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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

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* ('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. 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 paper seeks to focus on the core elements 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? Which methodology does one apply to calculate environmental harm? Despite some of the progress made with regard to the theoretical aspects of environmental damage, this paper will also review how courts fill in the contours when assessing environmental damages, including their reliance on equity as well as punitive damages when deciding cases, and assess whether international and domestic courts sufficiently rely on independent experts and valuation methods to calculate natural resource damages. In Part IV we will more closely analyze 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 United States and the *Erika* oil spill disaster in France. The red thread running through this paper 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. We will be reviewing 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 international adjudicating bodies. In doing so, we will be able to better place the *Costa Rica* case in the context of contemporary environmental law developments and identify areas where the ICJ could have walked a more proactive judicial policy path (Part V).

Keywords: Environmental damage; ICJ Costa Rica case; punitive damages; exemplary damages

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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 ('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 in 1972 during the UN Conference of the Human Environment, 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 (Principle 22 of the Stockholm Declaration).² A call for action which 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" (Principle 13 of the Rio Declaration).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 paper seeks to focus on the core elements 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

¹ ICJ, Judgment of 2 February 2018, *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*, available at: <https://www.icj-cij.org/files/case-related/150/150-20180202-JUD-01-00-EN.pdf>

² See: United Nations Conference on the Human Environment in Stockholm (Stockholm Declaration), June 1972, Principle 22, available at: <https://legal.un.org/avl/ha/dunche/dunche.html>
https://www.ipcc.ch/apps/nj-lite/srex/nj-lite_download.php?id=6471

³ See: Rio Declaration on Environment and Development, The United Nations Conference on Environment and Development, June 1992, Principle 13, available at: <https://www.cbd.int/doc/ref/rio-declaration.shtml>

calculate environmental harm? One will notice that judges and legislators at 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 environmental damage, this paper will also review how courts fill in the contours when assessing environmental damages, including their reliance on equity as well as punitive damages when deciding cases, and assess whether international and domestic courts sufficiently rely on independent experts and valuation methods to calculate natural resource damages. In Part IV we will more closely analyze 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 United States and the *Erika* oil spill disaster in France. The persistent weakness of international environmental agreements addressing civil liability is simply that many haven't entered into force. Other international civil liability regimes which include the costs reinstatement measures of the impaired environment as one of their heads of damages, such as in the case of oil pollution or nuclear damage, raise questions on whether their financial capacities are relevant enough in the event of large-scale accidents compared to domestic regimes. The red thread running through this paper 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. We will be reviewing 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 international adjudicating bodies. In doing so, we will be able to better place the *Costa Rica case* in the context of contemporary environmental law developments and identify areas where the ICJ could have walked a more proactive judicial policy path (Part V).

II. ICJ's jurisdiction, State Responsibility, international liability of the State and civil liability

A. ICJ's jurisdiction

In terms of the ICJ's jurisdictions and the sources it will rely upon in its Judgments, it is worth recalling that as per the Statute of the ICJ,⁴ only States may be parties in cases before the Court. 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 parties to the Statute may also declare that they

⁴ Statute of the International Court of Justice (Statute, ICJ), available at: <https://www.icj-cij.org/en/statute>

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

B. State Responsibility – for wrongful acts

Before we delve 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 to 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

⁵ *Ibidem*, Article 36, Statute, ICJ.

⁶ *Ibidem*, Article 38, Statute, ICJ.

⁷ *Ibidem*.

⁸ International Law Commission (ILC), *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, A/56/10, Report of the International Law Commission on the work of its fifty-third session, (23 April -1 June and 2 July - 10 August 2001), Official Records of the General Assembly, Fifty-sixth session, Supplement No.10, available at: https://www.un.org/ga/search/view_doc.asp?symbol=A/56/10%28SUPP%29 and version with commentaries, available at: https://legal.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf See more at: <https://legal.un.org/ilc/reports/2001/>

⁹ See: General Assembly of the United Nations, Sixth Committee (Legal), 71st Session, 2016:

https://www.un.org/en/ga/sixth/71/resp_of_states.shtml

¹⁰ For instance, in the *Srebrenica* case (2007), available at: <https://www.icj-cij.org/files/case-related/91/091-20070226-JUD-01-00-EN.pdf>. See more: Rafael Nieto-Navia, *State Responsibility in Respect of International Wrongful Acts of Third Persons: the Theory of Control*, available at: <http://www.corteidh.or.cr/tablas/r32504.pdf> Reference to earlier versions of the ILC Draft Articles on Responsibility of States for Internationally Wrongful Acts were made in the *Gabčíkovo-Nagyamaros Project* case (Hungary/Slovakia) by the ICJ (Judgment 25 September, 1997), available at: <https://www.icj-cij.org/en/case/92>

¹¹ See, for instance, *Costa Rica* case, *supra* note 1, at para. 151; see also: *Costa Rica* case, Separate Opinion of Judge Bhandari, at para. 3, available at: <https://www.icj-cij.org/files/case-related/150/150-20180202-JUD-01-03-EN.pdf>; and *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, at para. 41, available at: <https://www.icj-cij.org/files/case-related/150/150-20180202-JUD-01-06-EN.pdf>

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, imposed by customary international law or the general principles of international law. 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 of other States or areas beyond a State’s national jurisdiction.¹³ 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”,¹⁴ as well as UN General Assembly Resolutions laying down the basic rules governing the international responsibility of States with regard to the environment,¹⁵ but also the UN Convention on the Law of the Sea (UNCLOS)¹⁶ and multilateral environmental agreements, such as the 1992 Convention on Biological Diversity (CBD).¹⁷ 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.¹⁸ In the context of transboundary environmental damage, reference must be made to the often-quoted 1941 *Trail Smelter* arbitration case,¹⁹ where a bilateral Tribunal was set up to resolve the transboundary air pollution dispute, in which the US 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

¹² See for a more detailed analysis: Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law*, third edition, Cambridge University Press, 2012, pp. 926, at pp. 702-706.

¹³ *Ibidem*, at pp. 705, pp. 195-6 and pp. 199-200, with reference, *inter alia*, to the ICJ’s 1996 *Advisory Opinion on The Legality of the Threat or Use of Nuclear Weapons*, available at: <https://www.icj-cij.org/files/case-related/95/095-19960708-ADV-01-00-EN.pdf> (see para. 29 at pp. 241-242).

¹⁴ Principle 21, Stockholm Declaration, *supra* note 2.

¹⁵ See: Philippe Sands and Jacqueline Peel, *supra* note 12, at p. 198; and UN General Assembly Resolution 2996 (15 December, 1972) available at: [https://undocs.org/en/A/RES/2996\(XXVII\)](https://undocs.org/en/A/RES/2996(XXVII))

¹⁶ See Article 193 of the UN Convention on the Law of the Sea, available at: https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

¹⁷ Article 3 of the Convention on Biological Diversity, available here: <https://www.cbd.int/doc/legal/cbd-en.pdf>

¹⁸ Philippe Sands and Jacqueline Peel, *supra* note 12, at p. 197. Article 74 of the UN Charter can be viewed here: <https://www.un.org/en/sections/un-charter/chapter-xi/index.html>

¹⁹ *Trail Smelter Arbitration (United States vs. Canada)*, Tribunal set up by the International Joint Commission, Reports of International Arbitral Awards, 16 April 1938 and 11 March, 1941, Volume III, pp. 1905-1982, available at: <https://www.un.org/en/sections/un-charter/chapter-xi/index.html>

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’.”²⁰ 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. A trend which is confirmed up to today, with the exception of a few treaties where States do accept secondary residual liability if an operator is unable to pay the full liability amount, and which will be further discussed below.²¹ As poignantly observed by Dr. Rao, in the *Trail Smelter* case, Canada did accept responsibility for the wrongful emissions of gasses by a private smelter company.²² This must be seen as an exception, and a voluntary act on the part of Canada, and as such certainly not indicative of general State practice with regard to international liability of States, particularly in the absence of a treaty in this regard.²³ 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.²⁴

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,²⁵ which includes the obligation of a responsible State to cease the internationally wrongful act and to offer guarantees of non-repetition.²⁶ 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.²⁷ 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 that “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

²⁰ *Ibidem*, at p. 1965.

²¹ See discussion below, Part II – D.

²² Dr. P. S. Rao, United Nations, Audiovisual Library of International Law, *International Liability for Transboundary Harm Arising from Hazardous Activities: Principles on Allocation of Loss*, available at: https://legal.un.org/avl/ls/Rao_EL_video_2.html

²³ *Ibidem*.

²⁴ See for a detailed discussion: Francisco Orrego Vicuna, *Responsibility and Liability for Environmental Damage under International Law: Issues and Trends*, 10 *Geo. Int'l Env'tl. L. Rev.* 279 (1998), at pp. 283-284, available at: <https://heinonline.org/HOL/LandingPage?handle=hein.journals/gintenlr10&div=21&id=&page=>

²⁵ Article 28, ILC, 2001 Draft Principles on State Responsibility, *supra* note 8.

²⁶ *Ibidem*, Article 30.

²⁷ *Ibidem*, Article 31.

necessity for this to be stated in the convention itself.”²⁸ The ILC Draft Principles enumerate and define the forms of reparation, which includes restitution,²⁹ compensation³⁰ and satisfaction,³¹ either singly or in combination.³² A State responsible for an internationally wrongful act is under an obligation to make restitution, that is, to re-establish the situation which existed before the wrongful act was committed, provided that restitution: (a) is not materially impossible; (b) does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation. Quite often in cases where damage has been caused to the environment, restitution whereby the environment is re-established to the situation 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.³³ Article 36(2) of the 2001 Draft Principles complement this requirement by stating that the “compensation shall cover any financially assessable damage including loss of profits insofar as it is established”. As we will discuss in further detail below,³⁴ assessing the precise environmental damage is not always straightforward, and domestic and international courts rely on different methodologies for their calculations; or simply end up reverting to equity to settle the dispute.³⁵ 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”.³⁶

C. International liability of a State – in the absence of wrongfulness – doctrinal developments
- subsidiary State liability more readily accepted

Based on the discussions the ILC undertook on State responsibility, it 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

²⁸ Permanent Court of International Justice, *The Case Concerning the Factory of Chorzów*, Series A, 1927, available at: https://www.icj-cij.org/files/permanent-court-of-international-justice/serie_A/A_09/28_Usine_de_Chorzow_Compence_Arret.pdf

²⁹ Article 35, ILC, 2001 Draft Principles on State Responsibility, supra note 8.

³⁰ *Ibidem*, Article 36.

³¹ *Ibidem*, Article 37.

³² *Ibidem*, Article 34.

³³ *Ibidem*, Article 36.

³⁴ See discussion below, Part III – E.

³⁵ See discussion below, Part IV.

³⁶ Article 37, ILC, 2001 Draft Principles on State Responsibility, supra note 8. As applied by the ICJ, for instance, in the *Application of the Genocide Convention*, ICJ Reports 2007, pp. 165-166, paras. 462-33, available at: <https://www.icj-cij.org/en/case/91/judgments> See also: Separate Opinion of Judge Cañado Trindade, *Costa Rica* case, (in which he argues on the importance of satisfaction as a means of reparation), available at: <https://www.icj-cij.org/files/case-related/150/150-20180202-JUD-01-01-EN.pdf>

itself not prohibited by international law.³⁷ 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 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. The privately owned Consolidated Mining and Smelting Company based in Trail (for which the Canadian Government voluntarily took responsibility) did in itself not 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.³⁸ 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*³⁹ and the *Corfu Channel* case,⁴⁰ where 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.⁴¹ 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 Activities,⁴² and the 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities⁴³ - neither which have been adopted in the form of a

³⁷ See for an excellent analysis: Sompong Sucharitkul, *State Responsibility and International Liability Under International Law*, 18 Loyola of Los Angeles Int'l. & Comp. L.J. 821 (1996), available at:

<https://digitalcommons.law.ggu.edu/cgi/viewcontent.cgi?article=1225&context=pubs>

³⁸ See: Dr. P. S. Rao, supra note 22.

³⁹ *Lake Lanoux Arbitration* (France v. Spain) (1957), Arbitral Tribunal, available at :

<https://www.informea.org/sites/default/files/court-decisions/COU-143747E.pdf>

⁴⁰ ICJ, *Corfu Channel* case (*United Kingdom v. Albania*); *Assessment of Compensation*, 15 December 1949, available at: <https://www.icj-cij.org/en/case/1/judgments>

⁴¹ See: Sompong Sucharitkul, supra note 37.

⁴² International Law Commission, 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, available at: https://legal.un.org/ilc/texts/instruments/english/commentaries/9_7_2001.pdf

⁴³ International Law Commission, *Analytical Guide to the Work of the International Law Commission*: <https://legal.un.org/ilc/guide/9.shtml>; and *Report of the International Law Commission, International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law*, 58th session (1 May – 9 June and 3 July – 11 August, 2006), General Assembly, Official Records, 61st session, Supplement No. 10, (A/61/10), available at: https://legal.un.org/ilc/documentation/english/reports/a_61_10.pdf; and *Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities – with commentaries* (A/61/10), available at: https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf

treaty as on date, but to which States appearing before the ICJ do readily refer, prompting Judges to take the ILC Draft Articles and Principles into account.⁴⁴

At the core of the 2001 Draft Articles on Prevention is the obligation that a State shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.⁴⁵ 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)⁴⁶ as a well as a more prescriptive version of Principle 21 of the Stockholm Declaration.⁴⁷ 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);⁴⁸ and with the further obligation that a State of shall provide the State likely to be affected with timely notification of the risk and shall transmit to it all relevant (technical) information.⁴⁹ Interestingly, the ICJ at a broad 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”.⁵⁰ In the *Pulp Mills* case the ICJ reiterated, by reference to the *Corfu Channel* case,⁵¹ 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’”.⁵² 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 are under its jurisdiction, causing significant damage to the environment of another State”, which was further acknowledged in the 2015 *Costa Rica v. Nicaragua* case.⁵³

⁴⁴ See, for instance: ICJ, *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, (*Pulp Mills* case) Judgment of 20 April, 2010, available at: <https://www.icj-cij.org/files/case-related/135/135-20100420-JUD-01-00-EN.pdf>

⁴⁵ Article 3, ILC, 2001 Draft Articles on Prevention, supra note 42.

⁴⁶ 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.

⁴⁷ ILC, Article 3 (and related commentaries) 2001 Draft Articles on Prevention, supra note 42.

⁴⁸ ILC, Article 7, 2001 Draft Articles on Prevention, supra note 42.

⁴⁹ ILC, Article 8, 2001 Draft Articles on Prevention, supra note 42.

⁵⁰ ICJ, *Pulp Mills* case, supra note 44; and for a detailed analysis: 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*, *European Journal of Risk Regulation*, Vol. 1, No. 3 (2010), pp. 317-324, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1689928

⁵¹ See: *Corfu Channel* case, supra note 40.

⁵² ICJ, *Pulp Mills* case, supra note 44, at pp. 55-56, para. 101.

⁵³ ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua) and Construction of a Road in Costa Rica Along the San Juan River (Nicaragua v. Costa Rica)*, Judgment of 16 December 2015 (2015

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. The 8 Principles of the ILC's 2006 Draft Principles, just like the 2001 Draft Articles on Prevention, are concerned with primary rules of international law, the infringement of which would trigger State Responsibility, without implying that the activity itself is prohibited.⁵⁴ 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".⁵⁵ 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.⁵⁶

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.⁵⁷ In other words, should be based on the well-established doctrine of strict liability (with the possible defenses such as Act of God, the wrongful act of a third party of the plaintiff's own fault)⁵⁸ or absolute liability (where no such exceptions can be put up as a defense)⁵⁹ for inherently hazardous activities, which one finds back in the tort law of most civil law and common law countries. Moreover, these measures should also include the 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.⁶⁰ Boyle rightfully criticizes the ILC's draft as being too cautious in some ways and lacking teeth by

Costa Rica case), at para. 104, available at: <https://www.icj-cij.org/files/case-related/150/150-20151216-JUD-01-00-EN.pdf>

⁵⁴ ILC, 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities – with commentaries (A/61/10), (ILC, 2006 Draft Principles), at pp. 62-63 (para. 6), available at: https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf

⁵⁵ *Ibidem*.

⁵⁶ See discussion Part II – D.

⁵⁷ ILC, 2006 Draft Principles, *supra* note 54, see Principles 3 and 4.

⁵⁸ See for a detailed discussion, *inter alia*, Akshay Sapre, Ratanlal & Dhirajlal, *The Law of Torts*, LexisNexis, 28th Edition, 2018, pp. 885, at pp. 493-509.

⁵⁹ *Ibidem*, at pp. 509-512; with reference to the Indian Supreme Court decision in *M.C. Mehta v. Union of India*, (1987) 1 SCC 395, (*Oleum Gas Leak* case) available at: <https://indiankanoon.org/doc/1486949/>

⁶⁰ ILC, 2006 Draft Principles, *supra* note 54, Principle 4.

refraining from imposing hard obligations on States and making States directly liable if they fail to make such adequate provisions to compensate available.⁶¹ 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.⁶² In fact, these draft Principles do reflect existing State practice and the obligations contained in the international oil pollution convention and civil nuclear liability treaties.⁶³

The Institut de Droit International (IDI)⁶⁴, which brings together leading public lawyers, and seeks to highlight the characteristics of the *lex lata* in order to promote its respect, but at times also makes determinations *de lege ferenda* in order to contribute to the development of international law,⁶⁵ adopted a Resolution on “Responsibility and Liability under International Law for Environmental Damage”.⁶⁶ 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 ultra-hazardous activities.⁶⁷ In other words, what is envisaged that the State’s Responsibility would be triggered, akin to what happened in the Trail Smelter case but where the Canadian Government voluntarily did so, albeit that under this paradigm this would necessarily always be the rule. 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.⁶⁸ 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.⁶⁹ Whereas the ILC’s 2006 Draft Principles pins the strict liability on the operator, as the

⁶¹ See: A. E. Boyle, *Globalising Environmental Liability: The Interplay of National and International Law*, Journal of Environmental Law (2005), Volume 17, No. 1, pp. 3-26, at pp. 19-20, available at:

<https://academic.oup.com/jel/article/17/1/3/570968>

⁶² ILC, 2006 Draft Principles, supra note 54, Principle 7.

⁶³ See discussion below in Part II – D.

⁶⁴ Read more about the Institut de Droit International here: <https://www.idi-iil.org/en/a-propos/>

⁶⁵ *Lex lata* (the law as it is); *de lege ferenda* (the law as it should be).

⁶⁶ Institut de Droit International, 1997, Session of Strasbourg, *Responsibility and Liability under International Law for Environmental Damage*, (IDI Resolution), available at: https://www.idi-iil.org/app/uploads/2017/06/1997_str_03_en.pdf

⁶⁷ *Ibidem*, IDI Resolution, Article 4.

⁶⁸ See for a critical analysis: Teresa A. Berwick, *Responsibility and Liability for Environmental Damage: A Roadmap for International Environmental Regimes*, 10 Geo. Int'l Env'tl. L. Rev. 257 (1998), at p. 259.

⁶⁹ IDI Resolution, supra note 66, Article 6.

prime liable party, not the State.⁷⁰ Here again, 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.⁷¹ In such 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,⁷² 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"),⁷³ which entered into force in 2018,⁷⁴ 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 inform the competent regulatory authority, evaluate the damage and take appropriate measures; where 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.⁷⁵ However, here the obligations resting on the Parties to ensure that a domestic civil liability regime is in place and adopting laws to ensure the operators, and possibly the competent authority, take appropriate response measures is yet different from holding a State liable as soon as any transboundary harm is established. 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.⁷⁶ 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.⁷⁷ Given the risk of conceptual blurring of lines between State responsibility and the

⁷⁰ ILC, 2006 Draft Principles, supra note 54, Principle 4.

⁷¹ IDI Resolution, supra note 66, Article 6.

⁷² 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 – a weakness for which it has been criticized.

⁷³ Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, 2010 (Nagoya-KL Supplementary Protocol), available at: https://bch.cbd.int/protocol/NKL_text.shtml

⁷⁴ The Nagoya-KL Supplementary Protocol entered into force on 5 March, 2018. See more at: <https://bch.cbd.int/protocol/parties/#tab=1>

⁷⁵ Article 5, Nagoya-KL Supplementary Protocol, supra note 73.

⁷⁶ See: Emanuela Orlando, *From domestic to global? Recent trends in environmental liability from a multilevel and comparative law perspective*, Review of European, Comparative & International Environmental Law, (2015), 24 (3). pp. 289-303. (at pp. 15-16 online version), available at: http://sro.sussex.ac.uk/id/eprint/57200/1/Orlando_edited_220915.pdf

⁷⁷ Article 11, Nagoya-KL Supplementary Protocol, supra note 73.

international liability of a State, States may feel more comfortable adding such an explicit bright line. Moreover, with the exception of very few treaties,⁷⁸ the majority of MEAs adopted so far address civil liability for compensation of operators and not State liability directly, a trend which is not likely to change in the foreseeable future.⁷⁹

The IDI did mirror more closely existing State practice based on existing treaties when it mentioned in Article 8 of its Resolution that “subsidiary State liability”, 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.⁸⁰ 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 consequence type accidents, with an increased risk of a transboundary dimension; and where in the case of 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, are indicative of doctrinal developments pertaining to State liability, but which have not yet been codified as such. The IDI Resolution clearly had a more far-reaching State liability model in mind,⁸¹ 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, but 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

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.⁸² As we have discussed above,

⁷⁸ See, *inter alia*, the Convention on the International Liability for Damage Caused by Space Objects, 1972, available at: <https://treaties.un.org/doc/Publication/UNTS/Volume%20961/volume-961-I-13810-English.pdf>

⁷⁹ UNEP, *Environmental Liability & Compensation Regimes: A Review*, (2003), pp. 67, at p. 56, available at: <https://wedocs.unep.org/bitstream/handle/20.500.11822/29241/EnvLCRev.pdf?sequence=1&isAllowed=y>

⁸⁰ Article 8, Nagoya-KL Supplementary Protocol, *supra* note 73.

⁸¹ See: IDI Resolution, *supra* note 66.

⁸² UNEP, *supra* note 79, at p. 56.

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, or 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.⁸³ 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,⁸⁴ identifies only three types of damage: to protected species and habitats (as per the Wild Birds Directive (79/409/EEC)⁸⁵ and the Habitats Directive (92/43/EEC)⁸⁶); to water (as per the Water Framework Directive (2000/60/EC)⁸⁷); and to land.⁸⁸ 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, where liability will be enforced solely by public authorities with no scope for private claims. The entry into force of the ELD, in some way also meant “the final nail in the coffin”⁸⁹ for the 1993 broad-based Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention),⁹⁰ which is now no longer expected to ever enter into force. Hence, we’re left with analyzing how international (as opposed to regional) agreements so far have addressed civil liability for environmental damage. As a first observation, many of those treaties simply haven’t entered into force and the list of treaties which have, is short.

⁸³ *Ibidem*.

⁸⁴ Directive 2004/35/CE of the European Parliament and of the Council, 21 April 2004, on Environmental Liability With Regard to the Prevention and Remedying of Environmental Damage (ELD), OJ L 143/56, 30.04.2004, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32004L0035&from=EN> See more about the ELD at: <https://ec.europa.eu/environment/legal/liability/index.htm>

⁸⁵ Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:l28046&from=EN>

⁸⁶ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN>

⁸⁷ 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, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02000L0060-20141120&from=EN>

⁸⁸ Note that ‘land’ is not defined in the ELD nor exclusively governed by any specific Directive. See more at: *The EU Environmental Liability Directive – A Commentary*, edited by Lucas Bergkamp and Barbara Goldstein, Oxford University Press, 2013, pp. 370, at point 3.45 at p. 66.

⁸⁹ Jürgen Lefevere, Foundation for International Environmental Law and Development (FIELD), *Environmental Liability*, 2001, pp. 15, at p. 8, available at: https://www.ecologic.eu/sites/files/download/projekte/850-899/890/inventories/environmental_liability.pdf

⁹⁰ Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 1993 (Lugano Convention) available at: <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/150>

i. International treaty – civil liability – living modified organisms

Notably, the 2010 Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety,⁹¹ which we already referred to, entered into force in 2018. The Nagoya-KL Supplementary Protocol requires the Parties to ensure that the operator, in the event of damage resulting from a transboundary movement of living modified organisms, immediately inform the domestic competent authority and takes appropriate measures; with the possibility of the competent authority implementing the appropriate response instead. The operator has a very broad right of recourse against any other person,⁹² and Parties retain their right to provide in their domestic law for financial security.⁹³

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 which 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.⁹⁴ Parties have a duty to ensure that a domestic law is in place to implement the treaty obligations, and apply existing domestic laws or adopt new ones pertaining to this type of damage, but with the freedom to decide on the standard of liability, including whether they opt for a strict or fault-based liability regime.⁹⁵ 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 on date the only regime which has actually handled compensation claims, unlike the treaties addressing civil liability for nuclear damage.

ii. International treaty – civil liability – 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);⁹⁶ the Convention on the Establishment of an International Fund for Compensation of Pollution Damage, 1992 (Oil

⁹¹ Nagoya-KL Supplementary Protocol, supra note 73.

⁹² Article 9, Nagoya-KL Supplementary Protocol, supra note 73.

⁹³ Article 10, Nagoya-KL Supplementary Protocol, supra note 73.

⁹⁴ Article 4, Nagoya-KL Supplementary Protocol, supra note 73.

⁹⁵ Article 12, Nagoya-KL Supplementary Protocol, supra note 73.

⁹⁶ The original 1969 Convention, which was adopted following the *Torrey Canyon* accident in 1967, has now been replaced by the Convention on the Civil Liability for Oil Pollution Damage, 1992 (CLC, 1992):

<https://www.iopcfunds.org/about-us/legal-framework/1992-civil-liability-convention/> and

http://library.arcticportal.org/1617/1/Liability_Convention_1992.pdf

Fund Convention);⁹⁷ and the 2003 Supplementary Fund Convention.⁹⁸ This led to the creation of the International Oil Pollution Compensation Funds (IOPC Funds)⁹⁹, which are two intergovernmental organizations (the 1992 Fund and the 2003 Supplementary Fund) which 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.¹⁰⁰ The 1992 Fund is composed of States 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.¹⁰¹ Under the CLC, the owner of the ship at the time of an incidence shall be strictly liable for any pollution damage caused by the ship, and this liability shall be channeled exclusively to the ship owner (and his insurer), but no claims of compensation can be made against other parties, albeit that the ship owner retains a right of recourse.¹⁰² The compromise being that the ship owner's liability shall be limited both in terms of amount (calculated based on the tonnage of the ship)¹⁰³ as well as in time.¹⁰⁴ 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.¹⁰⁵ When analyzing the ICJ's *Costa Rica* case, we shall also contrast how the IOPC Funds interpret "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,

⁹⁷ Convention on the Establishment of an International Fund for Compensation of Pollution Damage, 1992, available at: https://www.jus.uio.no/english/services/library/treaties/06/6-07/imo_compensation_fund.xml

⁹⁸ Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (2003 Supplementary Fund Convention), available at: https://iopcfunds.org/wp-content/uploads/2018/06/Text-of-Conventions_e.pdf

⁹⁹ IOPC Funds, see more at: <https://iopcfunds.org/about-us/>

¹⁰⁰ International Oil Pollution Compensation Funds (IOPC Funds), Guidelines for Presenting Claims for Environmental Damage, 2018 Edition ("IOPC Funds' Guidelines"), available at: https://www.iopcfunds.org/uploads/tx_iopcpublishations/IOPC_Environmental_Guidelines_ENGLISH_2018_WEB_01.pdf

¹⁰¹ *Ibidem*, at paras. 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.

¹⁰² Article III, CLC, 1992, *supra* note 96.

¹⁰³ Article V, CLC, 1992, *supra* note 96.

¹⁰⁴ Article VIII, CLC, 1992, *supra* note 96.

¹⁰⁵ See more at IOPC Funds, Annual Report, 2019, at p. 5, available at: https://iopcfunds.org/wp-content/uploads/2020/03/Final-Annual-Report_2019_e-1.pdf

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.¹⁰⁶

iii. International treaty – civil liability – nuclear damage

The civil liability for transboundary nuclear damage is governed by two similar regimes, one adopted under the auspices of the OECD, to know the 1960 Convention on Third Party Liability in the Field of Nuclear Energy,¹⁰⁷ and the 1963 Vienna Convention on Civil Liability for Nuclear Damage¹⁰⁸ under the auspices of the IAEA. The Vienna and Paris regimes are governed by the same principles, whereby the 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.¹⁰⁹ 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.¹¹⁰ Both regimes also have adopted a respective convention on supplementary compensation to increase the minimum national amounts of compensation that have to 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.¹¹¹ 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. Not only were the liability amounts proposed to be increased after the 1986 Chernobyl accident, it also triggered a more general review of both the Vienna and the Paris regimes,¹¹² including the broadened definition of "nuclear damage" which now includes the cost of measures

¹⁰⁶ See discussion below at: Part IV – B.

¹⁰⁷ Paris Convention on Third Party Liability in the Field of Nuclear Energy, 1960 (Paris Convention), as supplemented by the Brussels Supplementary Convention, 1963 (BSC), and revised by the Additional Protocol, 1964 and Protocol of 1982, under the auspices of the OECD (note that the 2004 Protocols to amend the Paris Convention and the BSC are not yet in force), available at: https://www.oecd-nea.org/law/nlparis_conv.html

¹⁰⁸ Vienna Convention on Civil Liability for Nuclear Damage, 1963 (Vienna Convention), and the 1997 Protocol to amend the Vienna Convention (which entered into force in 2003) – IAEA, Explanatory Texts, IAEA International Law Series No. 3 (Revised), 2017, available at: https://www-pub.iaea.org/MTCD/Publications/PDF/P1768_web.pdf

¹⁰⁹ See more extensively: IAEA Explanatory Texts, supra note 108.

¹¹⁰ Article VII, Vienna Convention, supra note 108.

¹¹¹ 1963 Brussels Supplementary Compensation (BSC) entered into force (but not the 2004 amendments), read more at: <https://www.oecd-nea.org/law/brussels-supplementary-convention.html> and the 1997 Convention on Supplementary Compensation (which entered into force in 2015): <https://www.iaea.org/topics/nuclear-liability-conventions/convention-supplementary-compensation-nuclear-damage>

¹¹² However, the 2004 Protocol to amend the Paris Convention has not yet entered into force. Read more here: <https://www.oecd-nea.org/law/paris-convention-protocol.html>

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.¹¹³ Significantly, there have been no actual compensation cases handled based on either the Vienna or Paris regimes.¹¹⁴ We may add here that the civil liability regimes for nuclear damage do not set up an international claims management body, unlike the IOPC Funds, but instead 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.¹¹⁵

This leaves us to observe that only very few civil liability treaties addressing transboundary environmental damage have been adopted, even fewer have entered into force, and only the IOPC Funds with regard to oil pollution have actually handled compensation claims. To this extent, not much has changed in the last twenty-odd years.¹¹⁶ For instance, the 1989 Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels;¹¹⁷ the 1992 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents;¹¹⁸ the 1997 the Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea;¹¹⁹ the much anticipated 1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Protocol);¹²⁰ and several more have *not* entered into force since their adoption, and may never

¹¹³ See for a detailed analysis pertaining to the new definition of nuclear damage in the Vienna Convention, IAEA, Explanatory Texts, supra note 108, at pp. 32-33.

¹¹⁴ 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 more at: https://www-legacy.iaea.org/Publications/Documents/Conventions/liability_status.pdf and factsheet Japan: <https://www.iaea.org/resources/legal/country-factsheets>

¹¹⁵ See, e.g. Article XI on Jurisdiction of the Competent Court, Vienna Convention, supra note 108.

¹¹⁶ See for a similar conclusion: Anne Daniel, *Civil Liability Regimes as a Complement to Multilateral Environmental Agreements: Sound International Policy or False Comfort?*, RECEIL, Volume 12(3), 2003, pp. 225-241, available at: <https://www.cbd.int/doc/articles/2003/A-00437.pdf>

¹¹⁷ Convention on Civil Liability for Damage caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels, 1989, at: https://www.unece.org/trans/danger/publi/crtd/crtd_e.html

¹¹⁸ Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents to (1) Transboundary Waters to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes; and (2) to the 1992 Convention on the Transboundary Effects of Industrial Accidents, 2003 (Kiev Protocol, 2003), available at: https://www.unece.org/fileadmin/DAM/env/civil-liability/documents/protocol_e.pdf

¹¹⁹ Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, at: <http://www.imo.org/en/OurWork/Legal/HNS/Documents/HNS%20Consolidated%20text.pdf>

¹²⁰ 1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Protocol), available at: <http://archive.basel.int/pub/protocol.html>

either.¹²¹ This leads 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”.¹²² This further bolsters the view that the ICJ, whenever presented with an opportunity, do 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 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, internationally there are only few instances where States have pursued their transboundary environmental disputes, accordingly there has not really 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”.¹²³ Therefore, when the ICJ is seized by such a matter it is worth analyzing in detail whether any incremental legal developments can be observed, which we will further 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 “with 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.¹²⁴ In 2009, the ICJ settled the

¹²¹ For an updated Annex with Tabular overview of various MEAs and their date of entry into force (updated up to October, 2019), see: OECD Working Group Report on ‘Cost of Measures of Reinstatement of Impaired Environment’, as presented at the 4th International Workshop on the Indemnification of Damage in the Event of a Nuclear Accident, October 2019, Lisbon, Portugal. Working group Report on file with author. See more at: <http://aidn-inla.be/event/4th-international-workshop-on-the-indemnification-of-damage-in-the-event-of-a-nuclear-accident-lisbon/>

¹²² Anne Daniel, *supra* note 116, at p. 225.

¹²³ Jutta Brunnée, *The Responsibility of States for Environmental Harm in a Multinational Context - Problems and Trends*, *Les Cahiers de Droit*, vol. 34, n° 3, September 1993, pp. 827-845, at pp. 834-835 (and footnote 33), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1166153

¹²⁴ 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*, 24 January, 2011, available at: <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/>

dispute regarding navigation rights on the San Juan river,¹²⁵ but the dredging activities undertaken by Nicaragua were resolved separately by the ICJ in its 2015 Judgment.¹²⁶ 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.¹²⁷ 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.¹²⁸ In its 2015 Judgment, the Court ruled that Nicaragua had the obligation to compensate Costa Rica for the material damages caused by its unlawful activities; failing an agreement on the matter between the Parties within 12 months, the Court would settle this issue in a subsequent procedure.¹²⁹ 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".¹³⁰ The "disputed territory" included a 3 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.¹³¹

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 of that act had not been committed, by referring to the *Chorzów Factory* case.¹³² While referring to the 2010 *Pulp Mills* case,¹³³ the ICJ also underlined that compensation may be an appropriate form of reparation, particularly in cases where restitution is materially impossible or unduly burdensome.¹³⁴ However, the ICJ was quick to add that compensation should not "have a punitive or exemplary character".¹³⁵ From the outset it is relevant to keep in mind that the 2018 *Costa Rica* case squarely falls in the legal paradigm

¹²⁵ ICJ, *Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, Judgment 13 July 2009, available at: <https://www.icj-cij.org/files/case-related/133/133-20090713-JUD-01-00-EN.pdf>

¹²⁶ ICJ, 2015 *Costa Rica* case, supra note 53.

¹²⁷ *Ibidem*.

¹²⁸ *Ibidem*, at p. 1.

¹²⁹ *Ibidem*, at p. 2.

¹³⁰ *Costa Rica* case, supra note 1.

¹³¹ *Ibidem*, at para. 21.

¹³² *Ibidem*, at para. 29. See also: *Chorzów Factory* case, supra note 28.

¹³³ *Pulp Mills* case, supra note 44.

¹³⁴ *Costa Rica* case, supra note 1, at para. 31.

¹³⁵ *Ibidem*.

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 that “particular 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 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”.¹³⁶ Hence, although this case deals with transboundary environmental damage caused to the wetland and forests located in Costa Rica, caused by various activities undertaken by Nicaragua, the ICJ doesn’t entertain the idea of applying a strict liability standard and 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”.¹³⁷ 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.¹³⁸

Most significantly, the ICJ, which in its history 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”.¹³⁹ 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.¹⁴⁰ 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.¹⁴¹ Reparation will be due for such damage, if established, although the damaged

¹³⁶ *Ibidem*, at para. 34.

¹³⁷ *Ibidem*, at para. 35.

¹³⁸ *Ibidem*, at para. 36.

¹³⁹ *Ibidem*, at para. 41.

¹⁴⁰ *Costa Rica* case, Separate Opinion of Judge Donoghue, at para. 3, available at: <https://www.icj-cij.org/files/case-related/150/150-20151216-JUD-01-05-EN.pdf>

¹⁴¹ *Ibidem*.

goods and services may not have been traded in the market or otherwise had any economic use.¹⁴² 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 resource such as air, water, soil, fauna and flora, but now undoubtedly encompasses ecosystem services.¹⁴³ Broader definitions now cover property that forms part of cultural heritage; environmental values or non-service values such as aesthetic aspects of the landscape.¹⁴⁴ Such non-service values includes 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.¹⁴⁵ 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 the UN Security Council 687 adopted in 1991¹⁴⁶ 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 which result from unlawful use of force (without, however, further defining environmental damage).¹⁴⁷ As a result, the United Nations Compensation Commission (UNCC) was created in 1991 as a subsidiary organ of the United Nations 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 which commercial value”.¹⁴⁸ 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

¹⁴² *Ibidem*.

¹⁴³ See also: Nilufer Oral, *ICJ Renders First Environmental Compensation Decision*, April 2018, available at: <https://www.iucn.org/news/world-commission-environmental-law/201804/icj-renders-first-environmental-compensation-decision-summary-judgment>

¹⁴⁴ See, for instance, in the domestic environmental laws of countries as diverse as India, New Zealand, France.

¹⁴⁵ ILC, 2006 Draft Principles, supra note 54, Principle 2(b) according to which “environment” includes 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.

¹⁴⁶ UN Security Council Resolution 687 (8 April, 1991), available at: <https://www.un.org/Depts/unmovic/documents/687.pdf>

¹⁴⁷ Philippe Sands and Jacqueline Peel, supra note 12, at p. 708.

¹⁴⁸ 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 Judge Bruno Simma, Fastenrath et al. eds., Oxford University Press, 2011, pp. 1241-1261, (*Environmental Damage Claims*), at p. 1250, available at: https://www.researchgate.net/publication/290837946_Environmental_Damage_Claims_from_the_1991_Gulf_War_State_Responsibility_and_Community_Interests

awarded about USD 5.26 billion of environmental damages – “the largest amount of compensation ever awarded in the history of international environmental law”.¹⁴⁹ 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.¹⁵⁰

The noticeable exception to this general trend being the IOPC Funds regime for the oil sector, discussed above.¹⁵¹ 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.¹⁵² 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”.¹⁵³

C. Compensation for environmental harm – an opaque calculation?

The main critique on the 2018 *Costa Rica* case lies undoubtedly in the fact 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.¹⁵⁴ The sharing in a more transparent

¹⁴⁹ Peter H. Sand, *Compensation for Environmental Damage From the 1991 Gulf War*, (2005), Environmental Policy and Law, 35(6), pp. 244-249, (*Compensation for Environmental Damage*), available at: https://www.researchgate.net/publication/292506890_Compensation_for_environmental_damage_from_the_1991_Gulf_War Note that in the UNCC F4 claims, just like in the *Costa Rica* case, 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 more at: United Nations Compensation Commission: <https://uncc.ch/> 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). 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 more at: Philippe Sands and Jacqueline Peel, supra note 12, at pp. 721-723.

¹⁵⁰ See: Peter H. Sand, *Environmental Damage Claims*, supra note 148, at pp. 1243-1244.

¹⁵¹ See Part II – D – ii. See also: OECD, 4th International Workshop on the Indemnification of Damage in the Event of a Nuclear Accident, Working Group presentation, October 2019, supra note 121.

¹⁵² IOPC Funds’ Guidelines, supra note 100, at para. 1.14.

¹⁵³ IOPC Funds, Claims Manual, 2019 Edition, para. 1.4.13, available at: https://www.iopcfunds.org/uploads/tx_iopcpublications/2019_Claims_Manual_e.pdf

¹⁵⁴ See also: Nilufer Oral, supra note 143; and 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!, (February 14, 2018), available at: <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/>; and Monaliza da Silva, *Compensation Awards in International Environmental Law: Two Recent*

manner about the valuation methodology followed would have been all the more relevant given that the ultimate compensation amount granted by the ICJ was but about 5% of what the Costa Rica had requested,¹⁵⁵ with a meagre 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).¹⁵⁶ 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”.¹⁵⁷ We may add here that quite surprisingly, it was Costa Rica which claimed only about USD 2,700 for the compensation of the damage to the wetland,¹⁵⁸ and to the frustration of several Judges did not adduce convincing evidence to support this claim either.¹⁵⁹ As we will discuss 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 is the “ecosystem services approach”, which in its view was most appropriate to calculate the damage to a wetland,¹⁶⁰ and a well-established method by referring to the UNEP Guidelines, certain domestic legislations as well as the Report of the Ramsar Advisory Mission.¹⁶¹ According to the ecosystem services approach, the value of an environment is comprised of goods and services, some of which are traded on the market (such as timber) and, hence, have a “direct use value”, whereas others have not (such as elements in the environment which have a flood prevention utility) and, hence, have an “indirect use value”; both of which need to be taken into account to arrive at a valuation of the environmental damage.¹⁶² Moreover, in order to ascribe a monetary value to the environmental goods and services, Costa Rica relies on the “value transfer approach”, by which 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

Developments, New York University Journal of International Law and Politics (JILP), Vol. 50, No. 4, 2018, pp. 1417-1430, at p. 1425, available at: <https://nyujilp.org/wp-content/uploads/2018/10/NYI406.pdf>

¹⁵⁵ See also: Monaliza da Silva, *supra* note 154; and Diane Desierto, *supra* note 154.

¹⁵⁶ *Costa Rica* case, *supra* note 1, at para. 87. See also: 1971 Convention on Wetlands for International Importance especially as Waterfowl Habitat, available at:

https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf See further: *Costa Rica* case, *supra* note 1, at para. 41.

¹⁵⁷ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at para. 32.

¹⁵⁸ Costa Rica only claimed USD 2,708.39 for the restoration of the wetland. See *Costa Rica* case, *supra* note 1, at para. 57 and para. 87.

¹⁵⁹ See, *inter alia*, Separate Opinion of Judge Donoghue, *supra* note 140, at para. 33, p. 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.”)

¹⁶⁰ *Costa Rica* case, *supra* note 1, at para. 45.

¹⁶¹ *Ibidem*, at para. 46.

¹⁶² *Ibidem*, para. 47.

applied if the data is available.¹⁶³ Nicaragua, on the other hand, supports 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 area have recovered”.¹⁶⁴ Nicaragua further supported its methodology by submitting that this was the standard approach followed by the UNCC.¹⁶⁵

Before calculating the amount of compensation due, the Court clarified that the valuation methods presented by the parties are both used in domestic and international practice, and therefore are relevant, while underlying that these are not the only methods available.¹⁶⁶ The ICJ decided not to choose between either of them, nor use one exclusively, but instead will somewhat cherry-pick and use certain elements of either method wherever they offer a “reasonable basis for valuation”.¹⁶⁷ The ICJ explains this blended approach since 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”.¹⁶⁸ Adopting a flexible approach that would allow one to take into account the latest developments and methodologies is in itself a sound enough approach, but, as we shall further analyze below, the absence of clarity on which precise methodology was adopted and why, and what the basis is of the final blended methodology, in the absence of independent expert advice on natural resource valuation methodologies, is problematic. For instance, the UNCC Panel explicitly shared that it would be relying on the well-documented and researched “habitat equivalency analysis” (HEA).¹⁶⁹ One may academically disagree with the HEA methodology, but at least it offers transparency to the Parties as well as the broader group of stakeholders. Similarly, although an ICJ Judgment is only binding *inter partes*,¹⁷⁰ shedding clarity on the methodology followed, particularly at a moment in time when there is ample material available with regard to environmental damage calculation approaches, and experts in the field who could have been consulted, an opportunity was clearly missed by the ICJ to finetune its ratio in transboundary environmental damage compensation cases and to be recognized as the international judicial body *par excellence* to settle this type of disputes.¹⁷¹ As Judge *Ad Hoc* Dugard¹⁷² in its Dissenting Opinion stated “[I]nvariably

¹⁶³ Ibidem, para. 47.

¹⁶⁴ Ibidem, para. 49.

¹⁶⁵ Ibidem, para. 50.

¹⁶⁶ Ibidem, para. 52.

¹⁶⁷ Ibidem, para. 52.

¹⁶⁸ Ibidem, at para. 53.

¹⁶⁹ See: Peter H. Sand, *Environmental Damage Claims*, supra note 148, at p. 1251.

¹⁷⁰ See further: Els Reynaers Kiny, *The Precautionary Principle, Multilateral Treaties and the Formation of Customary International Law*, Editions Interuniversitaires Suisses (EDIS), Genève, 2008, pp. 174, at p. 141.

¹⁷¹ See also: Diane Desierto, supra note 154.

¹⁷² Under Article 31, paragraphs 2 and 3, of the Statute of the Court (supra note 4), 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

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".¹⁷³

The area affected by the unlawful activities of Nicaragua was about 6 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).¹⁷⁴ Costa Rica calculated the loss over a period of 50 years, the time required for the affected area to recover (and then applied a 4 per cent discount rate at which the ecosystem will recover). This is how Costa Rica arrived at a total compensation amount of USD 2,880,745.¹⁷⁵ 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), this calculated over a period of 20-30 years and taking into account a 4 per cent discount rate, the value of the replacement costs would come to an (average) amount of USD 30,000 – about one hundredth of Costa Rica's claim.¹⁷⁶ Costa Rica, 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, based on their experts' review. The result amount based on this "corrected analysis" was USD 84,296 for the four (accepted) categories of goods and services.¹⁷⁷ 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 and that's how the ICJ ultimately arrived at a sum of USD 120,000 for the impairment or loss of the environmental goods and services¹⁷⁸ - an amount to which Judge *Ad Hoc* Dugard in its 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".¹⁷⁹ 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

as judge ad hoc in that specific case under the conditions laid down in Articles 35 to 37 of the Rules of Court. See more at: <https://www.icj-cij.org/en/judges-ad-hoc>

¹⁷³ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at para. 5.

¹⁷⁴ *Costa Rica* case, supra note 1, at para. 55 and para 70 (with reference to biodiversity calculations of countries such as Mexico, Thailand and the Philippines).

¹⁷⁵ *Ibidem*, at para. 56.

¹⁷⁶ *Ibidem*, at para. 58.

¹⁷⁷ *Ibidem*, at para. 84.

¹⁷⁸ *Ibidem*, at paras. 85-86.

¹⁷⁹ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at para. 7.

calculation set at USD 84,296, leaving Judge Dugard to guess that possibly the Court relied on “equitable considerations” in its final calculation.¹⁸⁰

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.¹⁸¹ Further, with regard to soil formation and erosion control, the Parties agreed that Nicaragua removed about 9,500 cubic meters of soil from the site of the caños, but because these have 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.¹⁸² However, with regard to the four remaining categories of environmental goods and services, sufficient evidence was brought before the Court indicating that Nicaragua did remove close to 300 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.¹⁸³ 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.¹⁸⁴

Once explicit causation 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”.¹⁸⁵ It finds Costa Rica’s assessment of a 50-year recovery period unsupported in evidence, particularly in the absence of baseline conditions. Moreover, the ICJ is of the view that the different components of the ecosystem require different periods of recovery, and no single period of 50 years can be applied.¹⁸⁶ As we will further discuss below, various domestic laws addressing natural resource damage calculations, will differentiate the recovery times of the various components in the ecosystem restoration plans (be it, affected trees, birds, soil, etc.) as well.¹⁸⁷ However, as pointed out by Judge *Ad Hoc* Dugard in its Dissenting Opinion, ultimately the Court does clarify which recovery periods it takes into account for the various goods and services in question. It is anyone’s guess whether it accepted 20 to 30 years as suggested by Nicaragua, or 10 to 20 years for biodiversity? The Court simply does not clarify, thereby casting a cloud on the Court’s overall valuation.¹⁸⁸

¹⁸⁰ *Ibidem*, at para. 20.

¹⁸¹ *Costa Rica* case, at para. 74.

¹⁸² *Ibidem*.

¹⁸³ *Ibidem*, at para. 75.

¹⁸⁴ *Ibidem*, Separate Opinion of Justice Bhandari, *supra* note 11, at paras. 8-9.

¹⁸⁵ *Costa Rica* case, at para. 76.

¹⁸⁶ *Ibidem*.

¹⁸⁷ See further discussion below at Part IV – A.

¹⁸⁸ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at paras. 15 and 20.

The ICJ refused to follow Nicaragua by applying the domestic incentive rate of the domestic Costa Rican law,¹⁸⁹ and instead 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”.¹⁹⁰ From a theoretical perspective the “ecosystem approach” is sound, particularly for wetlands and complex habitats, and has domestically, for instance, also been adopted by the Trustees under the US Oil Pollution Act (OPA),¹⁹¹ 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.¹⁹² 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 the overall ecosystem impacts (and subsequent restoration planning).¹⁹³ 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.¹⁹⁴ In his Dissenting Opinion, Judge Dugard takes objection to the fact that in the “corrected analysis” upon which the Court relies, it attaches a value to each head of damage, but ultimately does so in isolation of each other.¹⁹⁵ Furthermore, Judge Dugard questions the approach of the Court vis-à-vis the calculation of the valuation of felled trees.¹⁹⁶ 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”,¹⁹⁷ including its impact on other goods and services such as air quality services and biodiversity, Judge Dugard

¹⁸⁹ *Costa Rica* case, supra note 1, para. 77.

¹⁹⁰ *Ibidem*, at para. 78.

¹⁹¹ US Oil Pollution Act, 1990 [33 U.S.C. §2701 et seq. (1990)], available at:

<https://www.govinfo.gov/content/pkg/STATUTE-104/pdf/STATUTE-104-Pg484.pdf>

¹⁹² See detailed discussion below at Part IV – A. See further: Trustees, *Plan for Deepwater Horizon Oil Spill Natural Resource Injury Restoration: An Overview*, October 2015 (“Trustees’ Plan”), at pages 1 and 11, available at:

https://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Overview_10-08-15_for-posting.pdf

¹⁹³ *Ibidem*, at pages 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”. As per the Trustees’ Plan (supra note 192), 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.”

¹⁹⁴ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at para. 10.

¹⁹⁵ *Ibidem*, at para. 15.

¹⁹⁶ *Ibidem*.

¹⁹⁷ *Costa Rica* case, supra note 1, at para. 79.

points out that the Court simply fails to address the value to be attached to the felling of 300 trees, many of which were over 100 years old, which in his view is simply “inexplicable”.¹⁹⁸ The Court does not elucidate on *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 50-year (or less) recovery period – “we simply do not know”.¹⁹⁹ This lack of explanation is quite regrettable, particularly since by now there is abundant experience domestically 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.²⁰⁰ As a result, Judge Dugard opines that the total amount of compensation of USD 120,000 is “a grossly inadequate valuation for environmental damage cause to an internationally protected wetland” and that in his view a “much higher compensation is warranted”, one which would take into account a higher valuation of 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 as State to an internationally protected wetland.²⁰¹ 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.²⁰² This is echoed more forcefully by Judge Bhandari in his Separate Opinion, where he 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”. Particularly so because this 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”.²⁰³

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

¹⁹⁸ *Ibidem*.

¹⁹⁹ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at para. 16.

²⁰⁰ See, for instance, Supreme Court of India, *Association for Protection of Democratic Rights & Others Vs The State of West Bengal & Others*, 9 January, 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), available at: <http://www.indiaenvironmentportal.org.in/files/file/tree-felling-Jessore-road-SC-order.pdf>

²⁰¹ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at paras. 18-21, and 30.

²⁰² *Ibidem*, at para. 29.

²⁰³ *Costa Rica* case, Separate Opinion of Judge Bhandari, supra note 11, at paras. 11-12 (with reference to the 2012 2012 *Diallo* case).

change concerns and current awareness about these interlinkages.²⁰⁴ 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.²⁰⁵ Yet, the ICJ did not address this point 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”.²⁰⁶ These missed opportunities and the delicate maneuvering by the ICJ as if crossing a legal minefield is reminiscent of the failure by the World Court to be more forthcoming about the status of the precautionary principle in public international law, despite the numerous explicit references by several Judges in their respective separate or dissenting Opinions in Judgments since 1995,²⁰⁷ as well as the growth of domestic jurisprudence in this regard.²⁰⁸ 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”.²⁰⁹ With reference to international treaty 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”.²¹⁰ As former ICJ Judge Kooijmans finely reminds us, the ICJ is a collegiate body which has to find a fine balance between judicial activism and judicial restraint, and 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

²⁰⁴ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, supra note 11, at paras. 33-39.

²⁰⁵ *Ibidem*, at para. 35.

²⁰⁶ *Ibidem*, at para. 36 and para. 39.

²⁰⁷ See: Els Reynaers Kini, supra note 170, at pp. 54-60 and pp. 141-144 (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).

²⁰⁸ See: Supreme Court of India, *Vellore Citizens' Welfare Forum v. Union of India and others*, 1995(5) SCC 647, available at: <https://indiankanoon.org/doc/1934103/> (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” and “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.”).

²⁰⁹ *Costa Rica* case, Separate Opinion of Judge Bhandari, supra note 11, at paras. 13-15.

²¹⁰ *Ibidem*, at para. 15.

separate and dissenting opinions of individual judges that the characteristics of the two approaches are more clearly recognizable”.²¹¹

D. The gravity of a State’s acts – the fine line between equity and punitive damages

i. Punitive damages – international law

Judge Dugard in his Dissenting Opinion 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”, in his opinion the Court should have at least taken into account the gravity of Nicaragua’s conduct.²¹² Particularly because this case involved “serious environmental harm and that this was not the result of a negligent misinterpretation of an 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”.²¹³ 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”.²¹⁴ 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”.²¹⁵ 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”.²¹⁶ He further submits that “this case presents such an extraordinary situation, and

²¹¹ Pieter Kooijmans, *The ICJ in the 21st Century: Judicial Restraint, Judicial Activism, or Proactive Judicial Policy*, *The International and Comparative Law Quarterly*, Vol. 56, No. 4 (Oct., 2007), pp. 741-753, at pp. 742-743, available at: <https://www.jstor.org/stable/4498111?seq=1>

²¹² *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at para. 46.

²¹³ *Ibidem*, at para. 47.

²¹⁴ *Ibidem*.

²¹⁵ *Costa Rica* case, Separate Opinion of Judge Bhandari, *supra* note 11, at para. 17.

²¹⁶ *Ibidem*, at para. 18, with reference to the Indian Supreme Court case: *Samaj Parivartana Samudaya v. State of Karnataka*, (2013), Supreme Court of India Cases (SCC), Vol. 8, p. 154, at para. 33, available at : <https://indiankanoon.org/doc/37541448/> (stating that: “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.”).

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”.²¹⁷ Judge Bhandari further refers to domestic court practices in India²¹⁸ and the United States²¹⁹ 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.²²⁰ 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.

ii. Punitive damages in environmental tort law cases in the United States

Almost 20 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 by making no explicit provision for them; and (3) whether the award of USD 2.5 billion in this case is greater than maritime law should allow.²²¹ The U S Supreme Court held that the federal statutory law does not bar a punitive award on top of damages for economic loss, but that the award “should be limited to an amount equal to compensatory damages”.²²² The US Supreme Court reminded that the “prevailing American rule limits punitive

²¹⁷ *Ibidem*.

²¹⁸ With reference to the Indian Supreme Court Case: *M.C. Mehta v. Kamal Nath*, (2000), SCC, Volume 6, p. 213, para. 24, available at: <https://indiankanoon.org/doc/1239689/>

²¹⁹ With reference to the US Supreme Court case: *Exxon Shipping Co. et al. v. Baker et al.* (2008), United States Reports, Vol. 554, p. 481, available at: <https://www.supremecourt.gov/opinions/07pdf/07-219.pdf>

²²⁰ *Costa Rica* case, Separate Opinion of Judge Bhandari, supra note 11, at paras. 19-20.

²²¹ See: *Exxon Shipping Co.* case, supra note 219. By way of background (see Supreme Court decision, pages 4-5): 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. For a further critical analysis, see: Ronen Perry, *Economic Loss, Punitive Damages, and the Exxon Valdez Litigation*, Georgia Law Review, Vol. 45, pp. 407-485, 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.”), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1611566

²²² *Exxon Shipping Co.* case, supra note 219, at p. 1 and pp. 15-42. Furthermore, at pp. 16-17. (The Supreme Court also placed punitive damages in historical context by reminding that “modern Anglo-American punitive damages have

damages to cases of “enormity”,²²³ 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”, and, hence, the “consensus today is that punitive damages are aimed at retribution and deterring harmful conduct”.²²⁴ After reviewing various options (including a “hard-dollar punitive cap”), 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”.²²⁵ 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 505.5 million, down from USD 2.5 billion.²²⁶ 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.²²⁷ 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”.²²⁸ 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 certain claimants”.²²⁹ Catherine Sharkey views these “supra-compensatory multipliers as a form of class-wide societal damages embedded within the settlement”.²³⁰ Stepping away from punitive damages in the maritime law field, courts in the US regularly impose higher punitive to compensatory damages ratios, including in environmental

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.)

²²³ *Ibidem*, at p. 2 and p. 17-21; with reference to *Day v. Woodworth*, 13 How. 363 (1851), available at: <https://supreme.justia.com/cases/federal/us/54/363/>

²²⁴ *Ibidem*, at p. 2 and pp. 17–21, in particular footnote 9 at p. 19 referencing relevant case law.

²²⁵ *Ibidem*, at p. 4 and p. 40.

²²⁶ *Ibidem*, at p. 4 and p. 42.

²²⁷ See, for instance, *Jeff Kerr, Exxon Shipping Co. v. Baker: The Perils of Judicial Punitive Damages Reform*, 59 Emory L.J. 727 (2010), available at: <https://law.emory.edu/elj/content/volume-59/issue-3/comments/exxon-shipping-baker-perils-punitive-damages-reform.html> See also: John C. Curden, 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*, Michigan Journal of Environmental & Administrative Law, Volume 6, Issue 1, (2016), pp. 65-149, at p. 101, available at: <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1056&context=mjeal> (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.)

²²⁸ See: Leo M. Romero, *Punishment for Ecological Disasters: Punitive Damages and/or Criminal Sanctions*, 7 U. St. Thomas L.J. 154 (2009), available at: <https://ir.stthomas.edu/cgi/viewcontent.cgi?article=1219&context=ustlj>

²²⁹ Catherine M. Sharkey, *The BP Oil Spill Settlements, Class-wide Punitive Damages, and Societal Deterrence*, 64 DePaul L. Rev. (2015), pp., at p. 682, available at: <https://via.library.depaul.edu/law-review/vol64/iss2/19>

²³⁰ *Ibidem*.

tort law cases. For example, in *Johansen v. Combustion Engineering, Inc.* case,²³¹ the U.S. Court of Appeals for the Eleventh Circuit allowed a 100:1 punitive to compensatory damages ratio.²³² Subsequently, in *State Farm Mutual Automobile Insurance Co. v. Campbell* (a non-environmental case),²³³ the US Supreme Court, however, “tightened constitutional constraints on the discretion of State Courts to impose punitive damages in tort cases” and reversed the Utah Supreme Court’s ruling which had allowed an award of punitive damages which 145 times larger than the compensatory damages amount.²³⁴ 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* case,²³⁵ 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.²³⁶ In *State Farm*, the Supreme Court added “Although 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”.²³⁷ Although the US Supreme Court in *State Farm* did not formulate a bright-line rule, it did indicate that “single-digit are more likely to comport with due process, while still achieving the State’s goals of deterrence and retribution”.²³⁸ After the *State Farm* case was remanded by the US Supreme Court in 2003, the Utah Supreme Court in its 2004 ruling capped the punitive damages award to USD 9 million,²³⁹ “obviously the highest single-digit-ratio possible”.²⁴⁰ As pointed out by David Rapport and Paul Richter, this “suggests a strong

²³¹ *Johansen v. Combustion Engineering, Inc.*, 170 F.3d 1320, 29 ELR 21219 (11th Cir.), cert. denied, 120 S. Ct. 329 (1999), available at: <https://casetext.com/case/johansen-v-combustion-engineering-inc>

²³² For a criticism of this Judgment, see: Evan M. Tager, *Punitive Damages Claims in Environmental Tort Cases: Lessons From Johansen v. Combustion Engineering, Inc.*, ELR News & Analysis, (2000), available at: <https://www.mayerbrown.com/~media/files/perspectives-events/publications/2000/03/punitive-damages-claims-in-environmental-tort-case/files/pundamenviron/fileattachment/pundamenviron.pdf>

²³³ *State Farm Mutual Automobile Insurance Co. v. Campbell*, 123 S.Ct. 1513 (2003), available at: <https://supreme.justia.com/cases/federal/us/538/408/>

²³⁴ See more at: Goodwin Procter, *US Supreme Court Tightens Limits on Punitive Damages*, Environmental Law Advisory, April 2003, available at: https://www.goodwinlaw.com/~media/Files/Publications/Newsletters/Environmental%20and%20Energy%20Advisory/2003/Supreme_Court_Tightens_Limits_On_Punitive_Damages.ashx

²³⁵ *BMW of North America v. Gore*, 517 U.S. 559 (1996), available at: <https://supreme.justia.com/cases/federal/us/517/559/>

²³⁶ *Ibidem*.

²³⁷ *Ibidem*, at pp. 580-583.

²³⁸ *Ibidem*, 538 U.S. at 425. See also: Goodwin Procter, *supra* note 234.

²³⁹ *Campbell v State Farm Mutual Automobile Insurance Company*, 2004 UT 3, available at: <https://law.justia.com/cases/utah/supreme-court/2004/campbe042304.html>

²⁴⁰ See: David E. Rapoport and Paul D. Richter, *Punitive Damages After State Farm v. Campbell: The First Year*, (2004) available at: <https://www.rapoportlaw.com/Helpful-Information/Publications/PDF-PunitiveDamageAfterStateFarm.pdf>

commitment to States' rights, and minimal compliance with federal meddling into an area of the law traditionally occupied by the States". Rapport and Richter further reviewed 45-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.²⁴¹ Punitive damages, accepted in US case law since the 1850s, does see a push-and-pull between the US Supreme Court and State-level Courts, but the fact is that it is a well-entrenched method of supplementing the compensatory damages amount when a defendant's conduct is established to be "outrageous".

iii. 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".²⁴² Punitive or exemplary damages in the context of environmental damage was for the first time explicitly addressed in a case which attracted considerable media attention when it was discovered that the family of the then Minister of Environment and Forests had obtained a "regularization" to change the natural course of a river to suit the requirements of their hotel business. The Supreme Court of India seized the matter *suo moto* (on its own motion) based on the newspaper coverage and imposed not only compensation by way of cost for the restitution of the environment,²⁴³ but it also held that "the person guilty of causing 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".²⁴⁴ 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,²⁴⁵ 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 any person who operates an industry which is "hazardous or inherently dangerous" – 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,

²⁴¹ *Ibidem*, Annex.

²⁴² *Samaj Parivartana Samudaya* case, supra note 216, at para. 33.

²⁴³ See original case: *M.C. Mehta v. Kamal Nath*, 13 December, 1996, (1997), 1 SCC 388, available at: <https://indiankanoon.org/doc/1514672/>. The question of whether the NGT also has the jurisdiction to take up matter *suo moto* (on its own motion) – which most often means based on the coverage in newspaper articles – was raised most recently in the *LG Polymers India* case (Review application No. 19/2020), 1st June, 2020, (in particular para. 14), available at: <https://greentribunal.gov.in/orderpdf/orderlist.pdf>. (The issue of the NGT's *suo moto* jurisdiction has been appealed before the Supreme Court).

²⁴⁴ *M.C. Mehta v. Kamal Nath* case, (2000), supra note 218, at para. 24.

²⁴⁵ *Oleum Gas Leak* case, supra note 59.

consent of victim and statutory authority) -,²⁴⁶ 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, greater must be the amount of compensation payable by it for the harm caused on account of an accident in the carrying on of the hazardous or inherently dangerous activity by the enterprise”.²⁴⁷ Hence, exemplary or punitive damages are well-accepted in Indian jurisprudence as well as 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. 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 what the ratio between punitive and exemplary damages might be. Hence, the precise contours and criteria to be applied remain very much *ad hoc* and case-specific. For instance, in the 2003 *Sterlite Industries* case,²⁴⁸ where one of the 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 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 13.25 million USD,²⁴⁹ corresponding to a tenth of its PBDIT amount, for having polluted the environment and for operating for years without the necessary environmental permits.²⁵⁰

It may be relevant to add here that in 2010, India decided to create specialized “National Green Tribunals” (NGTs) across the country who have the jurisdiction over all civil cases where a “substantial question relating to the environment” is involved and such questions arises out of the implementation of environmental laws which are annexed to the National Green Tribunal Act (NGT Act).²⁵¹ 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.²⁵² Quite significantly, the NGT Act explicitly states that the Tribunals while passing any decision,

²⁴⁶ *Ibidem*, at para. 31, where 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)

²⁴⁷ *Ibidem*, at para. 32.

²⁴⁸ *Sterlite Industries (I) Ltd. vs Union of India And Ors.*, 2 April, 2013, at para. 39 (pp. 59-60) available at: <https://indiankanoon.org/doc/26352158/>

²⁴⁹ The Supreme Court Judgment refers at p. 59 to “Rs. 100 Crores”, which corresponds to 1 billion Indian Rupees.

²⁵⁰ *Ibidem*, at para. 39 (pp. 59-60).

²⁵¹ See: Article 14, National Green Tribunal Act, 2010 (NGT Act), available at:

https://greentribunal.gov.in/sites/default/files/act_rules/National_Green_Tribunal_Act_2010.pdf and the National Green Tribunal website: <https://greentribunal.gov.in/>

²⁵² *Ibidem*, Article 15, NGT Act.

order or award, shall apply the principle of sustainable development, the precautionary principle and the polluter pays principle.²⁵³ After 10 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.²⁵⁴ Across a wide variety of cases, ranging from infringement of permit conditions, operating without prerequisite permits, while impacting the environment, 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 authorities with a 'fait accompli'.²⁵⁵ 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", and further 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".²⁵⁶ 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,²⁵⁷ and 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.²⁵⁸ The NGT reiterated in the *Bagga* case that "...once the nexus between the activity, particularly illegal activities, and the consequential damage to the

²⁵³ *Ibidem*, Article 20, NGT Act.

²⁵⁴ Center for Science and Environment (CSE), *Green Tribunal, Green Approach – The Need for Better Implementation of the Polluter Pays Principle*, (2018), pp. 48, ("CSE Report") available at: <http://www.indiaenvironmentportal.org.in/files/file/green-tribunal-green-approach-report.pdf> (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.)

²⁵⁵ *Naim Sharif Hasware vs. M/s Das Offshore Co.* (Application No.15(THC)/2014), National Green Tribunal, at para. 37, available at: https://cdn.downtoearth.org.in/dte/userfiles/images/pune%20judgement_24_12_2014.pdf (the NGT refers to Indian Rupees 25 Crores, and Indian Rupees 5 Crores respectively).

²⁵⁶ *Ibidem*.

²⁵⁷ See: *Gurpreet Singh Bagga & Ors. V. Ministry of Environment and Forests & Ors.*, Original Application No. 184 of 2013, NGT, Delhi, 18 February, 2016, available at:

<http://www.indiaenvironmentportal.org.in/files/minor%20minerals%20Yamuna%20Saharanpur%20NGT.pdf>

²⁵⁸ In appeal, this compensation amount has since been reduced by the Supreme Court. See: Supreme Court of India, *M/S. Goel Ganga Developers India vs Union of India Through Secretary*, 10 August, 2018, at para. 57, available at: <https://indiankanoon.org/doc/63473709/>

environment and ecology is established, the liability in terms of the NGT Act arises”, while also acknowledging 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”,²⁵⁹ thereby echoing to an extent what the ICJ stated in the 2018 *Costa Rica* case as well.²⁶⁰

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% of the sale proceeds of the minerals extracted by way of compensation.²⁶¹ Subsequently, the Supreme Court and the NGTs more generally have almost always calculated the amount of environmental compensation based on a 5% ratio of the project cost,²⁶² which has been criticized by some authors as not always being adequate or scientific enough.²⁶³ 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”.²⁶⁴ 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.²⁶⁵ The Supreme Court stated “...we 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”.²⁶⁶

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

²⁵⁹ See: *Gurpreet Singh Bagga* case, supra note 257, at pages 133-134.

²⁶⁰ *Costa Rica* case, supra note 1, at para. 35.

²⁶¹ See: Supreme Court of India, *Goa Foundation vs Union Of India & Ors*, 14 October, 2014, available at: <https://indiankanoon.org/doc/193275439/>

²⁶² See: CSE Report, supra note 254, at p. 8 (“In all matters, except one, the penalty has been stipulated as ‘five per cent of the project cost’”).

²⁶³ See: See for a detailed analysis: Raghuvveer Nath & Armin Rosencranz, *Determination of Environmental Compensation: the Art of Living* case, 12 NUJS L. Rev. 1, (2019), pp. 1-15, at p. 3, available at: <https://nujlawreview.org/wp-content/uploads/2019/10/12-1-Armin-Rosencranz-Raghuvveer-Nath-3.pdf>

²⁶⁴ *Ibidem*, at p. 7.

²⁶⁵ As per Section 22 of the NGT Act, supra note 251, any person aggrieved by any award, decision or order of the NGT may file an appeal to the Supreme Court within 90 days.

²⁶⁶ See: *Goel Ganga Developers* case, supra note 258.

contradictory evidence, it is generally observed that in more blatant cases of non-compliance 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% 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.

- iv. Punitive damages in civil law countries & 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 when 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”.²⁶⁷ 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”.²⁶⁸ 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. It further clarifies that “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”.²⁶⁹ 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*.²⁷⁰ The comparative analysis of punitive damages across different countries would go well beyond the

²⁶⁷ See: Cappelletti, Marco, *Punitive Damages and the Public/Private Distinction: A Comparison Between the United States and Italy*, Arizona Journal of International and Comparative Law, (2015), Vol. 32, No. 3, available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2707742

²⁶⁸ See: Helmut Koziol, *Punitive Damages - A European Perspective*, 68 La. L. Rev. (2008), pp. 741-764, at p. 748 available at: <https://digitalcommons.law.lsu.edu/lalrev/vol68/iss3/3>

²⁶⁹ Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II), see in particular 32nd “whereas” clause, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0864&from=en>

²⁷⁰ Helmut Koziol, supra note 268, at p. 750.

scope of this paper, but suffice 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 it is not a *sinecure* for the 15 Judges of the ICJ with such varied domestic backgrounds to pronounce themselves unequivocally on punitive damages in the context of public international law,²⁷¹ with a lack of clear or at least debatable precedents, and the ILC's 2001 Draft Articles on Responsibility of States clearly indicating 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".²⁷² As further observed by Veronika Fikfak, it is interesting to note that more recently before the Europe 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".²⁷³ We may add here that 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.²⁷⁴ It's 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

i. 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

²⁷¹ See for an overview of the current 15 Judges of the ICJ: <https://www.icj-cij.org/en/current-members> And for their election procedure, see more at: Articles 4-19 of the ICJ Statute, supra note 4.

²⁷² See: Article 36 of the ILC 2001 Draft Articles on Responsibility of States for Internationally Wrongful Acts, supra note 8.

²⁷³ Veronika Fikfak, *Changing State Behaviour: Damages before the European Court of Human Rights*, European Journal of International Law, Volume 29, Issue 4, November 2018, Pages 1091–1125, at p. 1096, available at: <https://doi.org/10.1093/ejil/chy064> See also on the relevance of deterrence in the context of human rights law: Shelton, Dinah L., *Remedies in International Human Rights Law* (Chapter) (2005), GWU Legal Studies Research Paper No. 2013-56; GWU Law School Public Law Research Paper No. 2013-56, available at: <https://ssrn.com/abstract=2235195>

²⁷⁴ IOPC Funds, Claims Manual, 2019 Edition, supra note 153, at para. 1.4.13.

and highly technical matters”.²⁷⁵ In the *Costa Rica* case the critique is mainly directed at its “opaque reasoning” on how it arrived at its final calculation of the amount to be compensated.²⁷⁶ This *Costa Rica* 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.²⁷⁷ 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,²⁷⁸ making it “somewhat surprising that the Court did not also conduct an examination of experts to assess and estimate environmental damages” in this case.²⁷⁹ After all, Article 50 of the ICJ Statute offers that 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.²⁸⁰ 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”.²⁸¹ Indeed, the ICJ throughout its history, has actually “rarely appointed its own experts” and in his

²⁷⁵ See, *inter alia*, *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at para. 22 (and references therein). See further: Loretta Malintoppi, *Fact Finding and Evidence Before the International Court of Justice Notably in Scientific-Related Disputes*, *Journal of International Dispute Settlement*, Volume 7, Issue 2, July 2016, Pages 421–444, available at: <https://academic.oup.com/jids/article-abstract/7/2/421/1751115?redirectedFrom=PDF>; Cymie Payne, *Mastering the Evidence: Improving Fact-finding by International Courts*, *Environmental Law Journal*, (2011) Volume 41, pp. 1191-1220, available at: <https://law.lclark.edu/live/files/10602-414corrected7tojcipaynepdf>; and James Gerard Devaney, *The Law and Practice of Fact-Finding before the International Court of Justice*, 2014, Thesis submitted to the European University Institute, Department of Law, available at: https://cadmus.eui.eu/bitstream/handle/1814/33884/2014_Devaney.pdf?sequence=1

²⁷⁶ See, *inter alia*, Diane Desierto, *supra* note 154.

²⁷⁷ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at paras. 25-28.

²⁷⁸ See: ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* (2015), *supra* note 49.

²⁷⁹ Diane Desierto, *supra* note 154.

²⁸⁰ Article 50, Statute, ICJ, *supra* note 4.

²⁸¹ Mohamed Bennouna, *Experts before the International Court of Justice: What for?*, *Journal of International Dispute Settlement*, Volume 9, Issue 3, September 2018, Pages 345-351, at p. 346, available at: <https://doi.org/10.1093/jnlids/idy009>

view such appointments should remain the rule rather than the exception.²⁸² 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),²⁸³ damage to property cases (such as in the *Corfu Channel* case)²⁸⁴ or “damage to the environment”.²⁸⁵ However, the 2018 *Costa Rica* case gives no indication that the Court relied on this opportunity, and the resultant compensation amount based on broad references to the Court’s blended methodology mixing 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.²⁸⁶ The Judges Al-Khasawneh and Simma in their Joint Dissenting Opinion in the 2010 *Pulp Mills* case opined that “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”.²⁸⁷ 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”.²⁸⁸ 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.²⁸⁹ Indeed, in India, civil courts and the NGTs routinely appoint experts

²⁸² *Ibidem*, at pp. 347-348.

²⁸³ See: *Chorzów Factory* case, supra note 28.

²⁸⁴ See: *Corfu Channel* case, supra note 40.

²⁸⁵ Mohamed Bennouna, supra note 281, at p. 350.

²⁸⁶ See references supra note 275.

²⁸⁷ *Pulp Mills* case, supra note 44, Joint Dissenting Opinion of Judge Al-Khasawneh and Judge Simma, at para. 12, available at: <https://www.icj-cij.org/files/case-related/135/135-20100420-JUD-01-01-EN.pdf>

²⁸⁸ James Gerard Devaney, *The Law and Practice of Fact-Finding before the International Court of Justice*, 2014, Thesis submitted to the European University Institute, Department of Law, available at:

https://cadmus.eui.eu/bitstream/handle/1814/33884/2014_Devaney.pdf?sequence=1 See also: James Gerard Devaney, *Reappraising the Role of Experts in Recent Cases Before the International Court of Justice* (forthcoming – in print), German Yearbook of International Law, Vol 62, (2019), available at: <http://eprints.gla.ac.uk/207676/>

²⁸⁹ See, *inter alia*, Supreme Court of India, in *G. Sundarajan vs Union of India & Ors.* (often referred to as: *Kudankulam* case), 6 May, 2013, paras. 187-188, available at: <https://indiankanoon.org/doc/184104065/> (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

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.²⁹⁰ Typically, the expert evidence so obtained tends to offer the necessary clarity and is generally followed by the courts ‘as is’.²⁹¹ Interestingly, for several decades now, Australia has developed experience with “hot tubbing” or a concurrent expert evidence paradigm, where the expert witnesses from the parties are called to a joint session to focus on the disparities in their submissions.²⁹² 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.²⁹³ The hot-tubbing has been extensively used in Australia in environmental and land disputes, and was adopted in the UK in 2013 as well.²⁹⁴ The ICJ may not be able to be as entrepreneurial 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, requiring scientific assessments and calculations, it may be advisable to have the cobbler stick to his last.

ii. On valuation methods

Admittedly, the valuation of natural resource damages (pending their ultimate restoration) 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 legislations to address natural resource damage (“NRD”) assessments and related valuation techniques was the Comprehensive

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.”).

²⁹⁰ 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. See more at: <https://www.neeri.res.in/>

²⁹¹ See: Steven Rares, Judge of the Federal Court of Australia an additional judge of the Supreme Court of the Australian Capital Territory, *Using the "Hot Tub"- How Concurrent Expert Evidence Aids Understanding Issues*, (October 2013), available at: <https://www.fedcourt.gov.au/digital-law-library/judges-speeches/justice-raises/raises-j-20131012>

²⁹² *Ibidem*.

²⁹³ *Ibidem*.

²⁹⁴ For a brief comparison between the “hot-tub” experience in Australia and UK, see more at: Antonia Croke and Louise Mallon, *Hot-tub: Lessons from Australia*, Commercial Litigation Newsletter, (October, 2013), available at: <https://www.ashurst.com/en/news-and-insights/legal-updates/hot-tub-lessons-from-australia-commercial-litigation-newsletter-october-2013/>

Environmental Response, Compensation, and Liability Act (CERCLA)²⁹⁵ adopted by the US in 1980 in the context of spills of hazardous substances.²⁹⁶ By reference, these valuation techniques were subsequently incorporated in the 1990 Oil Pollution Act (OPA),²⁹⁷ and both CERCLA and OPA are governed in this regard by the Natural Resource Damage Assessment (NRDA) Regulations.²⁹⁸ Both CERCLA and OPA rely on federal agencies and state agencies to serve as Natural Resource “Trustees”²⁹⁹ 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) and oil spills (OPA).³⁰⁰ In a 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.³⁰¹ 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 ecosystem services until restoration is complete.³⁰² It is worth pointing out that the UNCC accepted HEA as an “appropriate method for determining the nature and extend of *compensatory remediation* in order to make up for the loss of ecological services”.³⁰³ Moreover,

²⁹⁵ The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 1980, 42 U.S. Code Chapter 103, available at: <https://www.law.cornell.edu/uscode/text/42/chapter-103>

²⁹⁶ See for instance, US Environmental Protection Agency: <https://www.epa.gov/superfund/natural-resource-damages-primer>; and Department of Environmental Conservation, New York State: <https://www.dec.ny.gov/regulations/2411.html>

²⁹⁷ Oil Pollution Act, 1990, see supra note 191.

²⁹⁸ See more at: Emanuela Orlando, supra note 76.

²⁹⁹ See more about Trustees here: <https://www.epa.gov/superfund/natural-resource-damages-trustees>

³⁰⁰ See more at: See further: Richard W. Dunford, Thomas C. Ginn, William H. Desvousges, *The Use of Habitat Equivalency Analysis in Natural Resource Damage Assessments*, *Ecological Economics* 48(1):49-70, February 2004, available at:

<https://www.researchgate.net/publication/223476160> *The use of habitat equivalency analysis in natural resource damage assessments* ; and Baker, M., Domanski, A., Hollweg, T. *et al. Restoration Scaling Approaches to Addressing Ecological Injury: The Habitat-Based Resource Equivalency Method*, *Environmental Management* 65, 161–177 (2020), available at: <https://link.springer.com/article/10.1007/s00267-019-01245-9>

³⁰¹ W. Douglass Shaw and Marta Wlodarz, *Ecosystems, Ecological Restoration, and Economics: Does Habitat or Resource Equivalency Analysis Mean Other Economic Valuation Methods Are Not Needed?*, *Ambio*, (2013), 42(5), pp. 628–643, available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3698326/> On scaling methods, read more at: National Oceanic and Atmospheric Administration, <https://darrp.noaa.gov/economics/habitat-equivalency-analysis>

³⁰² European Commission, Science for Environment Policy, *Habitat Equivalency Analysis Reveals Highest Priority Projects for Damaged Ecosystems*, available at:

https://ec.europa.eu/environment/integration/research/newsalert/pdf/habitat_equivalency_analysis_reveals_highest_priority_projects_for_damaged_ecosystem_restoration_434na3_en.pdf

³⁰³ See more at: Peter H. Sand, *Compensation for Environmental Damage*, supra note 149.

the 2004 EU-wide Environmental Liability Directive incorporates HEA as a legally binding method as well.³⁰⁴ We may add here that 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, unlike with economic valuation methods, is that this service-to-service or resource-to-resource scaling “does not require quantification of lost services in monetary terms”³⁰⁵ as restoration costs are “easier to estimate”.³⁰⁶ 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.³⁰⁷ That is, even if recovery is obtained for the costs of restoration, clean-up and prevention, 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.³⁰⁸ 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 more controversial than others, and include the travel cost method,³⁰⁹ hedonic pricing,³¹⁰ and contingent valuation.³¹¹ For instance, the UNCC rejected claims based on the travel cost method, but more recently, the Trustees overseeing the *Deepwater Horizon* oil spill natural

³⁰⁴ Environmental Liability Directive (ELD), supra note 84. See also (including hypothetical example of applying HEA to a polluted wetland): https://ec.europa.eu/environment/legal/liability/pdf/eld_brochure/ELD%20brochure.pdf

³⁰⁵ See more on HEA: National Oceanic and Atmospheric Administration, *Habitat Equivalency Analysis: An Overview*, (Revised 2000), available at: <https://casedocuments.darrp.noaa.gov/northwest/cbay/pdf/cbhy-a.pdf> Also, in the context of coral reefs: Milon, J. Walter, and Richard E. Dodge, *Applying habitat equivalency analysis for coral reef damage assessment and restoration*, *Bulletin of marine science* 69, no. 2 (2001): 975-988, available at: <https://core.ac.uk/download/pdf/51093548.pdf> (“In 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”).

³⁰⁶ See also: Emanuela Orlando, supra note 76.

³⁰⁷ Thomas J. Schoenbaum, *Liability for Damages in Oil Spill Accidents: Evaluating the USA and International Law Regimes in the Light of Deepwater Horizon*, *Journal of Environmental Law*, (2012), 24:3, pp. 395-416, available at: <https://academic.oup.com/jel/article/24/3/395/391035>

³⁰⁸ See more at: Philippe Sands and Richard B. Stewart, *Valuation of Environmental Damage – US and International Law Approaches*, *RECIEL*, (1996), Volume 5, Issue 4, pp. 290 – 296, at pp. 293-294, available at: https://www.researchgate.net/publication/229503420_Valuation_of_Environmental_Damage-US_and_International_Law_Approaches

³⁰⁹ 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.

³¹⁰ Hedonic pricing measures environmental amenities by comparing the value of the adversely affected area with similar unaffected areas.

³¹¹ 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, do read: Timothy Taylor, *Conversable Economist* (blog): <https://conversableeconomist.blogspot.com/2018/03/contingent-valuation-and-deepwater.html>

recourse injury restoration, found it a fully acceptable valuation method.³¹² 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 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.³¹³

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 the costs of reasonable measures of reinstatement of the impaired environment, the costs of preventive measures and 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.³¹⁴ 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.³¹⁵ As mentioned, the IOPC Funds’ Guidelines underscore the fact that this oil pollution compensation 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.³¹⁶ 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.” As mentioned, the IOPC Funds’ Claims Manual also make 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.³¹⁷ 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.³¹⁸ 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,³¹⁹ which also clearly served as a model for the EU-wide ELD adopted in 2004. Relatedly, some

³¹² See: Trustees’ Plan, supra note 192, at pages 31-32.

³¹³ *Ibidem*.

³¹⁴ See: Philippe Sands and Richard B. Stewart, supra note 308, at p. 292.

³¹⁵ See also: Anne Daniel, supra note 116.

³¹⁶ IOPC Funds, Claims Manual, supra note 153, at para. 1.14.

³¹⁷ *Ibidem*, at para. 1.4.13.

³¹⁸ See: Philippe Sands and Richard B. Stewart, supra note 308, at p. 294.

³¹⁹ See: Emanuela Orlando, supra note 76.

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.³²⁰

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.

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 flexibility to evolve when addressing compensation for environmental damage. This is a vast topic in itself, but let us just briefly illustrate this point 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 Fund regime, although it took part in the negotiations, and this “mainly because compensation under the international scheme—which would have been exclusive if adopted—was deemed too low”.³²¹ 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

³²⁰ See, for instance, in the context of environmental damage caused by hazardous wastes: *Paryavaran Suraksha Samiti & Anr. Applicant(s) Versus Union of India & Ors. Respondent(s)*, National Green Tribunal, New Delhi, (Original Application No. 593/2017, (W.P.)(Civil) No. 375/2012), (19 February, 2019), available at: <http://www.indiaenvironmentportal.org.in/files/file/ETP-CETP-STP-NGT-order.pdf> See also: Compliance Report (10 May, 2019) filed by the Central Pollution Control Board (CPCB) in the matter of OA No. 804 of 2017 (Earlier OA No.36/2012) titled *Rajiv Narayan & Anr. Vs Union of India & Ors.*, in compliance of Hon’ble National Green Tribunal Order dated 12 April, 2019, available at: <http://www.mppcb.mp.gov.in/proc/HW/Environment-compensation-guidelines-by-CPCB.pdf> (including Annexure A: Determination of Environmental Compensation to be recovered for violation of Hazardous and Other Wastes). As well as: Central Pollution Control Board (CPCB), *Enforcement Framework for Effective Implementation of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016*, (July, 2019), available at: <http://www.mppcb.mp.gov.in/proc/HW/Enforcement-framework-for-effective-implementation-guidelines-of-CPCB.pdf>

³²¹ Ronen Perry, *The Deepwater Horizon Oil Spill and the Limits of Civil Liability*, 86 WASH. L. REV. 1 (2011), at p. 7, available at: <https://digitalcommons.law.uw.edu/wlr/vol86/iss1/2> See also: Emanuela Orlando, *supra* note 76.

reviewing some of these domestic legal developments, one can but help agreeing 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",³²² including when compared to the progress made in various domestic regimes. International bodies, be it the ICJ or the Panels within the IOPC Fund 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.³²³ It also resulted in a massive release of oil and other substances from BP's Macondo well. For 87 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.³²⁴ The total volume of oil released is about 12 times more than the 1989 *Exxon Valdez* oil spill that took place in Alaska.³²⁵ Oil spread from the deep ocean to the surface and nearshore environment, from Texas to Florida, affecting about 2,100km of shoreline.³²⁶ The US Deepwater Horizon case led to both complex civil litigation³²⁷ and criminal prosecution.³²⁸

³²² See: Anne Daniel, *supra* note 116.

³²³ See, *inter alia*, Trustees' Plan, *supra* note 192, at p. 1.

³²⁴ *Ibidem*, at p. 5.

³²⁵ *Ibidem*.

³²⁶ *Ibidem*, at pp. 4-5.

³²⁷ See: John C. Cruden, Steve O'Rourke and 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*, Michigan Journal of Environmental and Administrative Law, (2016), Volume 6, Issue 1, available at: <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1056&context=mjeal>

³²⁸ See US EPA website for summary of criminal prosecutions. In short: In 2013, BP Exploration and Production Inc. pleaded guilty to 14 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 U.S. 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. You can read more at: https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2468

In April 2016, the federal court in New Orleans entered a consent decree resolving civil claims against BP.³²⁹ This settlement resolves the US Government’s civil penalty claims under the Clean Water Act, the Government’s claims for natural resource damages (NRD) under the Oil Pollution Act, and encompasses a related settlement of economic damage claims of the Gulf States and local governments.³³⁰ 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.³³¹ Under the Consent Decree, BP will pay a Clean Water Act civil penalty of USD 5.5 billion (plus interest), USD 8.1 billion in natural resource damages (this includes USD 1 billion BP already committed to pay for early restoration), up to an additional USD 700 million for adaptive management or to address injuries to natural resources that are presently unknown but may come to light in the future, and USD 600 million for other claims.³³² 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.³³³

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 15 years.³³⁴ 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

³²⁹ See: US Department of Justice website: <https://www.justice.gov/enrd/deepwater-horizon>

³³⁰ *Ibidem*.

³³¹ *Ibidem*.

³³² *Ibidem*. Other costs include claims under the False Claims Act, royalties, and reimbursement of NRD assessment costs and various other expenses due to the incident.

³³³ *Ibidem*. See also: Trustees’ website: <https://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan/> 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.

³³⁴ *Ibidem*.

evaluated many endpoints, including mortality, immune system suppression, reproductive impairment, growth inhibition, behavioral impairment, developmental defects, etc.³³⁵ 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, toxicity) per natural resource and their methodology for injury quantification.³³⁶

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.³³⁷ Hence, even if the United States had been a party to the IOPC Fund regime, the relevant conventions would not have applied to the case at hand. This also exposes a legal lacuna in the IOPC Fund 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 400km of shoreline. By 2012, about 7,100 claims for compensation had been submitted to the IOPC Fund in respect of the incident for a total of Euro 389 million; out of which Steamship Mutual, the shipowner's insurer, paid Euro 12.8million and the 1992 Fund about Euro 117 million. Some 1,000 claims totaling Euro 32million were rejected.³³⁸

On the basis of a report by an expert appointed by the magistrate in the *Tribunal Correctionnel de Paris*, criminal charges were also brought against the master of the *Erika*, the representative of the registered owner, and various other entities. What is relevant for the purpose of this paper, with our focus on civil liability, a number of claimants, including the French Government, local authorities and environmental associations joined the criminal proceedings as civil parties,

³³⁵ See Trustees' Plan, *supra* note 192.

³³⁶ *Ibidem*. 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.

³³⁷ See for further analysis: M. Smith, *The Deepwater Horizon Disaster: An Examination of the Spill's Impact on the Gap in International Regulation of Oil Pollution from Fixed Platforms*, *Emory International Law Review*, (2011), pp. 1477-1516, available at: <http://law.emory.edu/eilr/documents/volumes/25/3/comments/smith.pdf>

³³⁸ See: IOPC Funds, *Incidents Involving the IOPC Funds*, (2012), pp. 54, p. available at: https://www.iopcfunds.org/uploads/tx_iopcpublishations/incidents2012_e.pdf See also: Philippe Sands and Jacqueline Peel, *supra* note 12, at pp. 754-755.

claiming compensation totaling Euro 400 million. 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. 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.³³⁹ 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 Correctionnel de Paris* assessed the total damages to be about Euro 204 million, including Euro 154 million for the French State. 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.³⁴⁰ 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 Correctionnel de Paris*. In this landmark Judgment, the Court of Appeal 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 moral damage arising from 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.³⁴¹ The Court of Appeal accepted the right to compensation for “pure” environmental damage, i.e. damage to non-marketable environmental resources that constitute a legitimate collective interest; and assessed the civil damages as follows: (1) material damages – Euro 165.4 million; (2) moral damages (loss of enjoyment, damage to reputation and brand image, moral damage arising from damage to the natural heritage) – Euro 34.1 million; and (3) pure environmental damage (damage to non-marketable environmental resources) – Euro 4.3 million; with a combined total civil damages amount of Euro 203.8 million.³⁴²

³³⁹ See: IOPC Funds, *Incidents Involving the IOPC Funds*, supra note 338.

³⁴⁰ See: Philippe Sands and Jacqueline Peel, supra note 12, at p. 754; and D. Papadopolou, *The Role of French Environmental Associations in Civil Liability for Environmental Harm: Courtesy of Erika*, *Journal of Environmental Law*, (2008), 21(1), available at:

https://www.researchgate.net/publication/31357778_The_Role_of_French_Environmental_Associations_in_Civil_Liability_for_Environmental_Harm_Courtesy_of_Erika

³⁴¹ Cour d'Appel de Paris, 30 mars 2010, available at: https://actu.dalloz-estudiant.fr/fileadmin/actualites/pdfs/MARS_2014/Erika_CA_Paris_30_mars_2010.pdf

³⁴² See: IOPC Funds, *Incidents Involving the IOPC Funds*, supra note 338, at p. 9.

In final instance, the French Court of Cassation (Criminal Chamber), confirmed the judgement of the Paris Court of Appeals in its decision rendered on 25 September 2012.³⁴³ 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.” 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 8 August 2016.³⁴⁴ 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 states that “*any person who causes environmental damage will be held liable*”. 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).³⁴⁵ 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.³⁴⁶ 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),³⁴⁷ the fact is that it does offer the necessary flexibility to Judges to assess the damage based on the facts of each case and taking into account the evolution of science in this area and thereby implicitly also encouraging Judges to rely on sectoral experts to guide

³⁴³ Cour de Cassation, Chambre criminelle, 25 September, 2012, (pourvoi n 10-82938), available at: <https://www.legifrance.gouv.fr/affichJuriJudi.do?oldAction=rechJuriJudi&idTexte=JURITEXT000026430035&fastPos=1>

³⁴⁴ See : Loi n° 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages, and Article 1246 Code Civil France (8 August 2016), available at : <https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000033019109&cidTexte=LEGITEXT00006070721&dateTexte=20161001> See more at: Latham Watkins, *The Notion of ‘Ecological Prejudice’ Now in the French Civil Code*: <https://www.latham.london/2017/01/the-notion-of-ecological-prejudice-now-in-the-french-civil-code/>

³⁴⁵ See for a succinct English summary of the new French Civil Code provisions: <https://www.ukpandi.com/knowledge-publications/article/legal-update-new-developments-in-french-environmental-law-136823/> 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.

³⁴⁶ See more extensively on the analysis of *de minimis* thresholds in various civil liability regimes for environmental damage: Philippe Sands and Jacqueline Peel, *supra* note 12, at pp. 708-711; and OECD Working Group Report, *supra* note 121.

³⁴⁷ See, *inter alia*: Philippe Sands and Jacqueline Peel, *supra* note 12, at pp. 708-711; and H  l  ne Leleu, *Action en Justice Contre Les Pollueurs: o   en est la r  paration du pr  judice   cologique ?*, available at : <https://www.village-justice.com/articles/action-justice-contre-les-pollueurs-est-reparation-prejudice-ecologique,29212.html>

them in their assessment. Certainly, regulatory permits issued to companies can be more specific in terms of the absolute threshold of pollution levels it has to comply with, or 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. We may add here that France had amended its Constitution in 2005 to insert a “Charter for the Environment” and in doing so elevated the “right to live in a balanced environment which shows due respect for health” (Article 1) to a fundamental right³⁴⁸ and to cement the precautionary principle in the French Constitution as a principle which public authorities must incorporate in their decisions,³⁴⁹ and which has been applied since then by the French *Conseil d’Etat* (“French Administrative Supreme Court”) as well.³⁵⁰

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 liability 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 Fund regime to the ship owner and his insurer³⁵¹ only and the exclusion of compensation for damage to

³⁴⁸ From a comparative perspective, we may add here that the Supreme Court of India in 1991 held that the “Right to live 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 more at: *Subhash Kumar vs State of Bihar and Ors.*, 9 January, 1991, 1991 AIR 420, available at: <https://indiankanoon.org/doc/1646284/>

³⁴⁹ See for an English version of the Charter for the Environment: https://www.conseil-constitutionnel.fr/sites/default/files/as/root/bank_mm/anglais/charter_environment.pdf. For the original version, please read: http://www.drieec.ile-de-france.developpement-durable.gouv.fr/IMG/pdf/charte_environment_cle74252c-2.pdf

³⁵⁰ See for a further analysis: David Marrani, *Human Rights and Environmental Protection: The Pressure of the Charter of the Environment on the French Administrative Courts*, Sustainable Development Law & Policy, Fall 2009, pp. 52-57, available at:

<https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1013&context=sdlp>

³⁵¹ 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

the non-marketable components of the environment, or the environment *per se*.³⁵² Conversely, it also triggered discussions within the IOPC Fund regime on whether their goal of ensuring uniformity in the field of civil 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”.³⁵³ 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”.³⁵⁴ Here we see, how 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 be open to the idea to act more as communicating vessels. This will ensure that international regimes will not be outpaced by and lose their relevance compared to domestic regimes when addressing environmental compensation claims.

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. Where the ICJ Judgment did disappoint is by failing to shed clarity on the

knowledge that such damage would probably result. See more at: <https://iopcfunds.org/about-us/legal-framework/1992-civil-liability-convention/>

³⁵² See : Laurent Neyret, *L'affaire Erika, moteur d'évolution des responsabilités civile et pénale*, Recueil Dalloz, 2010, pp. 2238, available at : https://actu.dalloz-etudiant.fr/fileadmin/actualites/pdfs/SEPTEMBRE_2012/D2010-2238.pdf; and Doublevrai Desfontaines, *Commentaire de l'Article 1246 du Code Civil*, available at :

https://www.academia.edu/41351850/COMMENTAIRE_DE_LARTICLE_1246_DU_CODE_CIVIL

³⁵³ Måns Jacobsson, *Five Speeches on Civil Liability for Marine Pollution (2013-2017)*, Studio Legale Lauro (2017), pp. 49, at p. 30, available at: <http://www.shippingandthelaw.org/wp-content/uploads/2018/01/MJ-Five-speeches.pdf>

³⁵⁴ *Ibidem*, at p. 31. Måns Jacobsson was from 1985 to 2006 Director and Chief Executive Officer of the International Oil Pollution Compensation Funds (IOPC Funds).

valuation method it ultimately relied upon to calculate the final compensation amount for environmental damage owed by Nicaragua to Costa Rica. It's 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 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. This 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 of this paper 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".³⁵⁵

However, as former ICJ Judge Kooijmans observed, the ICJ is a collegiate 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.³⁵⁶ 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 damages that has grown exponentially over

³⁵⁵ *Costa Rica* case, Dissenting Opinion of Judge *Ad Hoc* Dugard, *supra* note 11, at paras. 36 and 39.

³⁵⁶ Pieter Kooijmans, *supra* note 211.

the last 40 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 also allowed us to take stock more broadly of where public international law stands in terms of the 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. The short of it is that 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,³⁵⁷ Gehring and Jachtenfuchs,³⁵⁸ 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 50 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 culminated into a binding treaty on State liability for environmental damage.³⁵⁹ As pointed out by Boyle, to that extent “the general availability of civil law remedies for transboundary damage cannot be assumed”.³⁶⁰

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”,³⁶¹ by requiring that each State take all necessary measures to ensure that prompt and

³⁵⁷ See: Jutta Brunnée, *The Responsibility of States for Environmental Harm in a Multinational Context - Problems and Trends*, (1993), supra note 114.

³⁵⁸ Thomas Gehring and Markus Jachtenfuchs, *Liability for Transboundary Environmental Damage Towards a General Liability Regime?*, *European Journal of International Law*, (1993), available at: <http://www.ejil.org/pdfs/4/1/1228.pdf>

³⁵⁹ See also: Emanuela Orlando, supra note 76.

³⁶⁰ See: A. E. Boyle, supra note 61, at p. 4.

³⁶¹ Jutta Brunnée, *Of Sense and Sensibility: Reflections on International Liability Regimes as Tools for Environmental Protection*, *International and Comparative Law Quarterly*, (2004), Volume 53, Issue 2, pp. 351-368, at pp. 355-356, available at: https://www.researchgate.net/publication/231782686_Of_Sense_And_Sensibility_Reflections_On_International_Liability_Regimes_As_Tools_For_Environmental_Protection

adequate compensation is available for victims of transboundary damage caused by hazardous activities located within its territory and further suggesting 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. 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 treaties have entered into force. The exception being the 2010 Nagoya-Kuala Lumpur Supplementary Protocol which entered into force in 2018, which in part can be explained by the flexibility given to the Parties to implement the Protocol's obligations.³⁶² 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.³⁶³ As we have seen, 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.³⁶⁴ As efficient and laudable as the IOPC Funds have been, we have 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. As we further reviewed, in France the *Erika* oil pollution disaster in 1999 triggered a domestic debate 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 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 us to appreciate which valuation methods to calculate damage to natural resources are currently being used. The ICJ's reluctance to rely on punitive damages, also gave us the opportunity to review and compare the different approaches adopted vis-à-vis exemplary damages

³⁶² See more at: Emanuela Orlando, *supra* note 76, at p. 16.

³⁶³ UNEP Report, *supra* note 79, at p. 56.

³⁶⁴ See more at IOPC Funds, Annual Report, 2019, *supra* note 105, at p. 5. 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.

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 legislative and judicial 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.