smith, *The Deepwater Horizon Disaster: An Examination of the Spill's Impact on the Gap in International Regulation of Oil Pollution from Fixed Platforms*, 25 EMORY INT'L L. REV. 1477, 1477–81 (2011).

353. *See Incidents Involving the IOPC Funds*, INT'L OIL POLLUTION COMP. FUNDS, 6–11 (2012), https://www.iopcfunds.org/uploads/tx_iopecpublications/incidents2012_e.pdf [<https://perma.cc/2ZUL-5JXP>] (archived Feb. 20, 2021); *see also* SANDS & PEEL, *supra* note 12, at 754–55.

354. *See* INT'L OIL POLLUTION COMP. FUNDS, *supra* note 353 at 6–11; *see also* SANDS & PEEL, *supra* note 12, at 754–55.

355. *See* INT'L OIL POLLUTION COMP. FUNDS, *supra* note 353 at 6–11; *see also* SANDS & PEEL, *supra* note 12, at 754–55.

356. *See* INT'L OIL POLLUTION COMP. FUNDS, *supra* note 353 at 7; *see also* SANDS & PEEL, *supra* note 12, at 754–55.

French government, local authorities, and environmental associations joined the criminal proceedings as civil parties, claiming compensation totaling EUR €400 million.³⁵⁷ In 2008, the French court held four parties criminally liable for the offence of causing pollution and also jointly and severally liable in civil law for the damage caused by the incident.³⁵⁸ The court held that the 1992 conventions did not deprive the civil parties of their right to obtain compensation for their damage in the criminal courts.³⁵⁹ Claimants in the proceedings were awarded compensation based on national law for economic losses, damage to the image of several regions and municipalities, moral damages, and damages to the environment. The *Tribunal de Grande Instance de Paris* assessed the total damages to be about EUR €204 million, including EUR €154 million for the French state.³⁶⁰ The court recognized the right to compensation for damage to the environment for a local authority with special powers for the protection, management, and conservation of a territory. Importantly, the court also recognized the right of an environmental protection association to claim compensation, not only for the moral damage caused the collective interests, which it seeks to defend, but also for the damage to the environment which affected the collective interests that it had a statutory mission to safeguard.³⁶¹ These were all interesting and new developments in the French legal landscape pertaining to compensation for damages to the environment *per se*.

In 2010, the *Cour d'Appel de Paris* confirmed the judgment of the *Tribunal de Grande Instance de Paris*.³⁶² In this landmark judgment, the court of appeals accepted not only material damages (clean-up, restoration measures, and property damage) and economic losses, but also accepted moral damage resulting from the pollution, including loss of enjoyment, damage to reputation and brand image, and damage to the natural heritage. It also held that it was sufficient that the pollution touched the territory of a local authority for these authorities to be able to claim for the direct or indirect damage caused to them by the pollution and accepted claims for moral damage from other civil parties.³⁶³ The court of appeals accepted the right to compensation for

357. INT'L OIL POLLUTION COMP. FUNDS, *supra* note 353, at 7.

358. Tribunal de grande instance [TGI] [ordinary court of original jurisdiction] Paris, Jan. 16, 2008, No. 9934895010 (Fr.) https://coordination-maree-noire.eu/IMG/pdf_jugement_erika_16_janvier_2008.pdf [<https://perma.cc/8VQY-3BEY>] (archived Feb. 20, 2021).

359. INT'L OIL POLLUTION COMP. FUNDS, *supra* note 353, at 8.

360. *Id.* at 9.

361. See SANDS & PEEL, *supra* note 12, at 754; D. Papadopoulou, *The Role of French Environmental Associations in Civil Liability for Environmental Harm: Courtesy of Erika*, 21 J. ENV'T L. 87 (2008).

362. Cour d'appel [CA] [regional court of appeal] Paris, civ., Mar. 30, 2010, 08/02278 (Fr.), https://actu.dalloz-etudiant.fr/fileadmin/actualites/pdfs/MARS_2014/Erika_CA_Paris_30_mars_2010.pdf.

363. *Id.*

“pure” environmental damage (i.e., damage to non-marketable environmental resources but that constitute a legitimate collective interest) and assessed the civil damages as follows: (1) material damages—EUR €165.4 million; (2) moral damages (loss of enjoyment, damage to reputation and brand image, moral damage arising from damage to the natural heritage)—EUR €34.1 million; and (3) pure environmental damage (damage to non-marketable environmental resources)—EUR €4.3 million; with a combined total civil damages amount of EUR €203.8 million.³⁶⁴

In final instance, the French Court of Cassation confirmed the judgement of the Paris Court of Appeals in its decision rendered on September 25, 2012.³⁶⁵ It confirmed the notion of pure ecological damage as interpreted by the lower courts, as an objective, autonomous injury, which means any significant interference with the natural environment, including, but not limited to, air, atmosphere, water, soils, land, landscapes, natural sites, biodiversity, and the interaction between these elements, which has no repercussions on a particular human interest but affects a legitimate collective interest.³⁶⁶

Importantly, the decision of the Court of Cassation formed the only basis for the compensation of pure environmental damage in France until it was included in the Civil Code by the law of August 8, 2016.³⁶⁷ The new law, known as “Chapter III of the French Civil Code concerning compensation for environmental damage,” inserted a new Article 1246 of the Civil Code which essentially states that any person who causes environmental damage will be held liable.³⁶⁸

364. See INT’L OIL POLLUTION COMP. FUNDS, *supra* note 353, at 9.

365. Cour de cassation [Cass.] [supreme court for judicial matters] crim., Sept. 25, 2012, Bull. crim., No. 10-82.938 (Fr.), <https://www.legifrance.gouv.fr/affichJuriJudi.do?oldAction=rechJuriJudi&idTexte=JURITEXT000026430035&fastPos=1> [<https://perma.cc/XV5L-UNDV>] (archived Feb. 20, 2021).

366. *Id.*

367. See Code Civil [C. civ.] [Civil Code] art. 1246 (Fr.), <https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000033019109&cidTexte=LEGITEXT000006070721&dateTexte=20161001> [<https://perma.cc/CG2V-QDQ9>] (archived Feb. 20, 2021) (states that anyone responsible for ecological damage is required to repair it); Loi 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages [Law 2016-1087 of August 8, 2016 for the reconquest of biodiversity, nature and landscapes], <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000033016237/> (last visited Feb. 20, 2021) [<https://perma.cc/3UEP-PWY9>] (archived Feb. 20, 2021) (modifies the compensation for ecological damage from article 1246); see also Latham Watkins, *The Notion of ‘Ecological Prejudice’ Now in the French Civil Code*, LATHAM & WATKINS (Jan. 17, 2017) <https://www.latham.london/2017/01/the-notion-of-ecological-prejudice-now-in-the-french-civil-code/> [<https://perma.cc/RB8X-7Y7D>] (archived Feb. 20, 2021).

368. For a succinct English summary of the new French Civil Code provisions, see Ioana Gonciari, *Legal Update – New developments in French Environmental Law*, UKP&I NEWS, (Jan. 20, 2017),

Environmental damage is described in a very wide sense. It may arise from a non-negligible damage to the elements or functions of ecosystems or to the collective benefits drawn by human beings from the environment (Art. 1247).³⁶⁹ Here, just like many other domestic laws and multilateral environmental agreements, as well as the case law of the ICJ, a *de minimis* threshold is introduced before the harm to the environment can give rise to a claim for compensation.³⁷⁰ Although many lawyers do seem to be frustrated at this inherent vagueness of such *de minimis* terms which refer to either “significant” or “not insignificant” damage (or similar variations),³⁷¹ the fact is that it does offer the necessary flexibility to judges to assess the damage based on the facts of each case and the evolution of science in that point in time. Thus, it also implicitly encourages judges to rely on sectoral experts to guide them in their assessment. Certainly, regulatory permits issued to companies tend to be more specific in terms of the absolute pollution thresholds with which it has to comply. Alternatively, specific scientific thresholds can more readily be inserted in sectoral legislation (for instance when regulating hazardous wastes), but this hardly seems feasible when drafting a general civil liability clause, applicable to all types of environmental damage. By way of broader background, note that France had amended its constitution in 2005 to insert a “Charter for the Environment.” In doing so, it elevated the “right to live in a balanced environment which shows due respect for health” (Article 1) to a fundamental right.³⁷² It also cemented the precautionary principle in the French Constitution as a principle which public authorities must incorporate in their

<https://www.ukpandi.com/knowledge-publications/article/legal-update-new-developments-in-french-environmental-law-136823/> [https://perma.cc/2BA8-S3ML] (archived Feb. 20, 2021).

369. *Id.* Moreover, Article 1248 of the French Civil Code further specifies who will have standing in such cases, which includes: the State, the French Agency for Biodiversity, territorial collectives, as well as public establishments and approved associations which have as their aim to protect the environment, and have been in existence for at least five years. *See id.*

370. For a more extensively on the analysis of *de minimis* thresholds in various civil liability regimes for environmental damage, see SANDS & PEEL, *supra* note 12, at 708-11; OECD Working Group Report, *supra* note 126.

371. *See, e.g.*, SANDS & PEEL, *supra* note 12, at 708-11; Hélène Leleu, *Action en Justice Contre Les Pollueurs: où en est la réparation du préjudice écologique ?*, VILLAGE DE LA JUSTICE (Aug. 16, 2018) (Fr.), <https://www.village-justice.com/articles/action-justice-contre-les-pollueurs-est-reparation-prejudice-ecologique,29212.html> [https://perma.cc/8JTM-PNYN] (archived Feb. 20, 2021).

372. From a comparative perspective, we may add here that the Supreme Court of India in 1991 held that the “[r]ight to life is a fundamental right under Art. 21 of the Constitution and it includes the right of enjoyment of pollution free water and air for full enjoyment of life,” which is now a well-established principle in Indian jurisprudence. *See Subhash Kumar v. State of Bihar and Ors.*, 1991 AIR 420, 1 SCC 598 (Jan. 9, 1991) (India), <https://indiankanoon.org/doc/1646284/>.

decisions,³⁷³ and which has been applied since then by the French *Conseil d'Etat* (“French Administrative Supreme Court”) as well.³⁷⁴

C. Accidents as Pivotal Moments to “Upgrade” Domestic and International Environmental Law

The above discussion regarding the recent amendment of the Civil Code in France, reminds us that unusually dramatic accidents often serve as pivotal moments in history to review and take stock of the legal loopholes and lacunae, be it domestically or internationally amongst the parties to a treaty. Suffice to think of the adoption of the original 1969 Convention on Civil Liability for Oil Pollution Damage in response to the Torrey Canyon accident in 1967; the adoption in India in 1986 of its first comprehensive Environment Protection Act after the 1984 Bhopal Gas disaster; the 1990 Oil Pollution Act in the United States adopted following the Exxon *Valdez* spill in 1989; or even the thorough review of Vienna and Paris regimes pertaining to civil liability for nuclear damage after the 1986 Chernobyl accident. In the same vein, the *Erika* accident exposed a public frustration in France with the limitation of the channeling of the liability under the IOPC Funds regime exclusively to the ship owner and his insurer³⁷⁵ and the exclusion of compensation for damage to the non-marketable components of the environment, or the environment *per se*.³⁷⁶ Conversely, it also triggered discussions within the IOPC Funds regime on whether their goal of ensuring uniformity in the field of civil

373. See 2005 CONST., Charter for the Environment (Fr.), https://www.conseil-constitutionnel.fr/sites/default/files/as/root/bank_mm/anglais/charter_environment.pdf [https://perma.cc/7NC7-K9UJ] (archived Feb. 20, 2021) (English), http://www.drie.ile-de-france.developpement-durable.gouv.fr/IMG/pdf/charte_environment_cle74252c-2.pdf [https://perma.cc/9WD7-YGXR] (archived Feb. 20, 2021) (French).

374. For a further analysis, see David Marrani, *Human Rights and Environmental Protection: The Pressure of the Charter for the Environment on the French Administrative Courts*, 10 SUSTAINABLE DEV. L. & POL'Y 52 (2009).

375. The 1992 CLC prohibits claims against the servants or agents of the shipowner, the members of the crew, the pilot, the charterer (including a bareboat charterer), manager or operator of the ship, or any person carrying out salvage operations or taking preventive measures, unless the pollution damage resulted from the personal act or omission of the person concerned, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result. See *The 1992 Civil Liability Convention*, IOPC FUNDS, <https://iopcfunds.org/about-us/legal-framework/1992-civil-liability-convention/> [https://perma.cc/46QK-7L6W] (archived Feb. 20, 2021).

376. See Laurent Neyret, *L'affaire Erika, moteur d'évolution des responsabilités civile et pénale*, RECEUIL DALLOZ, 2238 (2010), https://actu.dalloz-etudiant.fr/fileadmin/actualites/pdfs/SEPTEMBRE_2012/D2010-2238.pdf; Doublevrai Desfontaines, *Commentaire de l'Article 1246 du Code Civil*, https://www.academia.edu/41351850/COMMENTAIRE_DE_LARTICLE_1246_DU_CODE_CIVIL (last visited Feb. 20, 2021) [https://perma.cc/EN8Z-VRXY] (archived Feb. 20, 2021).

liability for oil pollution is attainable, in light of domestic developments such as in France after the *Erika* disaster and the expansion of types of damage compensable in cases of tanker oil spills, which in some way led to the creation of “parallel systems of compensation for such oil spills.”³⁷⁷ Equally interesting is the fact that these domestic developments do not go unnoticed by international regimes. As observed by Måns Jacobsson, the former CEO of the IOPC Funds, given that law, including international law, cannot be static, the next revision of the 1992 Civil Liability and Fund Conventions will need to address whether or not to amend the definition of “pollution damage” in such a manner as to encompass “non-economic damage resulting from oil pollution of the environment, for instance in the form of violation of collective interests.”³⁷⁸ This is indicative of the fact that domestic legal developments and international law cannot artificially operate in isolation from each other, and it serves international regimes and international adjudicating bodies well to develop a more symbiotic relationship with these domestic developments. This will ensure that international regimes will not be outpaced by and lose their relevance compared to domestic regimes when addressing compensation claims for environmental damage.

V. STATE OF AFFAIRS AND CONCLUSION

In the 2018 *Costa Rica* case the ICJ for the first time in its history had to adjudicate a claim for compensation for environmental damage. It very much is a landmark judgment because the ICJ explicitly held that it is consistent with the principles of international law governing consequences of internationally wrongful acts that “compensation is due for damage caused to the environment, in and of itself.” In acknowledging that a state is entitled to seek compensation for “pure” environmental damage or the environment *per se*, that is even for non-marketable components of the environment, such as damage to a wetland, damage to an ecosystem or even the beauty of a natural landscape, the ICJ strikes a progressive note.

The ICJ judgment disappointed by failing to shed clarity on the valuation method it ultimately relied upon to calculate the final compensation amount for environmental damage owed by Nicaragua to Costa Rica. Its opaque final calculation, whereby it granted a meagre amount by way of compensation for the damage to a Ramsar wetland site, stands in sharp contrast to its bolder, theoretical acceptance of

377. Måns Jacobsson, *Five Speeches on Civil Liability for Marine Pollution (2013-2017)*, STUDIO LEGALE LAURO 1, 30 (2017), <http://www.shippingandthelaw.org/wp-content/uploads/2018/01/MJ-Five-speeches.pdf> [https://perma.cc/7TV9-HPTG] (archived Feb. 20, 2021).

378. *Id.* at 31. Måns Jacobsson was from 1985 to 2006 Director and Chief Executive Officer of the International Oil Pollution Compensation Funds (IOPC Funds). *See id.*

compensation for environmental damage *per se*. Not only did the ICJ not elucidate on which valuation methods for the calculation of natural resource damage it relied upon or devised, it also missed the opportunity to appoint independent experts which would have undoubtedly been able to offer more insightful guidance, despite the acceptance by many ICJ judges that such court-appointed experts would be good practice when faced with complex environmental matters. This is where the question posed in the title of this Article is relevant. Certainly, it is a significant development that the ICJ addressed a case of compensation for environmental harm and explicitly acknowledged that compensation would be due for damage to the environment *per se*, which clarifies and enriches this aspect of state responsibility, but if ultimately a rather nominal amount is allocated to compensate the harm to a Ramsar-protected wetland and the overall compensation amount for all other environmental components is surprisingly low, then one must conclude that the ICJ hasn't fully lived up to its expectations.

As some judges pointed out, in the absence of a clear methodology, the ICJ should have at least more boldly relied on equitable considerations and awarded a significant lump-sum amount to acknowledge the graveness of the environmental damage and signal to the global community that the ICJ will not take such transboundary infringements lightly. Moreover, the ICJ entirely side-stepped the quantification of the harm by felling of trees and lost carbon sequestration against the larger context of climate change concerns and current awareness about these complex but important interlinkages and whether a single state will ever be able to claim compensation based on the impairment of carbon sequestration consequent to the damage caused by another state to its natural resources. As Judge Dugard underlined, in failing to do so, the ICJ "missed an opportunity to contribute to the progressive development of customary international law on the mitigation of climate change."³⁷⁹

However, as former ICJ Judge Kooijmans observed, the ICJ is a collegial body which has to find a fine balance between judicial activism and judicial restraint, but with the room to follow a middle path where the ICJ adopts "proactive judicial policy" as long as it rests on a solid legal basis.³⁸⁰ In this case, the ICJ found itself more on the restraint side of the spectrum by limiting itself too narrowly to the specifics of the case and restricting itself to some of the ill-formulated claims and the poor evidence adduced by the parties. Whereas all eyes were on the ICJ with the expectation that it would delve into international environmental law aspects with more rigor, particularly in a legal field such as the compensation for environmental damage that has grown

379. *Costa Rica case*, (Dugard, J., dissenting), *supra* note 11, ¶¶ 36, 39.

380. See Kooijmans, *supra* note 219.

exponentially over the last forty years, be it through the adoption of soft law principles, international environmental agreements, or far-reaching domestic judicial pronouncements and legislative responses.

The *Costa Rica* case provides the perfect opportunity to take stock more broadly of where public international law stands in terms of state responsibility for internationally wrongful acts, state liability for harmful consequences of lawful activities, and sectoral, treaty-based civil liability regimes where liability is often channeled to operators of hazardous activities but where states do have a residual liability in case such operators cannot be identified or are unable to pay the compensation amounts. In sum, there has been some, but not that much progress in this area. The ILC did finalize its Draft Principles on Responsibility of States for Internationally Wrongful Acts in 2001, but it ultimately never culminated in a binding treaty. The ICJ and scholars do rely on the ILC's comprehensive analysis and suggestions, but as predicted by several authors, including Jutta Brunnée,³⁸¹ Gehring, and Jachtenfuchs,³⁸² states have historically been reluctant to accept international treaties locking in their general intergovernmental liability and are unlikely to overcome this fundamental reluctance in the context of international liability for transboundary environmental damage. Hence, the aspirational Principle 22 of the Stockholm Declaration made almost fifty years ago, wherein states were called upon to cooperate to further develop international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction, has not yet culminated into a binding treaty on state liability for environmental damage.³⁸³ As pointed out by Boyle, to that extent "the general availability of civil law remedies for transboundary damage cannot be assumed."³⁸⁴

Similarly, the ILC's 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities and the 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities have not been codified in a treaty. Perhaps unsurprisingly, the 2006 Draft Principles turn their attention more towards ensuring there is a robust domestic civil liability regime in place, rather than "developing an overarching concept of liability,"³⁸⁵ by requiring that each state take all necessary

381. See Brunnée, *supra* note 128.

382. See Thomas Gehring & Markus Jachtenfuchs, *Liability for Transboundary Environmental Damage Towards a General Liability Regime?*, 4 EUR. J. INT'L L. 92 (1993).

383. See Orlando, *supra* note 81, at 20.

384. See Boyle, *supra* note 66, at 4.

385. Jutta Brunnée, *Of Sense and Sensibility: Reflections on International Liability Regimes as Tools for Environmental Protection*, 53 INT'L & COMPAR. L. Q. 351, 355-56 (2004).

measures to ensure that prompt and adequate compensation is available for victims of transboundary damage caused by hazardous activities located within its territory and by further suggesting that specific global, regional, or bilateral agreements in respect of particular hazardous activities be adopted. This is, certainly, an observable trend whereby international environmental agreements do try to incorporate civil liability clauses either in the original treaty or by way of subsequent protocols. Here too, a stocktaking indicates that only limited progress has been made over the last decades and very few such international environmental treaties have entered into force. One exception to this trend is the 2010 Nagoya-Kuala Lumpur Supplementary Protocol, which entered into force in 2018 and, in part, can be explained by the flexibility given to the parties to implement the protocol's obligations.³⁸⁶ However, what remains missing in the international environmental landscape is a cross-sectoral, international agreement addressing civil liability for environmental damage.

UNEP has also called for states to at least accept residual liability in international civil liability regimes, either as an alternative or by way of an additional tier of compensation beyond that of the private industry.³⁸⁷ As discussed in this Article, this is a structure adopted under both the Vienna and Paris regimes addressing civil liability for nuclear damage, as well as oil pollution conventions governed by the IOPC Funds. Whereas the international nuclear liability regimes haven't been applied in any actual compensation case so far, the IOPC Funds have been involved in more than 150 incidents of varying sizes all over the world and have paid about USD \$914 million in compensation.³⁸⁸ As efficient and laudable as the IOPC Funds have been, this Article also highlighted some of its weaknesses. The United States decided ultimately not to join the IOPC Funds' regime as it deemed the compensation amounts too low. This Article further analyzed how the *Erika* oil pollution disaster in 1999 triggered a domestic debate in France on the desirability of the channeling of the liability to the shipowner and his insurer as well criticism for excluding compensation for damage to the environment *per se*. The domestic judiciary in France, up to the highest Court of Cassation, explicitly confirmed the notion of pure ecological damage as an objective and autonomous injury in 2012. These judicial developments in turn led to the insertion of a new Article 1246 in the French Civil Code concerning

386. See Orlando, *supra* note 81, at 16.

387. UNEP, *supra* note 84, at 56.

388. See IOPC FUNDS, *supra* note 104, at 6. Since their establishment, the 1992 Fund and the preceding 1971 Fund have been involved in more than 150 incidents of varying sizes all over the world and have paid some £741 million in compensation. No incidents have occurred so far which have involved or are likely to involve the Supplementary Fund. See *id.*

compensation for environmental damage in 2016. The analysis of the *Deepwater Horizon* and *Erika* oil spill disasters as handled in their respective domestic regimes also allowed to appreciate which valuation methods to calculate damage to natural resources are currently being used in different jurisdictions. The ICJ's reluctance to rely on punitive damages triggered interesting questions relating to the different approaches adopted vis-à-vis exemplary damages in environmental compensation cases in common-law countries, such as the United States and India, which more readily impose punitive damages, and contrast it with the limited use and apprehension with which civil-law countries view punitive damages. The absence of uniformity with regard to punitive damages in tort law across common-law and civil-law jurisdictions does explain why the ICJ would not in the foreseeable future be able to readily impose punitive damages in transboundary environmental damage cases.

These domestic developments are relevant too as they shape the legal mindset of lawyers who at some point in their career may either move to the ICJ, or be part of international arbitration panels, or even international negotiations of multilateral environmental agreements. The advantage of having these country-specific insights and progressive developments with regard to environmental law was readily visible in the dissenting opinion of Judge Bhandari in the *Costa Rica* case who abundantly referred to Indian case law. To this extent, international and domestic environmental law operate as informal communicating vessels, where incremental developments in one regime tend to influence the other. This is why a more forthcoming "proactive judicial policy" by the ICJ in the *Costa Rica* case would have been welcome and would have had significant ripple effects well beyond the narrow limits of the dispute between the parties as it would have signaled that the ICJ is in tune with contemporary environmental law developments and is willing to constructively contribute to the further progressive development of international environmental and climate change law.