The Positive Obligation to Prevent Climate Harm Under the Law of State Responsibility

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ABSTRACT

This Article analyses the positive obligation under the law of state responsibility to mitigate climate change harm and the evolving regime of environment-based human rights cases in progressing the overall climate regime. State responsibility can be a powerful means for states to hold other states accountable for causing transboundary environmental harm. Where a violation of the obligations can be established, states bear liability for their wrongdoing. The idea that wrongdoing should be met with reparation or some other recourse is an important attribute of the legal order with the potential to affect climate behaviour. The challenges in establishing a primary obligation to mitigate climate change damage due to the soft, open-ended and flexible nature of the climate regime imply that there are limits in international law as a means of recourse for climate change damage. However, the content of these soft and hard provisions within the climate regime informs the requisite standard of due diligence, which entails the taking of all appropriate measures to prevent the risk of damage where there are reasonable indications of potential risks of climate damage. A growing number of environment-based human rights cases in regional and domestic fora are representing emerging norms on how climate change prevention rules and principles are applied. The developing international jurisprudence informs the parameters of the obligation and the trend of climate change affecting human rights, which may further inform the content of the obligation. There has yet to be a climate-related case decided under international law. This Article argues that, in light of the burgeoning trend of domestic and regional climate litigation cases reflecting international norms and standards, climate cases can be litigated in an international court or tribunal.

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INTRODUCTION

This Article examines the growing body of international jurisprudence illustrating the evolved nature of the positive obligation to mitigate climate damage as a result of developed customary rules, principles and norms of general international law outside of climate treaties. Following this introduction, there are four Parts: (i) a discussion on the primary obligation under state responsibility that provides a theoretical discussion of the framework of the primary obligation and highlights the features of the responsibility regime that permit and reflect developments in the law; (ii) an overview of the regime of state responsibility on climate change damage highlighting the limitations of climate treaties used as a basis of litigation but noting that climate treaties inform the standards within the positive obligation that complement the evolved obligation within customary international law; (iii) a discussion on the limits of the state responsibility on climate change damage in preventing actual harm; and (iv) a discussion on how the climate change problem's effect on human rights highlights the interaction between human rights and climate change regimes and their respective relationships with one another in affecting the progressive development of the climate regime.

I. THE PRIMARY OBLIGATION UNDER STATE RESPONSIBILITY

The law of state responsibility reflects the workings of the international legal system, which is centred on states making international law and states being held accountable for complying with their international obligations.[1] The law of state responsibility addresses the legal consequences of internationally wrongful acts.[2] As a fundamental principle of international law, state responsibility is concerned with the liability for conduct that is in breach of an obligation imposed by the

1. Edith Brown Weiss, *Invoking State Responsibility in the Twenty-First Century*, 96 AM. J. INT'L L. 798, 798–99 (2002); Report of the International Law Commission on the Work of Its Fifty-third Session, 56 UN GAOR, Supp. No. 10, at 2, UN Doc. A/56/10 (2001), corrected in UN Doc. A/56/49 (2005), Int. Law Comm.

2. Report of the International Law Commission on the Work of Its Fifty-third Session, *supra* note 1.

international legal system.[3] States are required to make reparations for the injury caused by their breach of the obligation in question,[4] which stems from the traditional doctrine of making reparations.[5] The law of responsibility hence has developed into a regime that supervises compliance of international obligations and seeks to hold a state accountable for an internationally wrongful act which is met by the legal consequences that follow from the wrongful act.[6]

The final draft of the Articles on the Responsibility of States for Internationally Wrongful Acts ("ARSIWA") is the result of the International Law Commission's codifying the law of responsibility.[7] Part One of ARSIWA "focuse[s] on 'the internationally wrongful act of a state,' i.e. on the responsible state," and Part Two of the ARSIWA contains "the rights or entitlements of 'the injured state.'"[8] ARSIWA has four elements: first, liability is triggered by breaches of positive international law (that is, the primary rules which engage the law of responsibility when there is a breach of any positive obligation of international law by the responsible state[9]); second, ARSIWA applies to breaches of international law by a state when responsibility may be invoked by the injured state(s) as a means of recourse for the harm done to the state(s); third, ARSIWA prescribes consequences and remedies for a breach; and fourth, ARSIWA provides for countermeasures available to states to induce compliance of the secondary rules, that is, the requirements of the law of responsibility for the responsible state to make good its breach of an international obligation.[10] ARSIWA does not contain the primary rules but only encompasses the secondary rules that are triggered when a primary rule is breached and defines the consequences of any internationally wrongful act.[11] The International Law Commission ("ILC") adopted an "open and generally neutral approach . . . to the content of the primary rules" under the articles and thus did not "specify the content of the primary obligations of states."[12] The significance of the non-specificity of the primary rules is their broadness, which

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3. Factory at Chorzow, (Belgium v. China) Judgment, 1927, P.C.I.J (ser. A), No. 8; Factory at Chorzow (Germany v. Poland), Judgment, 1928, P.C.I.J (ser. A), No. 17, at 29.

4. Factory at Chorzow (Germany v. Poland), Judgement, 1928 P.C.I.J. (ser. A) No. 17. *See also* Spanish Zone of Morocco Claims (Great Britain v. Spain) 2 R.I.A.A., 615 (P.C.I.J. 1925).

5. Rep. of Special Rapporteur Garcia-Amador U.N. Doc. A/CN.4/106; *see also* MALCOLM SHAW, INTERNATIONAL LAW 566 (7th ed. 2014).

6. Spanish Zone of Morocco Claims, 2 R.I.A.A. 615. *See* JAMES CRAWFORD, BROWNLIE'S PRINCIPLES OF PUBLIC INTERNATIONAL LAW 524 (9th ed. 2019).

7. Rep. of Special Rapporteur Garcia-Amador U.N. Doc. A/CN.4/106, G.A. Res. A/71/505 (Nov. 11, 2016).

8. JAMES CRAWFORD, THE INTERNATIONAL LAW COMMISSION'S ARTICLES ON STATE RESPONSIBILITY, INTRODUCTION, TEXT AND COMMENTARIES 6 (Cambridge Univ. Press 2002).

9. Rep. of Special Rapporteur James Crawford, UN Doc. A/CN.4/490 and Add. 1–7 (1998); Jutta Brunnée, *International Legal Accountability Through the Lens of the Law of State Responsibility*, 36 NETH. Y.B INT'L L. 21, 22 (2005).

10. Brunnée, *supra* note 9, at 25.

11. *Id*. at 21–56.

12. James Crawford, *State Responsibility*, MAX PLANCK ENCYC. OF PUBLIC INT'L L. ¶ 12 (2006).

allows primary rules to evolve and develop. Responsibility arising from the breach of *any* international obligation was not confined to a states' obligations to a particular state but also extended to states' obligations to all other states or the international community as a whole (that is, obligations *erga omnes*).[13] Furthermore, the primary obligations made no distinction "between treaty and non-treaty obligations," because international law does not differentiate "between responsibility *ex delicto* and *ex contractu*."[14]

The law of state responsibility is engaged when there is a breach of any positive obligation of international law.[15] ARSIWA does not proactively engage in inducing compliance with environmental norms but instead implements a reactive system once an international obligation has been breached.[16] The function of responsibility in the articles shifts from establishing the obligations of the responsible state to the right of the injured state.[17] The articles allow claims of damages to be brought by the injured state on the basis that "'[a] [s]tate owes at all times a duty to protect other states against injurious acts by individuals from within its jurisdiction.'"[18] Alan Boyle, international law scholar and practitioner, argues the scope and outline of the articles were based on physical transboundary harm from the environmental field and the duty of the responsible state to "avoid, minimise and repair, transboundary harm foreseeable as a risk associated with activities taking place in its territory or under its control."[19] Conceptually, the law of state responsibility engages the rights and obligations of states and the legal interests of international actors (individuals, international organizations and corporations) and combines diverse modes of law-making and implementation.[20] Since international environmental law and international human rights law are examples of fields of law that broaden the international law regime beyond the legal interests of states, the open-ended articles may accommodate changes in the international legal order.[21]

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13. Barcelona Traction, Light and Power Company, Limited (Belgium v. Spain), Judgment, 1970 I.C.J. Rep. 3 at Par. 33.

14. Crawford, *supra* note 12, ¶ 12.

15. Responsibility of States for Internationally Wrongful Acts, art. 2(b), U.N. GA. A/56/49(Vol. I)/Corr.4. (2001).

16. Malgosia Fitzmaurice, *International Responsibility and Liability, in* OXFORD HANDBOOK OF INT'L ENV. L. 1010, 1034 (Daniel Bodansky, Jutta Brunnée & Ellen Hey eds., 1st ed. 2008) (ebook), Oxford Pub. Int'l L. 10.1093/law/9780199552153.001.0001.

17. Pierre-Marie Dupuy, *The International Law of State Responsibility: Revolution or Evolution?* 11 MICH. J. INT'L L. 105, 107–108 (1989).

18. Trail Smelter (U.S. v. Can.) 3 R.I.A.A. 1905, 1963 (1938–1941) (quoting CLYDE EAGLETON, RESPONSIBILITY OF STATES IN INTERNATIONAL LAW 80 (1928)).

19. Alan E. Boyle, *State Responsibility and International Liability for Injurious Consequences of Acts Not Prohibited by International Law: A Necessary Distinction?* 39 INT'L AND COMPAR. L. Q. 1, 3–5 (1990).

20. Brunnée, *supra* note 9, at 24.

21. *Id.*

ARSIWA may take into account the case law of the international courts, tribunals, WTO panels and the Appellate Body, the jurisprudence of the human rights courts and committees.[22] While emissions of GHGs originate from many sources within the territory of a state, including private sources, wrongful behaviour may be attributed to the state either on the basis of a direct breach of treaty or based on the fact that the state is responsible for not exercising its regulatory power to prevent breaches of international law. As Roda Verheyen, climate change and environmental lawyer, writes, states have the power to regulate the volume and type of emissions occurring in their territory, and they must use this power in such a way as not to cause harm to other states.[23] Where a breach of obligation is established and attributed to a state, state responsibility required the transgressor to take measures to cease the transboundary harm and provide reparation.[24]

The theory is that an aggrieved state may seek redress from the source state and sanction the wrongdoing.[25] Ian Brownlie, international law publicist and practitioner, notes that states have not traditionally claimed damages from another state, except on behalf of their nationals; nor have states set a pecuniary value on wrongs that do not involve damage to their nationals.[26] Because "[n]o modern pollution disaster, including Chernobyl, Sandoz, or *Amoco Cadiz* has resulted in . . . [a] claim against the state concerned," it is unlikely that states will invoke state responsibility.[27] The exception was the environmental damage following Iraq's invasion of Kuwait, as detailed in UN Security Council Resolution 687, which held Iraq responsible.[28] At present, other methods of recourse by way of civil liability and insurance schemes are preferred over inter-state litigation.[29] However, there is an increase of transboundary harm arising from the impacts of climate change that affects nationals of states, including their livelihoods and health.[30] It is foreseeable that such harm could potentially inflict severe damage on individuals and access to their human rights. The successful cases of *Urgenda*, *Leghari v. Pakistan* and *Juliana v. US* will open the door to more climate change

22. James Crawford, *Revising the Draft Articles on State Responsibility*, 10 EUR . J. INT'L L. 435, 436–37 (1999).

23. RODA VERHEYEN, CLIMATE CHANGE DAMAGE AND INTERNATIONAL LAW: PREVENTION DUTIES AND STATE RESPONSIBILITY 278 (2005).

24. *Id.*; Trail Smelter, (1938-41) 3 R.I.A.A. 1905, 1965–66.

25. Benoit Mayer, *Climate Change Reparations and the Law and Practice of State Responsibility*, 7 ASIAN J. INT'L L. 185, 215 (2017).

26. IAN BROWNLIE, SYSTEM OF LAW OF NATIONS: STATE RESPONSIBILITY (PART I) 31 (1st ed. 1983).

27. PATRICIA BIRNIE & ALAN BOYLE, INTERNATIONAL LAW AND THE ENVIRONMENT 178–79, (2d ed. 2002).

28. *Id.*

29. VERHEYEN, *supra* note 23, at 341–42.

30. Ove Hoegh-Guldberg et al., *Special Report: Global Warming of 1.5℃*, *in* THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2018), https://www.ipcc.ch/sr15/ (last visited Jan. 29, 2022) [https://perma.cc/ZG8Q-KJHS].

litigation.[31] There have already been hundreds of domestic climate change cases in the US, Europe and other regions over the past two decades.[32] Although these cases focus on domestic jurisdictions, the law of state responsibility—by incorporating evolving primary rules of customary law—provides a means for states to account for transboundary climate change damage at the international level. Island states including Vanuatu, Tuvalu and Palau have contemplated legal action under international law.[33]

II. STATE RESPONSIBILITY FOR CLIMATE CHANGE DAMAGE

States have the capability to regulate the volume and type of emissions released on their territory, so as to not cause harm to other states.[34] There thus needs to be an examination of the content and scope of the obligation to prevent climate change damage, whether derived from treaty law, customary international law or general principles of law in accordance with article 38 of the Statute of the International Court of Justice.

International law is comprised of treaty law and customary international law providing general and specific regimes of compliance. The scope of each of these regimes varies depending on the exact nature of the subject of regulation as well as their interactions with each other and other principles of general international law. The evolution of these constituent elements over time may alter the nature and content of climate change law[35] as well as when a breach of an obligation takes place. The legal regime regulating climate change damage includes the regulations brought by the UNFCCC in 1992, the Kyoto Protocol in 1997, and then the Paris Agreement in 2015, required accelerated action by state parties to prevent global warming and reflected the scientific consensus among policymakers of the risk ineffective action will bring.[36]

The UNFCCC founded the basis of the current global climate change regime but does not itself regulate climate change obligations. It sets out the shared

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31. Jacqueline Peel & Hari M. Osofsky, *A Rights Turn in Climate Change Litigation*, 7 TRANSNAT'L ENV'T L. 37, 38–40 (2018).

32. For a database of climate change cases, *see* CLIMATE CHANGE LITIGATION DATABASE, http://climatecasechart.com/climate-change-litigation/?cn-reloaded=1 (last visited on Jan. 29, 2022) [https://perma.cc/7WWY-7V28]; CLIMATE CHANGE LAWS OF THE WORLD: LITIGATION CASES, https://climate-laws.org/litigation_cases (last visited on Jan. 29, 2022) [https://perma.cc/38XT-CX4T].

33. Maxine Burkett, *A Justice Paradox: On Climate Change, Small Island Developing States, and the Quest for Effective Legal Remedy*, 35 UNIV. HAW. L. REV. 633, 640–41 (2013).

34. VERHEYEN, *supra* note 23.

35. ALEXANDER ZAHAR, INTERNATIONAL CLIMATE CHANGE LAW AND STATE COMPLIANCE 10–11, 171 (2015).

36. *See About the Secretariat*, UNITED NATIONS CLIMATE CHANGE, https://unfccc.int/about-us/about-the-secretariat [https://perma.cc/EG43-AS3Z] (last visited Feb. 8, 2022). *See generally* Harro van Asselt et al., *The Changing Architecture of International Climate Change Law*, *in* RESEARCH HANDBOOK ON CLIMATE CHANGE LAW 1–30 (Geert Van Calster et al. eds., 2015).

vision of common goals and interests of the international community.[37] Parties to climate change treaties have the general obligation to mitigate global warming, mainly through reducing GHG emissions within the states' national jurisdictions. However, treaty rules are regarded as "soft law," which presents the problem of establishing these as primary obligations when invoking state responsibility.[38] Nevertheless, these treaty regimes provide for the international standards and norms to which states are expected to adhere and were used as a basis for domestic courts and regional commissions to determine whether the Netherlands violated international law in *Urgenda*.[39] The Supreme Court of the Netherlands in *Urgenda* commented that the speed at which the state implemented its policy to meet the target goals was not adequate in light of IPCC recommendations. The case has ramifications for states' climate obligations, in that by adhering to the precautionary principle states must start making meaningful reductions in their pathways to carbon zero immediately in accordance with international policy milestones. In that case, both the Netherlands and Urgenda were in unison on the necessity to limit GHG emissions to achieve the 2° Celsius and 1.5° Celsius targets. What was in dispute, however, was "the speed at which the GHG emissions must be reduced."[40] The Supreme Court considered that the state's policy until 2011 was aimed at reducing emissions by 30% compared to 1990 in 2020, which was "a credible pathway" to achieving the 2° Celsius target.[41] However, after 2011 the Netherlands reduced its reduction target from 30% to 20% in 2020 which fell below EU and international standards.[42] However, the Netherlands contended it intended to accelerate the reduction to 49% in 2030 and 95% in 2050, which has been legislated upon in the Dutch Climate Act.[43] The Court questioned whether it was "responsible" of the Netherlands to reduce its 2020 target to 20% when the EU standard was a 30% reduction and the international standard was between 25% and 40%.[44] Furthermore, the Court took into account that "postponement . . . creates a greater risk of an abrupt climate change occurring as the result of the tipping point being reached" and noted that the Court of Appeal was entitled to rule that the state must comply with the international target of a reduction by at least 25% in 2020.[45] Accordingly, the Supreme Court ordered

37. Alan Boyle, *Climate Change and International Law, A Post-Kyoto Perspective*, 42 ENV'T POL'Y & L. 334 (2012); Christina Voigt, *State Responsibility for Climate Change Damages*, NORDIC J. INT'L L. 1, 5 (2008).

38. Tullio Scovazzi, *Some Remarks on International Responsibility in the Field of Environmental Protection in International Responsibility Today*, *in* ESSAYS IN MEMORY OF OSCAR SCHACHTER 210 (Maurizio Ragazzi ed.) (2005).

39. Urgenda Foundation v. The Netherlands [High Council of Netherlands] 20 Dec. 2019, ECLI:NL:HR:2019:2007 (The State of the Netherlands/Stiching Urgenda) 4 (Neth.).

40. *Id.* ¶¶ 7.4.1 –7.5.3.

41. *Id.*

42. *Id.*

43. *Id.*

44. *Id.*

45. *Id.*

the state to adhere to the international standard of reducing its GHG emissions in 2020 by at least 25% compared to 1990.[46] The Supreme Court in *Urgenda* adopted the standards in the UNFCCC, Kyoto Protocol and the Paris Agreement to come to its decision that, taking into account the global target to reduce emissions to 2° Celsius and to strive for a 1.5° Celsius goal, the Netherland's policy to cut its reduction target to 20% in 2020, which was below the 25% to 40% reduction target, breached its duty of care.[47]

In *Tatar,* the European Court of Human Rights found the state to have breached the precautionary rule in failing to take measures to prevent a public health hazard.[48] As states declare their ambitions, their due diligence efforts must consider the standards within the evolving human rights jurisprudence, as courts are increasingly enforcing them. In turn, these climate decisions influence the content of the standards and norms within the customary obligation not to cause significant harm in the evolved climate change regime.

A. CUSTOMARY LAW

The primary obligation has its legal basis in the customary legal obligation not to cause transboundary harm (the "no-harm principle") (*lex generalis*). The customary obligation to prevent transboundary harm would provide the grounds for invoking state responsibility by a state victim which has suffered environmental harm. The legal jurisprudence has developed the principle of prevention of significant harm, with the *Pulp Mills* case being of particular significance. *Pulp Mills* was a case between Argentina and Uruguay that was heard before the ICJ in respect of Uruguay's construction of two pulp mills along the River Uruguay, which Argentina contended degraded the quality of water, thus breaching substantive and procedural obligations of the 1975 Statute.[49] This obligation to prevent significant harm is an "obligation of conduct," not an "obligation of result."[50] It is understood to be "an obligation to act with due diligence in respect of all [the state's] activities . . . under [its] jurisdiction and control."[51] In *Pulp Mills*, the obligation was to "'preserve the aquatic environment, and in particular to prevent pollution by prescribing appropriate rules and measures.'"[52] The law on transboundary harm does not prohibit transboundary harm: The tribunal in *Trail Smelter* did not suggest that the operation of the industrial plants was

46. *Id*. at ¶¶ 8.1–8.3.5.

47. *Id*., at ¶¶ 7.4.1–7.5.3.

48. Press Release, Registrar, European Court of Human Rights: Chamber Judgment Tătar v. Romania (application no. 67021/01) (Jan. 27 2009), https://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=003-2615810-2848789&filename=003-2615810-2848789.pdf&TID=thkbhnilzk [https://perma.cc/Z7RA-GTCP].

49. Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, 2010 I.C.J. Rep. 14, ¶ 1.

50. *See* analysis in *id*. at ¶ 191–92, 197.

51. *Id*.

52. *Id*. (quoting Statute of the River Uruguay art. 41(a), Ur.-Arg., Feb. 26, 1975, 1295 U.N.T.S. 331).

wrongful; rather, in its final order, the tribunal "required that the smelter be prevented from causing damage through fumes, and to that end it prescribed a control regime."[53]

The Articles on the Prevention of Transboundary Harm from Hazardous Activities (the "Prevention Articles") reflect the customary rule on the prevention of transboundary harm and constitute *lex specialis* (the law governing a specialised subject) for the primary obligation of states under the law of responsibility.[54] The articles focus on prevention as a procedure, that is, a procedural obligation that needs to be fulfilled to prevent a significant harm. This focus reinforces the idea that prevention should be the preferred approach because compensation after harm has occurred does not restore the situation prior to the event.[55] Importantly, the ILC defined the scope of the Prevention Articles as not limited to regulating only harm against the environment but also to regulating harm to persons and property.[56] Article 3 of the Prevention Articles reinforces the due diligence obligation for states whose activities involve a risk of causing transboundary harm, obligating them to take all appropriate measures to prevent significant transboundary harm or at any event minimize the risk of the activities.[57] Article 3 emphasizes that the obligation to prevent or minimize is one of due diligence and it is the conduct of the state that will determine whether the state has complied with its obligations.[58]

There must be a breach of a due diligence obligation to prevent significant harm for responsibility to be triggered. The required degree of duty within the due diligence obligation is proportional to the degree of hazard involved.[59] The conditions that trigger the prevention principle are the foreseeability and degree of harm and the actual or reasonable knowledge of the state that the undertaken activity risks causing significant harm.[60] The ILC interpreted the "risk of causing significant harm" to mean "the combined effect of the probability of occurrence of an accident and the magnitude of its injurious impact," which should reach the

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53. BIRNIE & BOYLE, *supra* note 27, at 182.

54. *International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law (Prevention of Transboundary Harm from Hazardous Activities)*, 2001 Y.B. Int'l L. Comm'n 148, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2) [hereinafter *Prevention Articles*].The ILC work on international liability was split into two separate works: the 2001 Articles on Prevention of Transboundary Harm from Hazardous Activities ("2001 Prevention Articles") and the 2006 Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities ("2006 Allocation of Loss Principles"). The 2001 Prevention Articles focus on the nature of the duty to prevent transboundary harm and what amounts to a breach of this rule. The 2006 Allocation of Loss Principles are concerned with apportioning the costs of transboundary damage.

55. *Id*.

56. Nilufer Oral, *The International Law Commission and the Progressive Development and Codification of Principles of International Environmental Law*, 13 FIU L. REV. 1075, 1088–89 (2019).

57. *Prevention Articles*, *supra* note 54.

58. *Id*. at 154.

59. *Id*. at 155.

60. *Id*. A state does not bear the risk of unforeseeable consequences.

level of significant.[61] Activities that have a high probability of causing significant transboundary harm do not have to be disastrous to be significant and include global warming effects that have transboundary impacts.[62] The discharge of the duty of prevention from a legal point of view involves "the enhanced ability to trace the chain of causation, i.e., the physical link between the cause (activity) and the effect (harm), and even the several intermediate links in such a chain of causation . . . it [is] also imperative for operators of hazardous activities to take all steps to prevent harm."[63] States may guide their actions to prevent harm by applying the principle of due diligence (fulfilling its duty to prevent significant harm through the conduct of environmental impact assessments (EIAs)); the principle of notification (the obligation to notify other states of planned works that may have a potential impact on them); the principle of prior consultation and authorization (the obligation to consult and obtain prior authorization in respect to planned works that may have impact on state parties and stakeholders); and other relevant principles in the Prevention Articles.[64] Courts have applied principles of international environmental law in determining the obligation to prevent the risk of harm in *Pulp Mills, ITLOS Seabed Authority Advisory Opinion*, *Southern Bluefin Tuna*, and *South China Sea Arbitration*.[65]

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61. *Prevention Articles*, *supra* note 54, 152–153.

62. *Id*. *See also* Int'l L. Ass'n, *Washington Conference (2014): Legal Principles Relating to Climate Change*, at 7–8. Draft Article 3 regulates sustainable development and Draft Article 3(5) provides that "[w]here social and economic development plans, programs or projects may result in significant emissions of greenhouse gases or cause serious damage to the environment through climate change, states have a duty to prevent such harm or, at a minimum, to employ due diligence efforts to mitigate climate change impacts." *See id.*

63. *Prevention Articles*, *supra* note 54, 148.

64. *Id*. at ¶¶ 150–161.

65. *See supra* notes 48–50 and accompanying text; *see infra* notes 78–81 and accompanying text; *In re* South China Sea Arbitration (Phil. v. China), Award, at 375–76, ¶ 944 (Perm. Ct. Arb. 2016), https://pcacases.com/web/sendAttach/2086 [https://perma.cc/SCN4-7DUD]. The PCA stated due diligence is "not only adopting appropriate rules and measures, but also a 'certain level of vigilance in their enforcement and the exercise of administrative control,'" which in practice requires the state to investigate matters of non-compliance and fix the situation and report back about its remedial actions. *Cf. In re* The Indus Waters Kishenganga Arbitration (Pak. v. India), Final Award, ¶ 112 (Perm. Ct. Arb. 2013), https://pcacases.com/web/sendAttach/48 [https://perma.cc/H2P9-X3DW] (refusing to adopt a precautionary approach examining the requirement of an environmental flow, which permits environmental consideration to override the balance of other rights and obligations in the Treaty). *In re* South China Sea Arbitration (Phil. v. China), Award, at 375–76, ¶ 944 (Perm. Ct. Arb. 2016), https://pcacases.com/web/sendAttach/2086 [https://perma.cc/SCN4-7DUD] (quoting Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC), Advisory Opinion of 2 April 2015, ITLOS Reports 2015, ¶ 131) (citing Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC), Advisory Opinion of 2 April 2015, ITLOS Reports 2015, ¶ 139). The "level of vigilance" states exercise includes "'protection' of the marine environment from future damage and 'preservation' in the sense of maintaining or improving its present condition." *Id*. at 373, 382, ¶¶ 941, 961 (quoting United Nations Convention on the Law of the Sea art. 192, Dec. 10, 1982, 1833 U.N.T.S. 397).

B. DUE DILIGENCE AND PRECAUTION: STANDARD OF PRECAUTION

The due diligence obligation requires states to "take all appropriate measures to prevent damage that might result from the activities of contractors that they sponsor. This obligation applies in situations where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks."[66] Due diligence is a duty of care[67]—which entails "the degree of care [. . .] expected of a good Government" to "control and monitor the activities" within its "jurisdiction and control."[68] The Prevention Articles provide content on the standard of due diligence a state party is expected to satisfy: First, the level of appropriate due diligence depends on the degree of risk, such that ultrahazardous activities require states to apply a higher standard of care and higher degree of vigilance than non-ultrahazardous activities; second, factors for a reasonable determination of the due diligence requirement may include the size of the operation, its location, climate conditions, and materials used in the activities; and third, a reasonable standard of care or due diligence may evolve with time, which means "reasonableness" in the past may not be so in the future, and therefore, due diligence in preventing harm requires a state to stay abreast of technological and scientific changes in society.[69] Consequently, due diligence is a "variable concept."

The ITLOS applied the above guiding concepts as a basis to reasonably ascertain the content of a due diligence obligation in the *Seabed Authority Advisory Opinion*.[70] The request for an advisory opinion in that case pertains to questions by island states Nauru and Tonga in respect to their sponsoring of commercial entities, Nauru Ocean Resources Inc. and Tonga Offshore Mining Ltd., to undertake exploration of minerals in the Area Beyond National Jurisdiction, which is designated as high seas.[71] ITLOS considered the legal responsibilities and obligations of States sponsoring activities in the Area and considered the term "responsibility to ensure" of states within Article 139(1) of UNCLOS[72] to be an

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66. Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion of the Seabed Disputes Chamber of the ITLOS, Case No 17, Advisory Opinion, ITLOS Rep., ¶ 131 (Feb. 1 2011) [hereinafter ITLOS Advisory Opinion 2011].

67. LUCAS BERGKAMP, LIABILITY AND ENVIRONMENT: PRIVATE AND PUBLIC LAW ASPECTS OF CIVIL LIABILITY FOR ENVIRONMENTAL HARM IN AN INTERNATIONAL CONTEXT 165 (Martinus Nijhoff Publishers, 2001). This seems to be a normative goal and is judged according to factors such as the development capacity of a state. *See, e.g.*, *id.* at 166, 166 n.71.

68. *Prevention Articles*, *supra* note 54, at 153.

69. *Id.* at 154.

70. *See* ITLOS Advisory Opinion 2011, *supra* note 66, at ¶ 117.

71. *Id.* at ¶ 4.

72. United Nations Convention on the Law of the Sea art. 139, ¶ 1, Dec. 10, 1982, 1833 U.N.T.S. 397. Article 139(1) of UNCLOS states "States Parties shall have the responsibility to ensure that activities in the Area, whether carried out by States Parties, or state enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with this Part." *Id.* art. 139(1).

obligation of conduct, that is, "an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result" and not an obligation to achieve compliance by the contractor in every case.[73] ITLOS also noted that the due diligence obligation and the obligation of conduct are closely connected to each other, as was upheld in *Pulp Mills*,[74] where the ICJ ruled, "[i]t is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators."[75]

In addition to being vigilant about the standard of due diligence, states must comply with the precautionary principle. The precautionary principle is provided in the Rio Declaration Principle 15, which requires action in certain circumstances, as follows: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[76] The precautionary principle is important to the law of responsibility because "states should consider suitable means to restore, as far as possible, the situation existing prior to the occurrence of harm," and in this regard the precautionary principle should be adopted by environmentally friendly measures.[77] The ILC considered the precautionary principle "a very general rule of conduct of prudence," which means states ought to "review their obligations of prevention in a continuous manner to keep abreast of the advances in scientific knowledge."[78] The Supreme Court in *Urgenda* ruled that it was important for the state in devising its climate policy to have taken into account the scientific information of the IPCC.[79]

The *ITLOS Seabed Authority Advisory Opinion* highlighted the link between the due diligence obligation and precautionary approach—the latter application of precaution in the absence of scientific evidence to support the existence of any factual harm is crucial for the fulfilment of due diligence in carrying out all appropriate preventative measures to avoid causing significant harm to other states and their environment. The *ITLOS Seabed Authority Advisory Opinion* upheld that states have a direct obligation to apply a precautionary approach,[80] along with the

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73. *See* ITLOS Advisory Opinion 2011, *supra* note 66, ¶ ¶ 107–10.

74. *Id.* at ¶ 111; Pulp Mills, *supra* note 49, at ¶ 11, *cited in* ITLOS Advisory Opinion 2011, *supra* note 66, ¶ 111.

75. Pulp Mills, *supra* note 49, at ¶ 197, *cited in* ITLOS Advisory Opinion 2011 ¶ 115; ITLOS Advisory Opinion 2011, *supra* note 66, ¶ 115.

76. U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (Vol. I), Principle 15 (Aug. 12, 1992).

77. *Prevention Articles*, *supra* note 54, at 163.

78. *Id.*

79. Netherlands v. Stichting Urgenda, ECLI:NL:HR:2019:2007, 20 Dec. 2019, 19/00135, 5 (English translation).

80. *See* ITLOS Advisory Opinion 2011, *supra* note 66, at ¶ 136. The precautionary approach is to be applied to the "best environmental practices," which was not explicitly provided in the Sulphides Regulations. *See id.* ¶ 136. There is only a general reference to "best available technologies" in the

"obligation to apply best environmental practices; . . . the obligation to ensure the availability of recourse for compensation in respect of damage caused by pollution; and the obligation to conduct environmental impact assessments," among others.[81] The tribunal opined that the due diligence obligation applies even where there is insufficient scientific evidence, so long as there exist reasonable indications of potential risks. A state disregarding the latter would fail "to comply with the precautionary approach."[82] In the *Southern Bluefin Tuna* cases, the tribunal could not conclusively determine the effectiveness of the conservation measures to be taken to protect the southern bluefin tuna stock; however, the tribunal decided that the "measures should be taken as a matter of urgency [. . .] to avert further deterioration of the southern bluefin tuna stock."[83] As demonstrated by the *ITLOS Seabed Authority Advisory Opinion* and the *Southern Bluefin Tuna* cases, the international jurisprudence has applied the fundamental principles of no-harm, prevention, due diligence and precaution. Over time, these principles evolved into legal obligations.

In light of these developments in customary law, in particular the *Pulp Mills* case, injured states may rely on the presence of "objective fault"—which is a failure to act with due diligence, a breach of a treaty provision, or the carrying out of a prohibited act—in order to invoke state responsibility.[84] However, the following Part highlights the ambiguity in the law as to when a state breaches an obligation and whether states are fully responsible for transboundary harms caused by a breach of obligation.

III. LIMITS OF THE STATE RESPONSIBILITY REGIME

Even though the ARSIWA are to be broadly applied to the breach of an obligation of international law in general, the broadness and generality of the law of responsibility has its limitations when it is applied to the law of climate change. The primary rules of responsibility rely on the breach of a customary rule of environmental law. International environmental law is not primarily related to reparation for environmental injury but concerns instead the control and prevention of environmental harm and conservation and sustainable use of natural resources

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standard contract clauses in the Nodules Regulations. *See id.* However, the tribunal noted the States' adoption of the higher standards in the more recent Sulphides Regulations in light of advanced scientific knowledge. *See id.* Thus, the tribunal decided that there is a requirement to adopt the higher standards reflected in the Sulphides Regulations as "best environmental practices" included in states' due diligence obligations. *See id.* The tribunal emphasized that "[i]n the absence of a specific reason to the contrary, it may be held that the Nodules Regulations should be interpreted in light of the development of the law, as evidenced by the subsequent adoption of the Sulphides Regulations." *See id.* ¶ 137.

81. *Id.* ¶ 122.

82. *Id.* ¶ 131.

83. Southern Bluefin Tuna Cases (N.Z. v. Japan; Austl. v. Japan), Case Nos. 3–4, Provisional Measures Order of Aug. 27 1999, ITLOS Rep., ¶¶ 79–80.

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

and ecosystems.[85] There are gaps within the regime in establishing wrongdoing, as the extent of environmental damage is unknown; the rules implementing prevention of harm are indeterminate; and there is a disconnect between the regime regulating international obligations of conduct in the prevention of damage and the accountability of the wrongdoers.[86]

A. POLLUTION CONTROL AND PREVENTION

International responsibility is founded on a default by a state, and the obligation to cease a harmful activity or repair the harm applies where a state party fails to observe the standard applicable in international law. States have a positive duty to take appropriate measures to prevent transboundary environmental harm.[87] Generally, if a state has taken necessary and practicable measures—namely, the state has exercised its due diligence obligation—then it will not be held responsible.[88] The law of state responsibility has limited effectiveness in cases where there is environmental damage and it is found that the state has fulfilled its due diligence obligation.

The ARSIWA are inadequate to address environmental damage due to gaps in the application of primary rules aimed at prevention of damage and the secondary rules in seeking recourse for the cessation of the damage, restoration, and/or reparation in the event that damage is caused.[89] Environmental damage by its nature tends to be cumulative and manifests over time; hence, a pecuniary remedy after the event would be ineffective to prevent harm to the environment, such that the most appropriate remedy is preventive action.[90] The challenge is to bolster the preventive regime, which requires a nuanced arrangement to effect enforcement and compliance with international law rather than being "based . . . on the third-party adjudication of claims to resources or reparation."[91] The regime needs to emphasize "compliance with the obligations of pollution control, resource conservation, transboundary risk management, and co-operation."[92] The ICJ in *Gabčíkovo* emphasized that "the cumulative effects on the river and on the environment of various human activities over the years have not all been favourable, particularly for the water regime. Only by international co-operation could action be taken to alleviate these problems."[93] The control and prevention of

85. *See generally* Oscar Schachter, *The Emergence of International Environmental Law*, 44 J. INT'L AFFS. 457, 463–75 (1991).

86. U.N. Secretary-General, *Gaps in International Environmental Law and Environment-Related Instruments: Towards a Global Pact for the Environment*, ¶¶ 90–93, U.N. Doc. A/73/419 (Nov. 30, 2018).

87. Trail Smelter (U.S. v. Canada), 3 R.I.A.A. 1905 (Trail Smelter Arb. Trib. 1938).

88. Dinah L. Shelton & Alex Kiss, GUIDE TO INTERNATIONAL ENVIRONMENTAL LAW, 19–23 (2007).

89. VERHEYEN, *supra* note 23, at 336–37, 364.

90. BIRNIE & BOYLE, *supra* note 27, at 179.

91. *Id.*

92. *Id.*

93. Gabčíkovo-Nagymaros Project (Hung. v. Slovk.), Judgement, 1997 I.C.J. Rep., ¶ 17 (Sept. 25).

transboundary harm is an obligation of conduct and not an obligation of result. However, if the ARSIWA are applied in the way where traditional tortious claims are formulated and considered, that is, according to the elements of a tort which are represented by the presence of a duty of the state, breach of an obligation, causation of damage and damage itself—the question for the purposes of climate change litigation is whether claims of breach of a primary obligation would require a focus on the damage that flows from the breach of obligation, which is based on breach of an obligation of result.

The invocation of the articles of state responsibility for damage caused after the event is not helpful for the protection of the environment. Thus, applying a regime of prevention over a regime of reparations may be preferred when it comes to protection of the environment. The international jurisprudence is slowly evolving to enable interpretation of general principles of environmental law in line with the goals of sustainable development as acknowledged in climate change treaties and other environmental treaties. Verheyen advocates a "negotiated approach," that is, focusing on sustainable natural resource management in conjunction with the law of state responsibility that may overcome difficulties of applying the law to the issues and enforcement of rights of reparation.[94] There is little precedent in the practice of the law of state responsibility and it is undeveloped as a regime for the international liability for transboundary harm. At present, it is not based on the existence of a wrongful act but on compensation for lawful but risk-intensive activities.[95]

B. DUE DILIGENCE OBLIGATION

State responsibility is based on a breach of obligation of due diligence in regulating potentially harmful activities. The harm caused must be foreseeable and the state must know or ought to have known that the activity had the risk of significant harm.[96] Hence, in the *Corfu Channel* case, the ICJ noted that Albania was responsible for injuries caused by minefield explosions in its territory because the state should have known of the mines' existence.[97] In the event that damage is unforeseeable or unavoidable, the state will not be at fault and loss is not recoverable.[98]

Due diligence standards are increasingly being shaped by international jurisprudence—the failure to conduct an environmental impact assessment (EIA) where there was a "significant risk of transboundary harm" can give rise to a breach of obligation under customary law even without a showing of material

94. VERHEYEN, *supra* note 23, at 336–37.

95. U.N. Secretary-General, *Gaps in International Environmental Law and Environment-Related Instruments: Towards a Global Pact for the Environment*, ¶ 97, U.N. Doc. A/73/419 (Nov. 30, 2018).

96. *Prevention Articles*, *supra* note 54, at 155.

97. Corfu Channel case (U.K. v. Alb.), Merits, 1949 I.C.J. Rep., 22-23 (Apr. 9).

98. *Id.* at 18.

harm.[99] Under the due diligence obligation, in preventing transboundary harm, a state must assess the potentially adverse effects on the environment of another state, and if the environmental impact assessment shows that there may be a risk of significant harm, the source state must notify the other state of its planned activities and cooperate to prevent the harm.[100] The issue with the due diligence obligation is that such conduct (or indeed its omission) will not be sufficient to deflect actual harm; the burden of harm when it occurs "lie[s] where it falls," namely with the victim state.[101] An injured state has no satisfactory redress if it is shown that the source state has taken appropriate measures to prevent the harm.

The standard of the obligation is commented on by the PCA in the *South China Sea Arbitration* where due diligence consisted of "not only adopting appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control," which in practice requires the state to investigate matters of non-compliance, remedy the situation and report back on its remedial actions.[102] The level of vigilance exercised by states extends to "protection" of the marine environment from future damage and "preservation" in the sense of maintaining or improving its present condition."[103] The tribunal affirmed that it is a principle of international law, and the level of vigilance required is to take all appropriate measures to protect the environment—the requirement is reflected in Article 194(5) of UNCLOS and Article 2 of the Convention on Biological Diversity in respect to the protection of marine ecosystems.[104] The tribunal upheld the decision in *Chagos,* ruling that it is not sufficient to merely control marine pollution, as controlling pollution is just one measure, implying that states are required to do more than control pollution.[105] Notwithstanding the tribunals' pronouncements in this regard, it remains unclear what level of vigilance is required of states.

C. SIGNIFICANT HARM

For liability to arise, environmental damage must exceed a *de minimis* threshold and be significant.[106] A legal definition of significant is necessary because

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99. *See* Certain Activities Carried out by Nicaragua in the Border Area (Costa Rica v. Nicar.) and Construction of a Road in Costa Rica Along the San Juan River (Nicar. v. Costa Rica), Judgement, 2015 I.C.J. Rep., ¶¶ 173, 226–28 (Dec. 16).

100. *Id.* ¶ 104.

101. See terminology from discussion on the due diligence obligation versus strict liability in terms of the burden of costs of the environmental damage in BIRNIE & BOYLE, *supra* note 27, at 199–200.

102. *In re* South China Sea Arbitration (Phil. v. China), Award, at 375–76 (Perm. Ct. Arb. 2016), https://pcacases.com/web/sendAttach/2086 [https://perma.cc/SCN4-7DUD].

103. *Id.* at 373.

104. *Id.* at 375–76.

105. *In re* Chagos Marine Protected Area (Mauritius v. U.K.), Award, ¶ 320 (Perm. Ct. Arb. 2015), https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf [https://perma.cc/PDF2-JWLZ].

106. Pemmaraju Sreenivasa Rao (Special Rapporteur), *Third Report on the Legal Regime for the Allocation of Loss in Case of Transboundary Harm Arising Out of Hazardous Activities*, 76 n.26, U.N. Doc. A/CN.4/566 (May 7, 2006) (citing Pemmaraju Sreenivasa Rao, First report on prevention of

environmental interferences are numerous and wide-ranging.[107] International law does not clearly define the *de minimis* threshold.[108] However, significant harm (or "appreciable harm") is understood to be "harm which is greater than the mere nuisance or insignificant harm which is normally tolerated."[109] The ILC commented that the harm must be more than "detectable" but need not be at the level of "serious" or "substantial" and must lead to a real detrimental effect on persons, property or the environment in other states.[110] If the damage has not risen to the level of significant it is understood to be damage that is tolerable.[111]

In *Costa Rica v. Nicaragua* (2015), the ICJ considered, among other allegations, the question of Costa Rica's construction of a road that was argued to have caused significant harm to Nicaragua.[112] The court examined the facts in relation to Costa Rica's due diligence obligation but held that significant harm could not be shown. The court thus did not grant Nicaragua's request for restitution to have the environment restored to its prior condition before Costa Rica built the road.[113] Nicaragua was unable to adduce sufficient evidence to prove that there had been changes in the physical form of the Lower San Juan, and deterioration in the river's navigability since the road was constructed was held to be insufficient.[114] Furthermore, the environmental diagnostic assessment presented by Nicaragua could not prove actual harm to fish species, instead only showing that the construction of the road had "localized impact" on certain water species and on the water quality in small streams that flowed into the San Juan River.[115] Thus, Nicaragua was unable to rely on this assessment to show significant harm to the river's ecosystem and water quality.

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transboundary damage from hazardous activities, Int'l Law Comm'n 50th session, U.N. Doc A/CN.4/487, ¶¶ 94–95, 97 (March 18, 1998)).

107. Oscar Schachter, *The Emergence of International Environmental Law*, 44 J. INT'L AFF. 457, 464 (1991).

108. *See* Pemmaraju Sreenivasa Rao (Special Rapporteur), *Third Report on the Legal Regime for the Allocation of Loss in Case of Transboundary Harm Arising Out of Hazardous Activities*, 76 n.26, U.N. Doc. A/CN.4/566 (May 7, 2006) (defining "not *de minimis*" as "not negligible") (citing Pemmaraju Sreenivasa Rao, First report on prevention of transboundary damage from hazardous activities, Int'l Law Comm'n 50th session, U.N. Doc A/CN.4/487, ¶ 97 (March 18, 1998)).

109. Julio Barboza (Special Rapporteur), *Sixth Report on International Liability for Injurious Consequences Arising Out of Acts not Prohibited by International Law*, 105, U.N. Doc. A/CN.4/428 and Corr.1-4 and Add.1 (Mar. 15, 1990).

110. *Prevention Articles*, *supra* note 54, at 152.

111. *Id.* at 152.

112. Certain Activities Carried out by Nicaragua in the Border Area

(Costa Rica v. Nicar.) and Construction of a Road in Costa Rica Along the San Juan River (Nicar. v. Costa Rica), Judgement, 2015 I.C.J. Rep., ¶ 187 (Dec. 16).

113. *Id.* ¶ 226.

114. *Id.* ¶¶ 206–07. The sediment deltas from the construction of the road were allegedly causing harm to the morphology of the river, affecting its navigability and Nicaragua's dredging burden.

115. *Id.* ¶¶ 211–13.

The level of significant harm is not specified in the law, as it is determined by factual and objective criteria, as well as the circumstances of a particular case.[116] The ILC recognized that damage might not be considered significant at a specific time because "scientific knowledge or human appreciation for a particular resource had not reached a point at which much value was ascribed to that particular resource. But later that view might change, and the same harm might then be considered significant."[117] It is a challenge in environmental cases to demonstrate at any given time that the environment has been significantly impacted, and as a result it has proved difficult to value environmental damage and its reparation.[118]

D. CLIMATE CHANGE IS A GLOBAL ISSUE

Given that climate change is a global problem affecting every stakeholder in society, the legal principles as provided in the international climate change regime—the duty to prevent transboundary harm, the duty to notify of planned works, the duty to cooperate with other states on prevention efforts, and the duty to act in good faith—need to expand beyond individual state's efforts to adhere to their own nationally determined contributions (NDCs) pledging to reduce GHG emissions within their jurisdictions. The Paris Agreement applies these principles in articles 4(2) and 4(16)–(17), which concern submitting NDCs and taking joint action to be responsible for the allocated emission level; article 5(2), which concerns joint mitigation and adaptation and the effects of deforestation; and article 6(1), which concerns voluntary cooperation in reaching a higher ambition in mitigation and adaptation.[119]

The climate change regime, however, is designed to prevent dangerous climate change for the benefit of mankind and not for the benefit of particular victims or affected regions or states—hence, there are issues in establishing primary rules that prevent climate change and secondary rules that provide victims with redress through restoration and reparation. [120] In principle, every person has an interest in living in a "healthy" atmospheric environment.[121] By extension of this logic, the duty to mitigate global warming is an *erga omnes* duty on the basis that climate

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116. Pemmaraju Sreenivasa Rao (Special Rapporteur), *Third Report on the Legal Regime for the Allocation of Loss in Case of Transboundary Harm Arising Out of Hazardous Activities*, ¶ 7, U.N. Doc. A/CN.4/566 (May 7, 2006).

117. *Prevention Articles*, *supra* note 54, at 153.

118. U.N. Secretary-General, *Gaps in International Environmental Law and Environment-Related Instruments: Towards a Global Pact for the Environment*, ¶ 99, U.N. Doc. A/73/419 (Nov. 30, 2018).

119. U.N. Framework Convention on Climate Change: Conference of the Parties, *Adoption of the Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015) [hereinafter *Paris Agreement*], art. 4(2), 4(16), 4(17), 5(2) and 6(1).

120. VERHEYEN, *supra* note 23, at 337.

121. PHILLIPE SANDS, JACQUELINE PEEL, ET AL., PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 13 (4th ed. 2018) (mentioning the 1998 Aarhus Convention, which "provides . . . rules on the . . . right to participate in environmental decision-making").

change is a concern of the international community as a whole.[122] While there is reference to the "common concern of humankind" in the preamble of the Paris Agreement,[123] reflecting formal expressions of the term in the UNFCCC and Convention on Biological Diversity, the undeveloped characterization of the *erga omnes* duty within the regime for climate change mitigation and adaptation provides little basis for adjudication.

In theory, individual states may have a basis to take lawful unilateral action with extraterritorial effect under international law. The common concern of humankind may be the foundation for any state to have standing in a claim against a source state for breach of an obligation *erga omnes*.[124] However, a lack of conceptualization of the common concern of humankind as a principle leaves open the question of how it interacts with the notion of sovereignty over natural resources and territoriality and the requirement of states to adhere to national climate change mitigation goals and international environmental obligations.[125] In order to prevent harm to our global commons, mechanisms of collective action that go beyond the requisites of the Paris Agreement need to be further developed. This is possible because the international regime is flexible and has the capacity to avert the climate emergency that threatens humanity. The international community successfully averted the critical degradation of the ozone layer with urgent responses by way of the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer.[126] Hence, international law contains treaty provisions that provide for international cooperation.[127] International cooperation is a soft concept that is not meant to encourage doing the least possible, that is, by adhering to the minimum standards of the law, but to realize the greatest possibilities to achieve the purpose of the law. Nevertheless, the achievement of the greatest possible state is not provided by the law, but by political consensus to go beyond hard law—to give effect to the measures and to "establish any institutions that may be required" to implement the law in a meaningful way.[128]

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122. Benoit Mayer, *State Responsibility and Climate Change Governance: A Light Through the Storm*, 13 CHINESE J. OF INT'L L. 14–15 (2014) https://perma.cc/4P8S-7YWY.

123. *Paris Agreement*, *supra* note 119, pmbl.

124. Thomas Cottier, et al., The Principle of Common Concern and Climate Change, NCCR TRADE WORKING PAPERS, Working Paper No 2014.18, 6 (2014); Federic L. Kirgis, Jr, *Standing to Challenge Human Endeavors That Could Change the Climate*, 84 AM. J. OF INT'L L. 525, 527–28 (1990) https://perma.cc/ES9Q-3X22.

125. Cottier, *supra* note 121, at 10.

126. Mario Molina & Durwood Zaelke, The Montreal Protocol: Triumph by Treaty, UNEP, (Nov. 20, 2017), https://perma.cc/9LDN-HHCA; Mr. Shinya Murase (Special Rapporteur) *First Report on the Protection of the Atmosphere*, UN Doc A/CN.4/667, 15.

127. *See*, *e.g.*, *Paris Agreement*, *supra* note 119, arts. 6(1), 6(2), 7(6), 7(7), 8(3), 8(4), 10, 11, 12, 14(3).

128. BIRNIE & BOYLE, *supra* note 27, at 27–28.

IV. THE CLIMATE PROBLEM AND INTERACTION BETWEEN HUMAN RIGHTS AND CLIMATE CHANGE

The 1972 Stockholm Declaration emphasized the protection of the human environment, and implicit within it is the interrelationship between environmental protection and human rights.[129] Human rights obligations are explicitly mentioned in the Declaration, which states, "[b]oth aspects of man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights—even the right to life itself,"[130] and in Principle 16, which obligates governments to have regard for human rights when applying demographic policies that impact the human environment.[131] These statements highlight the inextricable link between human rights and the environment—the latter in this case referring not to the protection of the natural environment for its own sake, but rather the protection of the "environment of the human environment."[132] This idea is closely linked to the notion of sustainable development—the protection of the natural environment that is essential for securing economic and social development—and was the focus of the 1992 Rio Declaration of the Environment and Development.[133] Notably, however, the 1992 Rio Declaration omitted any mention of human rights.[134]

Since the Malé Declaration on the Human Dimension of Global Climate Change in 2007, the campaign to integrate human rights norms with the issue of climate change, and environmental protection generally, has been making significant progress.[135] In part this progress has been galvanized by developments such as the Inuit Petition to the Inter-American Commission on Human Rights, the UN Human Rights Council Resolution 10/4 on Human Rights and Climate Change, and the UNFCCC COP on its sixteenth session held in Cancun, among other significant lobbying efforts, culminating with the appointment of a UN Special

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129. Dinah Shelton, *Human Rights, Environmental Rights and the Right to Environment*, 28 STAN. J. OF INT'L L. 103, –13 (1991).

130. Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972, *Declaration on the United Nations Conference on the Human Environment*, U.N. Doc. A/CONF.48/14/Rev.1, ¶ 1.

131. *Id*. at Principle 16.

132. *Id*.

133. *Rio Declaration on Environment and Development*, *supra* note 76, Principles 11–12.

134. César Rodríguez-Garavito, *Climate Litigation and Human Rights: Averting the Next Global Crisis*, OPEN GLOBAL RIGHTS (June 26, 2020), https://perma.cc/UCE3-D5CQ. However, prior to the draft principles issued at the Rio Conference, the Council of Europe, the ECE, and Associations of Environmental Law made huge efforts to emphasize environmental concerns as human rights issues in their proposals to the UN working groups of the Preparatory Committee. *See* Günther Handl, *Human Rights and Protection of the Environment: A Mildly "Revisionist" View*, *in* HUMAN RIGHTS AND ENVIRONMENTAL PROTECTION 117, 118–19 (A. Cançado Trindade ed) (1995), https://perma.cc/WFK4-5NJH.

135. *See* Human Rights Council, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, UN Doc No. A/HRC/31/52, 3–6 (Feb. 1, 2016), https://perma.cc/AVK8-HML2.

Rapporteur on the Promotion and Protection of Human Rights in the context of Climate Change in 2021 and the recognition of human rights obligations associated with climate change in the 2015 Paris Agreement.[136] The Paris Agreement provides that when taking action to address climate change, parties are required to consider their human rights obligations, including "the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity."[137] It is the first time a climate change treaty has incorporated such a human rights provision and in that sense is revolutionary.[138] The Paris Agreement preamble provision on human rights obligations does not create further obligations but may be seen as accommodating norms through the ILC's principle of harmonization, that is, efforts to maintain uniformity and coherence of international laws and regulations.[139]

Human rights laws have been applied in several recent climate change cases, particularly in domestic jurisdictions. The International Bar Association said that various litigant groups have sought to compel governments to act on climate change mitigation and adaption "'[w]here political action has not been forthcoming.'"[140] Some recent cases include *Friends of the Irish Environment v. Government of Ireland*,[141] *Urgenda*[142] and *Leghari v. Pakistan*, which involved governments not adhering to climate policies that reduce climate emissions and consequently impact human rights.[143] In *Friends of the Irish Environment v. Government of Ireland*, the Irish government's 2017 National Mitigation Plan violated constitutional rights and human rights protected under the European

136. *Id.*; Human Rights Council 48th Session, Resolution, October 8, 2021, UN Doc. No. A/HRC/RES/48/14, Resolution 2; Alyssa Johl & Sebastian Duyck, *Promoting Human Rights in the Future Climate Regime*, 15 ETHICS, POL'Y AND ENV'T 298, 298–99 (2012).

137. *Paris Agreement*, *supra* note 119, pmbl.

138. María Pía Carazo, *Contextual Provisions (Preamble and Article 1)*, *in* THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY 114 (Daniel Klein et al. eds., Oxford University Press 2017).

139. Benoit Mayer, Human Rights in the Paris Agreement, 6 CLIMATE L. 109–17, 114 (2016) https://perma.cc/8BP5-2ZCZ.

140. IVANO ALOGNA & ELEANOR CLIFFORD, CLIMATE CHANGE LITIGATION: COMPARATIVE AND INTERNATIONAL PERSPECTIVES, BRITISH INST. OF INT'L AND COMPAR. L. 4, 4 n.19 (2020) (quoting INTERNATIONAL BAR ASSOCIATION, CLIMATE CHANGE JUSTICE AND HUMAN RIGHTS TASK FORCE REPORT: ACHIEVING JUSTICE AND HUMAN RIGHT IN AN ERA OF CLIMATE DISRUPTION 76 (July 2014)). The countries with the highest number of cases are the US, Australia, and UK, although the authors note that the majority of the 1,023 cases in the US are routine cases disputing either pro-regulation or anti-regulation of climate change. *Id.*

141. Friends of the Irish Environment v. Government of Ireland & Ors [2020] IESC 49, Supreme Court, Appeal No. 205/19, https://perma.cc/7VX4-ZFBK.

142. HR 20 December 2019, 19/00135 Netherlands v. Stichting Urgenda, (Neth.), https://perma.cc/UL9M-GUYV.

143. Asghar Leghari v. Federation of Pakistan, (2015) W.P. No.25501/2015 HCJD, https://perma.cc/KM7Y-RDFB.

Convention of Human Rights.[144] In *Leghari v. Pakistan*, the failure of the Pakistani government to act upon its 2012 National Climate Change Policy and 2014–2030 Framework for Implementation of Climate Policy impacted Leghari's constitutional rights to life and dignity.[145] In those cases, the governments were ordered to implement climate policies to reduce emissions.[146] In addition, several Australian courts have ruled against the government in legal challenges to the granting of permits to coal mine operators in Australia in *Waratah Coal Inc. v. Minister for the Environment* and the *"Rocky Hill"* decision.[147]

Traditionally, the climate change regime has not addressed human rights, whereas the human rights regime has included climate change concerns.[148] The environmental regime previously focused solely on permitting claims for personal injury or property damage and later expanded to include "pure" environmental damage, that is, damage to the environment itself (that is, damage to natural resources and biodiversity) and damage that is measured by the costs of restoring the impaired environment.[149] It is established that environmental harm can constitute a human rights violation.[150]

The human rights regime is making significant progress in effectively tackling the question of climate change damage. In recent years, there have been several important cases on climate change damage that were decided in favour of litigants claiming that states had not complied with their commitments on climate change mitigation. The landmark case, *Urgenda v. The Netherlands*, which recognized that a state has a duty to safeguard its nationals from imminent climate-related harm, was based on human rights principles, with reference to the European Convention on Human Rights.[151] The District Court of the Hague ruled that the Dutch government is required to reduce GHG emissions by a minimum of 25% by the end of 2020 (compared to 1990).[152] The Supreme Court rejected the state's appeal in cassation.[153] The District Court clarified:

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144. Friends of the Irish Environment v. Government of Ireland & Ors, *supra* note 141.

145. Asghar Leghari v. Federation of Pakistan, (2015) W.P. No.25501/2015 HCJD, https://perma.cc/KM7Y-RDFB.

146. *Id.*; Friends of the Irish Environment v. Government of Ireland & Ors, *supra* note 141.

147. Gloucester Resources Limited v. Minister for Planning [2019] NSWLEC 7(8 Feb. 2019) (Austl.), https://perma.cc/36TU-T2WV ("The Rocky Hill" decision); Waratah Coal Inc. v. Minister for Env't, Heritage and the Arts [2009] FCA 1870 (10 Dec. 2008) (Austl.) https://perma.cc/CQ3L-DTBX.

148. Philippe Cullet, *Human Rights and Climate Change: Broadening the Right to Environment in* THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW 514 (Cinnamon P. Carlarne et al. eds., Oxford University Press 2016) (2018).

149. UNEP-Division of Environmental Policy Implementation, *UNEP Environmental Liability and Compensation Regimes: A Review* 54 (Dec. 2003).

150. Cullet, *supra* note 148, at 148.

151. Netherlands v. Stichting Urgenda, HR 20 December 2019, 19/00135 (English translation).

152. *Id.* at 2.

153. *Id.*

> When giving substance to the positive obligations imposed on the state pursuant to Articles 2 [right to life] and 8 [right to respect for private and family life of] ECHR, one must take into account broadly supported scientific insights and internationally accepted standards. Important in this respect are, among other things, the reports from the IPCC.[154]

Although the duty considered by the court was based on the duty of care under Dutch tort law rather than human rights law (which was considered inapplicable to a non-national such as Urgenda),[155] the court nevertheless applied international standards and norms in determining the duty of care owed by the Netherlands.[156]

In the case of *Tatar v. Romania,*[157] heard before the European Court of Human Rights, the Romanian authorities were found to have breached Article 8 of the ICCPR (right to respect for private and family life) when they failed to take preventive action to protect the applicant's right to enjoy a healthy and protected environment, "even when a causal link between the source of pollution and harm caused [was] not clear," as Suryapratim Roy explains.[158] In *Tatar,* as described in a press release, a company obtained a license to operate a gold mining facility near the applicant's home, and an environmental accident occurred, "releasing about 100,000 cubic meters of cyanide-contaminated tailings water."[159] The company did not cease operations and the authorities did not act despite "numerous complaints" by the applicant, who claimed the accident had worsened his son's asthma.[160] The court noted that the applicant did not prove a causal link between the exposure to sodium cyanide and his asthma; however, according to the court, "the existence of a serious and material risk to the applicant's health and well-being entailed a duty on the part of the state to assess the risks" and notify the public when the state granted the operating permit to the company and such lack of notification by the authorities of the risks of the company's operations continued subsequent to the accident.[161] The state was required to take "appropriate measures," which included assessing the risks of the company's activity "to protect the rights of those concerned to respect for their private lives and homes" as protected under Article 8 of the ECHR and "generally their right to enjoy a healthy and protected environment."[162] The court found the state's "operating

154. *Id.* at 4; Ottavio Quirico, *Climate Change and State Responsibility for Human Rights Violations: Causation and Imputation*, 65 NETH. INT'L L. REV. 185, 192, 199 (2018).

155. Quirico, *supra* note 154, at 192.

156. *Id.*

157. Tătar v. Romania, App. No. 67021/01, Eur. Ct. of H. R., (Jan. 27, 2009).

158. Suryapratim Roy, *Urgenda II and its Discontents*, 2 CARBON & CLIMATE L. REV. 130–36 (2019).

159. Stefano Piedimonte et al., *Press release issued by the Registrar, Chamber Judgment: Tătar v. Romania*, EURO.CT. OF HUM. RIGHTS (Jan. 27, 2009), https://hudoc.echr.coe.int/fre#{%22itemid%22:[%22003-2615810-2848789%22]} [https://perma.cc/8RPL-PVBQ].

160. *Id.*

161. *Id.*

162. *Id.*

conditions . . . insufficient to preclude the possibility of serious harm."[163] The court also said that, immediately after the accident, the state did not require the company to halt its operations, and in doing so, had violated the precautionary principle.[164] As summarized in the press release, the uncertainty in scientific knowledge could not excuse the state's delay in taking appropriate measures.[165]

In two other cases brought under the ECHR, environmentally harmful activities were required to be prevented and controlled. "In *Lopez Ostra v. Spain*," state inaction saw breaches of human rights obligations. A plant emitting fumes interfered with the applicant's right to private and family life protected by Article 8 of the ECHR.[166] The court held that the state's inaction had breached Article 8 of the ECHR, and the court ordered payment of damages that were incurred as a result of the applicant making radical changes to her life because of the polluting plant.[167] Similarly, in *Guerra v. Italy*, the applicants complained that the authorities failed to provide information about risks and post-accident safety measures at a nearby chemical factory causing pollution damage, and the authorities were found to be in breach of the applicants' right to family and private life protected under Article 8 of the ECHR.[168]

States may be responsible for human rights breaches where there is a failure to regulate a private industry, which is illustrated in the case of *Fadayeva v. Russia*.[169] In that case, a steel plant was polluting near the applicant's home, and the applicant claimed the state's failure to regulate the private industry (including the steel plant) in respect to its toxic emissions was a breach of the applicant's human right to family and private life. The European Court of Human Rights ruled that Russia had not taken reasonable and appropriate measures to protect the applicant's family and private life under Article 8(1) of the Convention for the Protection of Human Rights and Fundamental Freedoms from the impact of pollution from the Severstal Steel Plant.[170] In the case of *Velásquez Radríguez v. Honduras*, which involved forced disappearance practices by the Honduran government, the Inter-American Court of Human Rights ruled that the positive obligation of the right to life goes beyond complying with the law.[171] The court decided that Honduras had violated Article 4 (the right to life) by failing to investigate or take steps to prevent the forced disappearances.[172] This case suggests

163. *Id.*
164. *Id.*
165. *Id.*
166. Lopez Ostra v. Spain, App. No. 16798/90, Eur. H.R. Rep. (1994).
167. *Id.*
168. Guerra and Others v. Italy, App. No. 14967/89, Eur. H.R Rep. (1998).
169. Fadayeva v. Russia Application No. 55723/00, Judgment, (June 9, 2005).
170. *Id.*
171. Leona Lam, *Velásquez Rodríguez v. Honduras,* 36 LOY. L.A. INT'L & COMP. L. REV. 1913, 1920 (2014).
172. *Id.*

that states are obliged to prevent human rights violations resulting from the actions of private persons that cause climate change.[173]

The human rights jurisprudence as highlighted in the above cases shows that the precise cause of the damage does not need to be ascertained. The findings of the state's obligation and the harm affecting the individual claimant's enjoyment of his or her human rights were sufficient to find a causal link between the activity and the injury to the state's environment, albeit indirectly. The framing of the injury in terms of human rights acknowledges that the environmental damage that is done to the environment is also being felt by human beings in the enjoyment of their rights. The case law is pushing the boundaries of state accountability in which a state's obligation to prevent harm under international human rights law may go further than the due diligence obligations under international environmental law.[174] It may be some time yet before a matter of breach of customary obligation in respect to climate change will be adjudicated in the international courts, but it is recognized that international courts can play a role to limit the rise of global temperatures to below 2°C.[175]

In its advisory opinion, the Inter-American Court of Human Rights's discussion of the environmental due diligence obligations has pushed the boundaries of the positive duties of prevention to include taking measures in respect to activities that risk harming the environment for the benefit of individuals, as well as the protection of the environment for the exercise of human rights.[176] The Court reiterated that the American Convention on Human Rights is a binding international treaty which, if violated by any organ of the state (legislative, judicial), "gives rise to the international responsibility of the state."[177] In the human rights jurisprudence, the court in *Velásquez-Rodríguez v. Honduras* decided that:

> a state is obligated to prevent, investigate and punish human rights violations . . . . [A]n illegal act which violates human rights and which is initially not directly imputable to a state (for example, because it is the act of a private person or because the person responsible has not been identified) can lead to international responsibility of the state, not because of the act itself, but because of

173. Margaretha Wewerinke-Singh, *State Responsibility for Human Rights Violations Associated with Climate Change in Handbook of Human Rights and Climate Governance*, ROUTLEDGE, 10 (2020).

174. *Id.* at 11.

175. Sands recommends that the General Assembly ask the ICJ for an advisory opinion to confirm the 2°C target as an international obligation. *See* Philippe Sands, *Climate Change and the Rule of Law: Adjudicating the Future in International Law*, United Kingdom Supreme Court, 17 September 2015, 5:30pm, 19–21.

176. *Id.* at 14 (citing Inter-American Court of Human Rights, Advisory Opinion – Environment and Human Rights, OC-23/17 (Requested by the Republic of Colombia, 15 November 2017); and then citing 'Inter-American Court of Human Rights – Advisory Opinion (OC-23/17)' (ELAW), https://www.elaw.org/IACHR_CO2317 (last visited Mar. 5, 2020)).

177. The Environment and Human Rights, Advisory Opinion OC-23/17, Inter-Am. Ct. H.R. (ser. A) No. 23, ¶ 28 (Nov. 15, 2017), *cited in* ALOGNA & CLIFFORD, *supra* note 140, at 14.

> the lack of due diligence to prevent the violation or to respond to it as required by the Convention.[178]

The court decided that Honduras did not act with due diligence in cases of forced disappearances and violated Article 4 (the right to life) by failing to investigate or try to prevent the disappearances.[179] In a transboundary harm case, a state must "'authorize . . . [risky activities] only under controlled conditions and under strict monitoring while discharging their duty of prevention.'"[180] A state is responsible for the conduct of its organs,[181] even when those organs are acting in excess of authority,[182] which includes unlawful acts of officials causing harm to other states or their nationals.[183]

CONCLUSION

State responsibility can be a powerful means for states to hold other states accountable for causing transboundary environmental harm. Where a violation of the obligations can be established, states are responsible for their wrongdoing. The idea that wrongdoing should be met with reparation or some other recourse is an important attribute of the legal order.[184] However, due to the aspirational nature of climate change law and environmental law, there is difficulty in establishing the content of the primary obligations in respect to climate change damage for the purposes of invoking state responsibility.[185] To date there is a lack of precedent in the international law jurisprudence for invoking state responsibility for the impact of climate change generally, let alone through human rights instruments.[186] Despite the current technical challenges in establishing state responsibility for climate change damage, the framework of state responsibility remains a useful tool to implement changes in the international jurisprudence that will help establish climate change obligations.

A state's human rights obligations and commitments potentially inform and strengthen international and domestic policymaking on climate change, as well

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178. Velásquez-Rodríguez v. Honduras, Inter-Am. Ct. H.R. (ser. C) No. 4 ¶ 172 (July 29, 1988), *cited in* Lam, *supra* note 171, at 1913.

179. Lam, *supra* note 171, at 1919–20.

180. VERHEYEN, *supra* note 23, at 239 (quoting Pemmaraju Sreenivasa Rao, Second report on the legal regime for the allocation of loss in case of transboundary harm arising out of hazardous activities, Int'l Law Comm'n 56th session, U.N. Doc. A/CN.4/540, ¶ 36(3) (March 15, 2004)).

181. G.A. Res. 56/83 (Dec 12, 2001).

182. G.A. Res. 56/83 (Dec 12, 2001).

183. Wewerinke-Singh, *supra* note 173, at 10; and Lucas Bergkamp, *Liability and Environment*, MATINUS NIJHOFF, 166 (2001).

184. *Factory at Chorzow*, Jurisdiction, PCIJ, Judgment No. 8, 1927, PCIJ Series A, No. 17 at 29 (Aug. 30).

185. Scovazzi, *supra* note 38.

186. Margaretha Wewerinke-Singh, *State Responsibility, Climate Change and Human Rights under International Law*, HART, 166 (2019).

as a state's implementation of the UNFCCC provisions and principles.[187] Practically human rights have been included in some of the NDCs submitted by 194 state parties,[188] including the NDCs by Argentina,[189] South Sudan,[190] the Philippines,[191] Canada,[192] and the EU,[193] among others.

However it remains that insufficient consideration is given to the harmful impacts of climate change on the exercise of human rights, even as states strive to comply with their international obligations. Turning to prevention, mitigation and adaptation to climate change, the global challenge for the world is to act. The effects of global warming are visible and a reminder of the need for action.[194] States must meet the long-term temperature goal in the Paris Agreement by 2030 by setting out strategies to meet this obligation and updating NDCs that are consistent with states' net-zero goals.[195] The UN Climate Ambition Summit has pushed for accelerated global climate action on decarbonization, enabling states to turn their ambitious commitments into new NDCs[196] to curb global warming;

187. *Id.*

188. *NDC Registry (interim)*, UNFCCC, https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx [https://perma.cc/U8WR-4MZC] (last visited Feb. 8, 2022).

189. MINISTERIO DE AMBIENTE Y DESARROLLO SOSTENIBLE, REPÚBLICA ARGENTINA, SEGUNDA CONTRIBUCIÓN DETERMINADA A NIVEL NACIONAL DE LA REPÚBLICA ARGENTINA 10 (DEC. 2020), https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Argentina%20Second/Argentina_Segunda%20Contribución%20Nacional.pdf [https://perma.cc/ZUS5-4JBH].

190. REPUBLIC OF SOUTH SUDAN, INTENDED NATIONALLY DETERMINED CONTRIBUTION (DRAFT) ¶¶ 25, 26, 41, https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Sudan%20First/South%20Sudan%20Intended%20Nationally%20Determined%20%20%20%20Contribution.pdf [https://perma.cc/RA5G-RB8S].

191. REPUBLIC OF THE PHILIPPINES, NATIONALLY DETERMINED CONTRIBUTION 2 (Apr. 15, 2021), https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Philippines%20First/Philippines%20-%20NDC.pdf [https://perma.cc/X2N8-5LDJ].

192. CANADA'S 2021 NATIONALLY DETERMINED CONTRIBUTION UNDER THE PARIS AGREEMENT, annex 1, at 17, 21, https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Canada%20First/Canada's%20Enhanced%20NDC%20Submission1_FINAL%20EN.pdf [https://perma.cc/FF8T-SP7T] (last visited Apr. 2, 2022).

193. SUBMISSION BY GERMANY AND THE EUROPEAN COMMISSION ON BEHALF OF THE EUROPEAN UNION AND ITS MEMBER STATES, annex, at 12 (Dec. 17, 2020), https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Spain%20First/EU_NDC_Submission_December%202020.pdf [https://perma.cc/JZ9J-636P].

194. This was apparent in 2020, a year of wildfires, hurricanes, and heat waves. *See* Seth Borenstein & Frank Jordans, *UN calls on humanity to end 'war on nature,' go carbon-free*, AP NEWS, Dec. 2, 2020, https://apnews.com/article/un-calls-end-war-nature-go-carbon-free-d144cda34053abbd0758e22d9ff8f7c6.

195. *UN Emissions Gap Report*, UNEP, XVII (2020).

196. *Id.* The EU, UK, South Korea, Japan, and Argentina also announced enhanced NDCs to achieve carbon neutrality, with Finland, Austria, and Sweden even stipulating dates for reaching net-zero. *See Climate Ambition Summit Builds Momentum for COP26, Press Release,* UNFCCC (Dec. 12, 2020), https://unfccc.int/news/climate-ambition-summit-builds-momentum-for-cop26 [https://perma.cc/3C7U-S77S]. In September 2020, China pledged to be carbon neutral before 2060 and confirmed that its GHG emissions will peak in the next decade, after which there will be a clear long-term decarbonization trajectory to 2060. *See* Fiona Harvey, *China Pledges to be Carbon Neutral before 2060*, THE GUARDIAN, (Sept. 22, 2020), https://www.theguardian.com/environment/2020/sep/22/china-pledges-to-reach-carbon-neutrality-before-2060 [https://perma.cc/8N8Z-FSFN]. China announced further steps at the UN Climate Ambition Summit that it would reduce its carbon intensity by more than 65% by 2030. *See* Somini

however, before any positive effects are recorded, any damages from the effects of climate change are potentially a subject of litigation. Even inadequate state action in reducing GHG emissions may be a subject of contention, as seen in the case of *Urgenda*.

The international legal regime, being a useful reference point for international standards and norms, when reflected in domestic and regional obligations, may assist litigation in domestic and regional courts, and even the international courts. As climate change becomes more severe, the cases affecting individuals' exercise of their human rights will rise, and there will be a greater likelihood for invoking state responsibility for climate change damage. However, the ability to do so will depend on the formation of a customary obligation for causing significant harm in climate change-related human rights. In the meantime, the growing jurisprudence as outlined by this Article may deepen the sense of accountability for climate change mitigation among states and compel compliance and transparency in respect to a state's own GHG reduction targets. The fast-changing pace of developments in the law helps hold states accountable for positive and compliant actions to mitigate and adapt to climate change.[197] Furthermore, states may pledge more stringent NDCs to mitigate the effects of climate change.

Sengupta, *China, in Nudge to US, Makes a New Promise to Tackle Global Warming*, NEW YORK TIMES, Dec. 12, 2020, https://www.nytimes.com/2020/12/12/climate/china-xi-greenhouse-gases.html [https://perma.cc/UH73-VNYL].

197. See the discussion on the impact of climate change litigation, for example in the case of *Urgenda* on the subsequent policy actions of the Netherlands, in Joana Setzer & Rebecca Byrnes, *Global Trends in Climate Change Litigation: 2020 Snapshot*, GRANTHAM RSCH. INST. ON CLIMATE CHANGE & THE ENV'T, CENTRE FOR CLIMATE CHANGE ECON. & POLICY AT LONDON SCHOOL OF ECON. AND POLITICAL SCI. (July 2020).