

STATE RESPONSIBILITY FOR DISRUPTING EARTH'S CLIMATE SYSTEM: ANTICIPATING THE ICJ ADVISORY OPINION

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SUMMARY

In 2025, the International Court of Justice (ICJ) will deliver an advisory opinion on the legal obligations of nations with respect to the mounting damage caused by climate change. This ruling will definitively restate applicable international law, provide a basis for new global policy decisions within the U.N. General Assembly, and provide a predicate for new lawsuits in national courts. To be effective, remedies for breaching a government's duties to avert climate change will require a "collective remedy," not merely financial compensation. This ruling was sought by law students from the South Pacific and elsewhere; this Article, also by young legal scholars, evaluates the scope and estimates the content of the forthcoming ICJ opinion.

In 2025, the United Nations (U.N.) International Court of Justice (ICJ) will render an advisory opinion on the obligations of States in respect of climate change.¹ The U.N. General Assembly requested this opinion, which it will rely upon to guide its deliberations on further international cooperation to cope with the world's gathering climate crisis. Under international law, States are responsible for the damage they cause when violating their legal duties not to injure other States or the marine environment and atmosphere.

The commentaries in this Article ask what is the relevant international legal framework that governs the obligations of States amidst the climate crisis. Beyond examining the responsibility of States for acts violating their legal duties, they assess the scope of the remedies that the General Assembly may debate once the ICJ rules. Concerted action is needed at once in order to arrest further irreversible harm to earth's natural systems. By failing to acknowledge and observe their clear duties under international law, States are

harming each other and the oceans and other global commons. Remedies are needed at once.

By anticipating the ICJ's rulings, the Article makes plain the legal duties that States should have recognized as soon as scientists confirmed, with a high degree of consensus, that disruption to the climate system was harming the environment, directly and indirectly. States have delayed taking preventive actions for too long. The damage is plain.

Once the ICJ advisory opinion confirms these legal duties, the U.N. General Assembly deliberations will focus on what remedies are appropriate in light of law. Anticipating the ICJ advisory opinion, the Article aims to move forward the debates on appropriate remedies by exploring issues that the U.N. General Assembly will likely need to address. Although States have acknowledged that earth's climate system is a common concern of humankind since 1992, they have not abated the climate crisis.

To make up for lost time, once the ICJ delivers its advisory opinion and has found State responsibility for disruption of the earth's climate system, the General Assembly will need to move expeditiously to examine remedies. These commentaries conclude that traditional remedies, like compensation for loss and damage, will be inadequate.

1. G.A. Res. 77/276 (Mar. 29, 2023). See the ICJ procedural decisions, at <https://www.icj-cij.org/case/187> (last visited Nov. 23, 2024).

For the first time, State responsibility will have to require a “collective remedy.”

The forthcoming ICJ advisory opinion will complement the advisory opinion from the International Tribunal for the Law of the Sea (ITLOS)² on climate change and international law delivered on March 21, 2024. The legal obligations of States to protect the earth’s climate system in relation to the marine environment and the U.N. Convention on the Law of the Sea (UNCLOS)³ have been definitively stated. The forthcoming ICJ ruling will address the climate in the context of the entire biosphere, a perspective recognized in law at the 1992 Rio de Janeiro U.N. Conference on Environment and Development (Earth Summit),⁴ where States signed the U.N. Framework Convention on Climate Change (UNFCCC).⁵ The ICJ rulings will confront States with their failures to meet their legal obligations to stabilize greenhouse gas (GHG) concentrations “at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”⁶

States have agreed on a core set of norms for sustainable development, but have not yet integrated these with the related intergovernmental commitments on specific “precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.”⁷ In 2015, the U.N. General Assembly adopted the 17 intertwined and interdependent Sustainable Development Goals (SDGs), which are to be realized by 2030.⁸ SDG 13 provides that States agree to “take urgent action to combat climate change and its impacts.”⁹ Later in 2015, States agreed in the Paris Agreement to keep global warming to “well below” 2 degrees Celsius (°C) above pre-industrial levels.¹⁰ States agree that to do so requires

“rapid, deep and sustained reductions in global GHG emissions of 43% by 2030.”¹¹

When in 2025 the U.N. ICJ advisory opinion will be delivered, the earth’s global average surface warming will be at the threshold of breaching the level of 1.5°C above pre-industrial temperatures.¹² The trends are evident,¹³ and the harms are both quantifiable and growing.¹⁴ Unless States become more active, as of 2024 only about 12% of the 169 targets for the SDGs are likely to be met by 2030.¹⁵ The policies and technologies exist to cope with climate change and curb heating the earth’s lands and waters, oceans, and atmosphere.¹⁶ Similarly, the means to implement the SDGs are available.¹⁷

States are not committing sufficient resources or actions proportionate to their duties to protect the climate system. “Business as usual” enables neglect or fosters misunderstanding about the socioeconomic transformations needed before 2030. The U.N. ICJ advisory opinion offers a foundation for concerted action to end business as usual. It will constitute a precedent for national courts to rule on the growing volume of climate-related lawsuits.¹⁸

Scientific consensus warns that the harms flowing from disrupting the global climate system are compounded by actions adversely impacting biological diversity and escalating pollution.¹⁹ States have requested and received the scientific assessment reports from the Global Environment

2. ITLOS, Case No. 31, Advisory Opinion in Response to Request Submitted by the Commission of Small Island States on Climate Change and International Law (May 21, 2024), https://www.itlos.org/fileadmin/itlos/documents/cases/31/Advisory_Opinion/C31_Adv_Op_21.05.2024_orig.pdf [hereinafter ITLOS Advisory Opinion]. See Eugene Cheigh, *Understanding Stringent Due Diligence in the ITLOS Advisory Opinion on Climate Change*, 54 ELR 10924 (Nov. 2024), <https://www.elr.info/articles/elr-articles/understanding-stringent-due-diligence-itlos-advisory-opinion-climate-change>.
3. UNCLOS, Dec. 10, 1982, 1833 U.N.T.S. 3, 21 I.L.M. 1261, https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf.
4. See the *travaux préparatoires* for the 1992 Earth Summit in Nicholas A. Robinson, Agenda 21 and the UNCED Proceedings (1992). In 2015, the U.N. General Assembly effectively updated Agenda 21 when it adopted the Sustainable Development Goals (SDGs). See FULFILLING THE SUSTAINABLE DEVELOPMENT GOALS (Narinder Kakar et al. eds., 2022).
5. UNFCCC, May 9, 1992, S. TREATY DOC. NO. 102-38, 1771 U.N.T.S. 107, <https://unfccc.int/resource/docs/convkp/conveng.pdf>.
6. *Id.* art. 2.
7. *Id.* art. 3.3.
8. U.N. Department of Economic and Social Affairs, *The 17 Goals*, <https://sdgs.un.org/goals> (last visited Nov. 23, 2024). See John C. Dermach & Scott E. Schang, *Making America a Better Place for All: Sustainable Development Recommendations for the Biden Administration*, 51 ELR 10310 (Apr. 2021), <https://www.elr.info/articles/elr-articles/making-america-better-place-all-sustainable-development-recommendations-biden>.
9. U.N. Environment Programme (UNEP), *Goal 13: Climate Action*, <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-13> (last visited Nov. 23, 2024).
10. Paris Agreement to the UNFCCC art. 2(1)(a), Dec. 12, 2015, 3156 U.N.T.S. 79, https://unfccc.int/sites/default/files/english_paris_agreement.pdf [hereinafter Paris Agreement].

11. Conference of the Parties to the Paris Agreement, *Sharm El-Sheikh Implementation Plan*, ¶ 15, U.N. Doc. Decision CMA.4 (2022), https://unfccc.int/sites/default/files/resource/cma4_auv_2_cover_decision.pdf.
12. See, e.g., COPERNICUS CLIMATE CHANGE SERVICE & WORLD METEOROLOGICAL ORGANIZATION, EUROPEAN STATE OF THE CLIMATE 2023, https://climate.copernicus.eu/sites/default/files/custom-uploads/ESOTC%202023/Summary_ESOTC2023.pdf.
13. See Stockholm Resilience Centre reports on breaching planetary boundaries, at *Planetary Boundaries*, <https://www.stockholmresilience.org/research/planetary-boundaries.html> (last visited Nov. 23, 2024).
14. See Marina Romanello et al., *The 2023 Report of the Lancet Countdown on Health and Climate Change: The Imperative for a Health-Centered Response in a World Facing Irreversible Harms*, 402 LANCET 2346 (2023), [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)01859-7/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)01859-7/abstract). The journal states:
The Lancet Countdown is an international research collaboration that independently monitors the evolving impacts of climate change on health, and the emerging health opportunities of climate action. In its eighth iteration, this 2023 report draws on the expertise of 114 scientists and health practitioners from 52 research institutions and UN agencies worldwide to provide its most comprehensive assessment yet.
Id. at 2346.
15. Francesco Fuso Nerini et al., *Extending the Sustainable Development Goals to 2050—A Road Map*, 630 NATURE 555 (2024).
16. SUSAN SOLOMON, SOLVABLE: HOW WE HEALED THE EARTH, AND HOW WE CAN DO IT AGAIN (2024).
17. FULFILLING THE SUSTAINABLE DEVELOPMENT GOALS—ON A QUEST FOR A SUSTAINABLE WORLD (Narinder Kakar et al. eds., 2022).
18. See Sabin Center for Climate Change Law, *Climate Change Litigation Databases*, <https://climatecasechart.com/> (last visited Nov. 23, 2024). National lawsuits will be called upon to apply the U.N. ICJ advisory opinion. Through insisting that governments at all levels observe their legal duties under international law, courts can enable societies to adapt and move from perpetuating “business as usual” toward sustaining a sensible and practical human environment that copes with climate as it advances the SDGs while healing and caring for the earth.
19. See UNEP, MAKING PEACE WITH NATURE: A SCIENTIFIC BLUEPRINT TO TACKLE THE CLIMATE, BIODIVERSITY, AND POLLUTION EMERGENCIES (2021), <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34948/MPN.pdf>.

Outlook (GEO) of the U.N. Environment Programme (UNEP),²⁰ the Intergovernmental Panel on Climate Change (IPCC),²¹ and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).²² States largely have chosen to neglect the stark findings of these reports, and ignore the mounting evidence of irreversible change to the oceans and living systems that sustain life on earth.

As a legal matter, however, these scientific reports have put States on notice that they are breaching their legal obligations to take action to prevent harm to the environment of the earth and its commons and to the environments of all other States. The findings of scientific reports directly implicate legal obligations of States. The acts or omissions of States related to these scientifically documented changes in environmental quality can be assessed in terms of State obligations under general principles of international law and customary law duties. The breach of these principles gives rise to State responsibility and the duties of States to restore or compensate for damaged ecosystems and other components of the climate system.

Systematic original research through a seminar at the Elisabeth Haub School of Law at Pace University yielded the analysis presented here. The seminar participants consulted with a number of international legal scholars and diplomats.²³ They studied the submissions by Parties for the advisory opinion of ITLOS.²⁴ Once ITLOS ruled on May 21, 2024, the seminar's commentaries incorporated relevant aspects of the ITLOS advisory opinion.²⁵ The commentaries critically assess applicable international law and the extent to which cross-fertilization between international tribunals could enhance understanding of international law, provide necessary content to clarify existing obligations, and shape available remedies amidst the climate crisis.²⁶

20. See, e.g., UNEP, *Global Environment Outlook 7*, <https://www.unep.org/geo/global-environment-outlook-7> (last visited Nov. 23, 2024).

21. IPCC, CLIMATE CHANGE 2023: SYNTHESIS REPORT. CONTRIBUTION OF WORKING GROUPS I, II, AND III TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Core Writing Team et al. eds., 2023), <https://doi.org/10.59327/IPCC/AR6-9789291691647> [hereinafter IPCC SYNTHESIS REPORT].

22. See, e.g., IPBES, *Second Global Assessment of Biodiversity and Ecosystem Services*, <https://www.ipbes.net/second-global-assessment> (last visited Nov. 23, 2024).

23. The authors acknowledge with thanks their consultations during January and April 2024 with the following international legal experts: Daniel Zavala Porras (Costa Rica), Alyn Ware (New Zealand), Cymie Payne (United States), Tony Oposa (Philippines), Christina Voigt (Norway), Victor Tafur (Colombia), and Wang Xi (China).

24. See ITLOS, *Request for an Advisory Opinion Submitted by the Commission of Small Island States on Climate Change and International Law*, <https://itlos.org/en/main/cases/list-of-cases/request-for-an-advisory-opinion-submitted-by-the-commission-of-small-island-states-on-climate-change-and-international-law-request-for-advisory-opinion-submitted-to-the-tribunal/> (last visited Nov. 23, 2024) (see "Written Proceedings" section).

25. ITLOS Advisory Opinion, *supra* note 2. Natalia Urzola contributed the evaluation of the ITLOS advisory opinion, which was delivered after the seminar research had concluded.

26. The commentaries in this Article reflect the conclusions of a collaborative study by post-graduate law students of international law for protecting earth's climate system, assessing the science and law pertinent to the U.N. General Assembly's request for an advisory opinion of the ICJ for protec-

tion of the climate system and related environment, pursuant to G.A. Res. 77/276 (Mar. 29, 2023).

27. See ICJ, *Obligations of States in Respect of Climate Change (Request for Advisory Opinion)—Filing of Written Statements*, <https://www.icj-cij.org/node/203897> (last visited Dec. 6, 2024); ICJ, *Obligations of States in Respect of Climate Change—Latest Developments*, <https://www.icj-cij.org/case/187> (last visited Dec. 6, 2024).

28. In 2013, Palau, through its Ambassador to the U.N., Stuart Beck, and collaborating with Yale Law School students, proposed that the U.N. General Assembly seek a judicial ruling on State responsibility for climate change (see *Climate Change and the ICJ: Seeking an Advisory Opinion on Transboundary Harm*, YALE L. SCH. (Sept. 12, 2013), <https://law.yale.edu/yls-today/news/climate-change-and-icj-seeking-advisory-opinion-transboundary-harm>). The proposal did not advance then in the General Assembly. Thereafter, Antonio Oposa of the Philippines, with students from Haub Law School at Pace University and the Richardson Law School at the University of Hawaii (both universities are members of the International Union for the Conservation of Nature (IUCN)), urged the IUCN to advance the call for an ICJ advisory opinion.

The commentaries here examine the three principal themes that the U.N. ICJ will likely address: (1) injuries that States are inflicting upon the climate system and the ambient environment; (2) the international law relevant to this scientific consensus; and (3) State respon-

tion of the climate system and related environment, pursuant to G.A. Res. 77/276 (Mar. 29, 2023).

27. See ICJ, *Obligations of States in Respect of Climate Change (Request for Advisory Opinion)—Filing of Written Statements*, <https://www.icj-cij.org/node/203897> (last visited Dec. 6, 2024); ICJ, *Obligations of States in Respect of Climate Change—Latest Developments*, <https://www.icj-cij.org/case/187> (last visited Dec. 6, 2024).

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In 2016, the World Conservation Union adopted Resolution WCC-2016-Res-079-EN, entitled "Request for an Advisory Opinion of the International Court of Justice on the Principle of Sustainable Development in View of the Needs of Future Generations" (see https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_079_EN.pdf). Subsequently, a young lawyer, Nicole Ponce of the Philippines (founder of "I Am Climate Justice"; see Anita Martinez, *Workshop: I Am Climate Justice*, UNITED WORLD PROJECT (Aug. 26, 2020), <https://www.unitedworldproject.org/en/workshop/i-am-climate-justice/>), and students in the South Pacific (Pacific Islands Students Fighting Climate Change, *Home Page*, <https://www.pisfcc.org/> (last visited Nov. 23, 2024)) advanced the proposal for Vanuatu to seek a U.N. General Assembly request for an advisory opinion. Vanuatu hosts the Emalus campus of the University of the South Pacific (University of the South Pacific (USP), *USP Emalus Vanuatu*, <https://www.usp.ac.fj/emalus/> (last visited Nov. 23, 2024)). Vanuatu students worked in concert with youth leaders in Europe and elsewhere. See World's Youth for Climate Justice, *Home Page*, <https://www.wy4cj.org/> (last visited Nov. 23, 2024).

In September 2021, Vanuatu announced it would seek the U.N. General Assembly request for an advisory opinion. Vanuatu and other States then negotiated the terms of the General Assembly resolution and proposed that the U.N. General Assembly request an ICJ advisory opinion (see Vanuatu ICJ Initiative, *Home Page*, <https://www.vanuatuicj.com/> (last visited Nov. 23, 2024)). In March 2023, the General Assembly adopted Resolution 77/276 (see Press Release, U.N., General Assembly Adopts Resolution Requesting International Court of Justice Provide Advisory Opinion on States' Obligations Concerning Climate Change (Mar. 29, 2023), <https://press.un.org/en/2023/ga12497.doc.htm>). Youth led a decade of advocacy seeking the forthcoming ICJ advisory opinion. These commentaries are an independent evaluation of the relevant international law that the World's Youth for Climate Justice separately evaluated in its *Climate Justice Handbook* (2023), available at <https://www.wy4cj.org/resources>. The contributions of young jurists offer insights distinct from older jurists.

sibility and the remedies that may flow from findings of State responsibility.

The ICJ has been cautious in the lead-up to rendering its unprecedented advisory opinion on climate. In several procedural orders, it has allowed a wide range of parties to make and reply to submissions, and granted ample extension of time for submissions. Two years will have elapsed from the time in 2023 that the General Assembly requested the advisory opinion to the ruling. In light of the accumulating evidence of irreversible harm to earth's climate system, to some this pace of judicial decisionmaking appears to be too slow. Nonetheless, the court is moving faster than States have since they agreed in 1992 on the UNFCCC, and on the Paris Agreement in 2015.²⁹ While States delay their national actions under these agreements, producing more GHGs than ever,³⁰ irreversible harm to the earth's climate system mounts.

When the court delivers its advisory opinion, does enough time remain to implement its rulings to avert depleting renewable resources or causing inadvertent damage?³¹ As U.N. Secretary-General António Guterres puts it: "The truth is, we have been poor custodians of our fragile home. Today, the Earth is facing a triple planetary crisis. Climate disruption, biodiversity loss, pollution and waste. This triple crisis is threatening the well-being and survival of millions of people around the world."³² While technologies and policy exist to abate these crises, they are not yet deployed at the scale to be effective.

In light of competing challenges, it is not clear how States will choose to maneuver through international law regimes to deploy technological, financial, and other resources to deliver integrated, science-based, adaptive responses that can enable natural systems to heal and adapt. With respect to climate change, much is at stake. The U.N. World Meteorological Organization (WMO) reports that there is an 80% chance the 1.5°C limit will be breached in one of the next five years.³³ U.N. Secretary General Guterres states, "We are playing Russian roulette with our planet. We need an exit ramp off the highway to climate hell, and the truth is we have control of the wheel."³⁴

International law provides States with the map to chart this exit ramp. The forthcoming advisory opinion of the ICJ most certainly will confirm the advisory opinion of ITLOS, which already provided analogous guid-

ance under UNCLOS on May 21, 2024.³⁵ In addition, an advisory opinion is forthcoming from the Inter-American Court of Human Rights to address similar questions, with a special focus on the intersection of human rights and climate change.³⁶ Inaction to abate climate change violates human rights.

These judicial rulings are clarifying and confirming State obligations under international law regarding climate change.³⁷ They provide a foundation for injured States to assert claims against States breaching their duties. However, more significantly, they lay a foundation for States to make the rapid responses required to halt further disruption of the climate system. Prompt State action can erase the deficit of time and unleash the adaptations needed to arrest environmental degradation, protect the atmosphere and oceans, protect biodiversity, end unlawful transfrontier pollution, and halt resource damage.

The U.N. General Assembly's questions presented to the ICJ pose four principal areas of inquiry. First, the precise terms of the formal questions that the General Assembly carefully negotiated and agreed to submit to the court set the framework for the ICJ's deliberations. Second, the unrefuted scientific assessments of the harm that the impacts of climate change inflict are delineated to provide the factual foundation for applying the applicable law. Third, the public international law provisions that establish the obligations of States with respect to climate change are delineated, with reference significantly to the general principles of law and customary law, which is often neglected when only treaty terms are considered. Fourth, and most importantly, the scope of realistic remedies is set forth for determining State responsibility and framing the scope of appropriate remedies.

29. UNFCCC, *supra* note 5; Paris Agreement, *supra* note 10.

30. The volume of fossil fuels and wood burned has grown to all-time highs since 1992. See JEAN-BAPTISTE FRESSOZ, MORE AND MORE AND MORE—AN ALL-CONSUMING HISTORY OF ENERGY (2024).

31. Nicholas A. Robinson, *Depleting Time Itself: The Plight of Today's "Human" Environment*, 51 ENV'T POL'Y & L. 361 (2021), <https://content.iospress.com/download/environmental-policy-and-law/epl219016?id=environmental-policy-and-law%2Fep219016>.

32. Press Release, U.N., *Ambitious Action Key to Resolving Triple Planetary Crisis of Climate Disruption, Nature Loss, Pollution*, Secretary-General Says in Message for International Mother Earth Day (Apr. 21, 2022), <https://press.un.org/en/2022/sgsm21243.doc.htm>.

33. The WMO confirmed 2023 as the warmest year on record "by a huge margin." *WMO Confirms 2023 as Warmest Year on Record "by a Huge Margin,"* U.N. NEWS (Jan. 12, 2024), <https://news.un.org/en/story/2024/01/1145457>.

34. *There Is an Exit Off "the Highway to Climate Hell," Guterres Insists*, U.N. NEWS (June 5, 2024), <https://news.un.org/en/story/2024/06/1150661>.

35. Press Release, ITLOS, *Tribunal Delivers Unanimous Advisory Opinion in Case No. 31: Request Submitted to the Tribunal by the Commission of Small Island States on Climate Change and International Law* (May 21, 2024), https://itlos.org/fileadmin/itlos/documents/press_releases_english/PR_350_EN.pdf.

36. Request for an Advisory Opinion on the Climate Emergency and Human Rights Submitted to the Inter-American Court of Human Rights by the Republic of Colombia and the Republic of Chile (Jan. 9, 2023), https://corteidh.or.cr/docs/opiniones/soc_1_2023_en.pdf. The European Court of Human Rights ruled on similar issues in *Verein KlimaSeniorinnen Schweiz v. Switzerland*, No. 53600/20 (Apr. 9, 2024), <https://www.klimasenioren.ch/wp-content/uploads/2024/04/CASE-OF-VEREIN-KLIMASENIORINNEN-SCHWEIZ-AND-OTHERS-v.-SWITZERLAND.pdf>.

37. For international law generally, see Submission under Article 65, paragraph 2, of the Statute of the ICJ by the U.N. Secretariat General Legal Division to the ICJ in response to G.A. Res. 77/286, on international law, at Parts I-VIII on the ICJ docket for Case No. 187, at <https://www.icj-cij.org/case/187>. See also with respect to environmental law, NICHOLAS A. ROBINSON & LAL KURUKULASURIYA, TRAINING MANUAL ON INTERNATIONAL ENVIRONMENTAL LAW (2006), <http://digitalcommons.pace.edu/lawfaculty/791/>. See also International Council of Environmental Law (ICEL), Note on the U.N. General Assembly Request for an Advisory Opinion on the Legal Obligation of States in Response to Climate Change (Sept. 18, 2023), <https://icelinternational.org/wp-content/uploads/2023/09/icel-note-en.pdf> [hereinafter ICEL Note].

I. The Questions Before the ICJ

On March 29, 2023, the U.N. General Assembly adopted, by consensus, a carefully negotiated resolution³⁸ requesting the ICJ to render an advisory opinion on the following questions:

Having particular regard to the Charter of the United Nations, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the United Nations Framework Convention on Climate Change, the Paris Agreement, the United Nations Convention on the Law of the Sea, the duty of due diligence, the rights recognized in the Universal Declaration of Human Rights, the principle of prevention of significant harm to the environment and the duty to protect and preserve the marine environment,

- (a) What are the obligations of States under international law to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations;
- (b) What are the legal consequences under these obligations for States where they, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment, with respect to:
 - (i) States, including, in particular, small island developing States, which due to their geographical circumstances and level of development, are injured or specially affected by or are particularly vulnerable to the adverse effects of climate change?
 - (ii) Peoples and individuals of the present and future generations affected by the adverse effects of climate change?³⁹

Proposed by the Republic of Vanuatu, responding to petitions from its nation's youth, this request for an advisory opinion provides the opportunity for a clarification of States' legal obligations concerning climate change and issues of climate justice for present and future generations.⁴⁰ The questions are framed within a broad definition of the climate system, which includes the atmosphere, biosphere, and hydrosphere, as stated in Article 1(3) of the UNFCCC.⁴¹ Significantly, the concern for present and future generations presents an intemporal element calling upon the ICJ to opine on intergenerational justice and equity.

38. G.A. Res. 77/276, *supra* note 1.

39. *Id.*

40. Maria Antonia Tigre & Jorge Alejandro Carrillo Bañuelos, *The ICJ's Advisory Opinion on Climate Change: What Happens Now?*, CLIMATE L. (Mar. 29, 2023), <https://blogs.law.columbia.edu/climatechange/2023/03/29/the-icjs-advisory-opinion-on-climate-change-what-happens-now/>.

41. UNFCCC, *supra* note 5, art. 3(1).

II. The Scientific Consensus on Climate Change and Harmful Impacts

Climate change affects all States. States exist within and are dependent upon the earth's "climate system," which is defined as "the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions."⁴² States already recognize that they are harming the environment, as evidenced in the reports of the IPCC,⁴³ the IPBES,⁴⁴ and UNEP's GEO.⁴⁵ Scientific evidence reveals significant and irreversible, long-term impacts on the natural and human environment.

Reviewed and endorsed by Member countries, IPCC reports are a definitive, authoritative assessment, as recognized by ITLOS in its recent advisory opinion.⁴⁶ The IPCC has found that human influence has unequivocally warmed the atmosphere, ocean, and land.⁴⁷ The climate-related impacts on the environment affect all life, and are complex. Even if possible, describing climate damage comprehensively is beyond the scope of the commentaries here. Nonetheless, enough evidence is available to give rise to State responsibility.

Climate impacts are pervasive. Coastal States experience sea-level rise, inundation of deltas, flooding, loss of marshes and wetlands, erosion of shorelines, increased flow of salt water into estuaries and nearby groundwater aquifers, and increased vulnerability of coastal infrastructure to damage from storms.⁴⁸ Global mean sea level has increased by 0.20 meter between 1901 and 2018.⁴⁹ Human influence is very likely the main driver of these increases.⁵⁰ Sea-level rise is connected to the heating of the climate system through ice loss on land and thermal expansion from ocean warming.⁵¹ Coastal hazards and changes in coastal tidal amplitudes and patterns are expected to exacerbate and increase in intensity and magnitude.⁵²

According to the IPCC, global mean sea level is rising with virtual certainty and accelerating with high confi-

42. *Id.* art. 1.2.

43. IPCC, *Summary for Policymakers*, in CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 3, 4 (Valérie Masson-Delmotte et al. eds., Cambridge Univ. Press 2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.

44. IPBES, SUMMARY FOR POLICYMAKERS OF THE GLOBAL ASSESSMENT REPORT ON BIODIVERSITY AND ECOSYSTEM SERVICES OF THE INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES 12 (Sandra Díaz et al. eds., 2019).

45. UNEP GEO, GEO-6: SUMMARY FOR POLICYMAKERS 9 (2019), <https://doi.org/10.1017/9781108639217> [hereinafter GEO-6].

46. ITLOS Advisory Opinion, *supra* note 2, ¶¶ 49, 51.

47. IPCC, *supra* note 43, at 4.

48. JAMES E. NEUMANN ET AL., PEW CENTER ON GLOBAL CLIMATE CHANGE, SEA-LEVEL RISE & GLOBAL CLIMATE CHANGE: A REVIEW OF IMPACTS TO U.S. COASTS (2000), https://www.c2es.org/wp-content/uploads/2000/02/env_sealevel.pdf; U.S. Environmental Protection Agency (EPA), *Climate Change Indicators: Coastal Flooding*, <https://www.epa.gov/climate-indicators/climate-change-indicators-coastal-flooding> (last updated Sept. 6, 2024).

49. IPCC, *supra* note 43, at 5.

50. *Id.*

51. *Id.* at 11.

52. ITLOS Advisory Opinion, *supra* note 2, ¶ 59.

dence.⁵³ The dominant cause can be traced back to 1970 and is anthropogenic (high confidence). Coastal ecosystems are impacted by sea-level rise, as well as other climate-related ocean changes and adverse effects of human activities (such as informal settlements and changes in coastlines).⁵⁴ The IPCC predicts that future rise in global mean sea level caused by thermal expansion, melting of glaciers and ice sheets, and land water storage changes will occur at a faster pace, even if the world achieves the long-term temperature goal set out in the Paris Agreement.⁵⁵

It is virtually certain that the Arctic will continue to warm, and some regions, including the South American Monsoon region, are projected to see the highest increase in temperatures.⁵⁶ Expected impacts include habitat contraction, loss of functionality and biodiversity, and lateral and inland migration.⁵⁷ Natural land and ocean carbon sinks have, as a result, become less effective.⁵⁸

The marine environment experiences ocean warming, acidification, and pollution. Unsustainable exploitation negatively impacts the ocean's biodiversity.⁵⁹ Mass coral bleaching has damaged tropical reefs beyond recovery.⁶⁰ The loss of coral reefs impacts fisheries, tourism, community health, livelihoods, and marine habitats.⁶¹ Small-scale fisheries support around 58 million to 120 million people worldwide.⁶²

Communities in close connection with coastal environments will be particularly affected, as fish distribution and decreases in fisheries are likely to affect income, livelihoods, and food security.⁶³ As the ITLOS advisory opinion highlights, coastal "blue carbon" ecosystems, including mangroves, salt marshes, and seagrasses, reduce risks and impacts of climate change, which is why protecting them is crucial for climate action.⁶⁴ According to the IPCC, changes due to past and future GHG emissions are already deemed irreversible, especially those concerning the ocean, ice sheets, and global sea level.⁶⁵

Biodiversity loss worldwide is a serious harm caused by climate change. Loss of biological diversity, including genetic diversity, threatens food security globally.⁶⁶ Climate change not only acts as a direct driver, but it also intensifies the impacts of other biodiversity loss drivers on nature and human well-being.⁶⁷ Impacts such as sea-level and temperature rise have contributed to alterations in species

distribution, phenology, population dynamics, community structure, and ecosystem function.⁶⁸ Coastal marine ecosystems are among the most productive and their deterioration reduces the ability to protect shorelines and the people and species that live there.⁶⁹ Increases in extreme weather events, sea-level rise, and coastal development have been identified as a potential cause of augmented fragmentation and habitat loss.⁷⁰

Freshwater supplies are also affected by climate change. Low-lying coastal areas are predicted to become uninhabitable even before sea levels rise, due to the loss of freshwater supply.⁷¹

Compound extreme events such as heat waves, droughts, and floodings have likely increased due to human influence.⁷² Additionally, affected areas tend to be densely populated, which amounts to a higher societal exposure to climate-induced disasters.⁷³ Climate impacts, including sea-level rise, salinization of freshwater, and extreme weather events, are likely to induce migration and force displacement of entire communities.

Cultural and natural heritage will also become affected by climate-related impacts. Tangible and intangible assets experience a potential loss. Among the most visible are objects, buildings, monuments, and instruments,⁷⁴ as well as traditional and ancestral lands where cultural practices take place (i.e., burial sites and ceremonial sites). Increased heat amounts to higher risks of fires, while coastal erosion and sea-level rise lead to flooding and other natural disasters that could destroy these assets.⁷⁵ Further, some of these States, and these areas in particular, have limited access to economic resources, which makes both disaster response and adaptation measures hard to implement.

Many of these changes have been found to be irreversible.⁷⁶ Heavy precipitation and flooding are projected to become more intense and frequent, with medium-to-high confidence.⁷⁷ Region-specific changes include, among others, increases in river floods and intensified hurricanes, cyclones, and other storms.⁷⁸ Two-thirds of coastlines globally have a projected sea-level rise of approximately 20%.⁷⁹ Sea-level rise threatens coastal flooding in low-lying areas and coastal erosion.⁸⁰

Coastal cities are particularly vulnerable to flooding due to extreme sea-level events and extreme rainfall/river

53. Michael Oppenheimer et al., *Sea Level Rise and Implications for Low-Lying Islands, Coasts, and Communities*, in IPCC SPECIAL REPORT ON THE OCEAN AND CRYOSPHERE IN A CHANGING CLIMATE 321 (H.-O. Pörtner et al. eds., Cambridge Univ. Press 2019), <https://doi.org/10.1017/9781009157964.006>.

54. *Id.*

55. *Id.*

56. IPCC, *supra* note 43, at 15.

57. Oppenheimer et al., *supra* note 53.

58. IPCC, *supra* note 43, at 20.

59. GEO-6, *supra* note 45.

60. *Id.* at 10.

61. *Id.*

62. *Id.*

63. ITLOS Advisory Opinion, *supra* note 2, ¶ 66.

64. *Id.* ¶ 56.

65. *Id.* ¶ 62.

66. IPBES, *supra* note 22.

67. *Id.* at 13.

68. *Id.*

69. *Id.* at 24.

70. *Id.* at 39.

71. Fred Pearce, *Salt Scourge: The Dual Threat of Warming and Rising Salinity*, YALE ENV'T 360 (May 10, 2022), <https://e360.yale.edu/features/salt-scourge-the-dual-threat-of-warming-and-rising-salinity>.

72. IPCC, *supra* note 43, at 9.

73. *Id.*

74. Grace Bowie, *Why Cultural Heritage Belongs in the Climate Conversation*, FOLKLIFE MAG. (Oct. 23, 2023), <https://folklife.si.edu/magazine/cultural-heritage-climate-conversation>.

75. IPCC, *supra* note 43.

76. *Id.* at 21.

77. *Id.* at 24.

78. *Id.* at 25.

79. *Id.*

80. *Id.*

flow.⁸¹ Almost all coastal cities and small island developing States (SIDS) are increasingly vulnerable to sea-level rise, floods, and storm surges directly linked to climate change and extreme weather events.⁸² Climate change impacts are deemed serious and irreversible, and may lead to loss of livelihood, increased mortality, greater potential for violent conflict, human mass migration, and decreased social resilience.⁸³ These impacts are experienced more profoundly in disadvantaged communities in developing countries.⁸⁴

The IPCC has found a near-linear relationship between cumulative anthropogenic carbon dioxide (CO₂) emissions and global warming.⁸⁵ Historical and ongoing GHG emissions have caused climate change, a broad causal effect established in the scientific community.⁸⁶ These GHG emissions, in turn, have led to global warming of air and ocean, sea-level rise, glacier melting, freshwater scarcity, and food insecurity crises, among other impacts.⁸⁷

The IPCC projects an increase in desertification. Desertification results from both climate variability/change and human activities, such as unsustainable land management practices and increased demographic and economic pressures on land. Climate change contributes to desertification by increasing temperatures, enhancing evapotranspiration, and reducing precipitation, which, when combined with human activities, exacerbates land degradation in dryland areas.⁸⁸ Desertification diminishes the availability of ecosystem services provided by drylands and impairs ecosystem health, leading to biodiversity loss. Projected impacts of desertification and climate change include declines in agricultural productivity and a diminution in the resilience of dryland populations and a limit to their ability to adapt.⁸⁹

The impacts on Arctic regions are acute regionally, and in turn affect the entire climate system and biosphere. The special situation of Arctic States lies in their vulnerability to climate change impacts, including thawing of frozen tundra, new risks of wildfires, ice melt, sea-level rise, disruption of ecosystems, and challenges to traditional ways of life of the circumpolar communities of Inuit. These impacts also have broader implications for regional and global climate systems.

The introduction of CO₂ in the marine environment acidifies the ocean and melts sea ice at an increased rate while also changing the ocean chemistry.⁹⁰ In addition, increased heat absorption changes ocean currents because many currents are driven by differences in temperature, which cause differences in density. These currents influ-

ence climate patterns and sustain ecosystems that depend on certain temperature ranges.⁹¹ An IPCC report projects a 20% decline in snowmelt inflows.⁹² For regions or States that are reliant on these inflows to supply their rivers and lakes, and to recharge underground aquifers, shortages of freshwater result. The IPCC indicates irreversible loss of terrestrial ecosystems and desertification.⁹³

All these climate-related impacts are synergistic and affect each other. From wildfires to extreme weather events to biodiversity loss, the magnitude of these events is likely to continue to scale up unless emissions are decreased.⁹⁴ And unfortunately, “[t]he more that is emitted, the less nature can help.”⁹⁵ Essentially, the greater the emissions, the greater the difficulty earth’s natural systems have to mitigate the damage.⁹⁶ In fact, as of 2023, human activity has combined to breach six of nine of earth’s planetary boundaries, which reflects the threshold at which earth’s nine processes “that are critical for maintaining the stability and resilience of Earth system as a whole” can recover from anthropogenic harm.⁹⁷ Too often the plight of each breached boundary is addressed linearly, ignoring the aggregated impacts and the interplay of the systems such as climate change and biosphere integrity.⁹⁸

These impacts to the climate system entail secondary impacts also, such as forced migration and loss of cultural and natural heritage. Climate impacts undermine social order, threatening human rights and even peace and security.⁹⁹ Many of the world’s peoples displaced by persecution or conflict and violence also live in some of the States most vulnerable to climate change impacts like extreme weather and global warming. Climate change is also making the habitability of many places challenging, further complicating the issue of safe returns.¹⁰⁰ The displacement of many persons by climate impacts poses a new wave of human rights complexities to navigate.¹⁰¹ As the numbers of displaced persons increase, climate change-related migration and displacement threatens the human rights of those living in the impacted States. Rights to water and shelter are at risk.¹⁰²

81. *Id.*

82. GEO-6, *supra* note 45, at 6.

83. *Id.* at 7.

84. *Id.*

85. IPCC SYNTHESIS REPORT, *supra* 21, at 28.

86. GEO-6, *supra* note 45.

87. *Id.*

88. ALMUT ARNETH ET AL., CLIMATE CHANGE AND LAND: AN IPCC SPECIAL REPORT ON CLIMATE CHANGE, DESERTIFICATION, LAND DEGRADATION, SUSTAINABLE LAND MANAGEMENT, FOOD SECURITY, AND GREENHOUSE GAS FLUXES IN TERRESTRIAL ECOSYSTEMS (2019), <https://www.ipcc.ch/srcccl/>.

89. *Id.*

90. IPCC, *supra* note 43, ¶ B.2.3.

91. U.S. EPA, *Climate Change Indicators: Ocean Heat*, <https://www.epa.gov/climate-indicators/climate-change-indicators-ocean-heat> (last updated July 23, 2024).

92. *Sections*, in IPCC SYNTHESIS REPORT, *supra* note 21, at 35.

93. *Id.*

94. *Id.*

95. *See* IPBES, *supra* note 44.

96. *Id.*

97. Katherine Richardson et al., *Earth Beyond Six of Nine Planetary Boundaries*, 9 SCI. ADVANCES eadh2458 (2023).

98. *Id.*

99. U.N. Refugee Agency (UNHCR), *What We Do: Climate Change and Displacement*, <https://www.unhcr.org/what-we-do/build-better-futures/climate-change-and-displacement> (last visited Nov. 23, 2024).

100. *Id.*

101. Kristy Siegfried, *Climate Change and Displacement: The Myths and the Facts*, UNHCR (Nov. 15, 2023), <https://www.unhcr.org/us/news/stories/climate-change-and-displacement-myths-and-facts>.

102. Additionally, Article 27 (right to culture), Article 17 (right to be free from arbitrary interference with privacy, family, and home), and Article 6 (right to life) of the International Covenant on Civil and Political Rights (ICCPR) support the State responsibility to relocate, house, and protect significant heritage sites in addition to accommodating displaced people.

In addition to people, many cultural heritage sites are also at risk of being destroyed.¹⁰³ Currently, of 49 cultural world heritage sites that are in low-lying coastal areas of the Mediterranean, 37 are at risk from a 100-year flood and 42 from coastal erosion.¹⁰⁴ As sea levels continue to rise, many more cities beyond just the Mediterranean region will be at risk. The U.N. Educational, Scientific, and Cultural Organization (UNESCO) has created a long-term plan and identified existing legal frameworks to support the preservation of world heritage sites, considering climate change.¹⁰⁵ This long-term action plan is supported by Articles 4, 5, and 6 of the World Heritage Convention and binds States to the protection of world heritage sites.¹⁰⁶

The IPCC 2023 Climate Change Synthesis Report¹⁰⁷ indicates that there is a causal chain from emissions to resulting warming of the climate system. The rise of emissions and concentration of GHGs in the atmosphere coincides with the rise in emissions from human activities.¹⁰⁸ The report concludes that climate change is a consequence of more than a century of net GHG emissions from energy use, land use, lifestyle and patterns of consumption, and production. The report further concludes that “[c]limate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater, cryospheric and coastal and open ocean ecosystems,”¹⁰⁹ adding that “[a]pproximately half of the species assessed globally have shifted polewards or, on land, also to higher elevations.”¹¹⁰

The environmental impacts of climactic changes are found within States, across State borders, and throughout the marine environment and atmosphere. Earth’s natural systems, such as the hydrologic, nitrogen, and carbon cycles, have been and continue to be impacted. As U.N. Secretary General Guterres has noted, these changes threaten the continued existence of places, natural systems, and nations. The legal consequences are significant.

III. State Duties Under International Public Law

State sovereignty entails the obligation to avert harm to areas beyond the boundaries of a State’s national jurisdiction, and to ensure that a State’s actions within its territory do not harm the territory of other States.¹¹¹ The obligations

of sovereignty are restated in Principle 2 of the U.N. Rio Declaration on Environment and Development:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental 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.

All States have multiple obligations to protect the environment under several sources of law, including State responsibility, customary international environmental law, human rights law, the law of the sea, the UNFCCC, and other multilateral environmental agreements (MEAs). Particularly, States are required to use all means at their disposal to prevent significant transboundary environmental harm,¹¹² and take measures to minimize any risk, including to the ocean and its ecosystems.¹¹³ These duties are *erga omnes*.¹¹⁴

The following sections examine the relevant sources of States’ duties that could inform the ICJ’s advisory opinion on climate change impacts. States that dispute their obligations under the UNFCCC and the Paris Agreement¹¹⁵ cannot ignore the import of obligations that derive from contemporary international environmental law and human rights law. The U.N. World Charter for Nature reflects principles and rules concerning the basic rights of the human person and of nature.¹¹⁶ Like norms providing protection from slavery and racial discrimination, corresponding rights of environmental protection have entered into the body of general international law, both conferred by international instruments of a universal or quasi-univer-

103. See Lena Reimann et al., *Mediterranean UNESCO World Heritage at Risk From Coastal Flooding and Erosion Due to Sea-Level Rise*, 9 NATURE COMM’NS art. 4161 (2018). See also Torres Strait Islanders Petition (Daniel Billy v. Austl.), Judgments U.N.H.R., U.N. Doc. CCPR/C/135/D/3624/2019 (2022).

104. Reimann et al., *supra* note 103.

105. UNESCO, POLICY DOCUMENT ON CLIMATE ACTION FOR WORLD HERITAGE 7 (2023).

106. *Id.* at 7.

107. IPCC SYNTHESIS REPORT, *supra* note 21.

108. *Id.* fig.2.1.

109. *Id.* §2.1.2.

110. *Id.*

111. U.N. Conference on the Human Environment, *Report of the United Nations Conference on the Human Environment*, princ. 21, U.N. Doc. A/Conf.48/14/Rev. (June 16, 1972), <https://documents.un.org/doc/undoc/gen/nl7/300/05/pdf/nl730005.pdf> [hereinafter Stockholm Declaration]. Restated as Principle 2 of the Rio Declaration on Environment and Development.

U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/126/Rev.1 (Aug. 12, 1992), https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf [hereinafter Rio Declaration].

112. The UNFCCC states:

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, . . . 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.

UNFCCC, *supra* note 5, pmbl. The Paris Agreement states: “Acknowledge[s] that climate change is a common concern of humankind, [and] Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights” Paris Agreement, *supra* note 10, pmbl.

113. UNFCCC, *supra* note 5, art. 2 (on the objective to protect the climate system), art. 4(1)(d) (on States’ commitment to promote sustainable management and cooperation in the conservation and enhancement of sinks and reservoirs of GHGs, including oceans, as well as terrestrial, coastal, and marine ecosystems).

114. Barcelona Traction (Belg. v. Spain) (Second Phase), Judgment, 1970 I.C.J. 3, ¶ 33 (Feb. 5).

115. See the discussion of competing State contentions in Bharat H. Desai & Jay B. Desai, *The Climate Change Conundrum: A Case for Course Correction in the Global Regulatory Approach*, 54 ENV’T POL’Y & L. 3, 5-9 (2024), <https://doi.org/10.3233/EPL-239028>.

116. G.A. Res. A/37/7, U.N. World Charter for Nature (Oct. 28, 1982).

sal character, through customary law, and through general principles of law.

The commentaries in this Article will focus particularly on (1) the applicable general principles of international law and (2) the human rights legal framework. The part will then focus on (3) the obligation of due diligence as the driving standard of States' international legal obligations, and on the duty to perform environmental impact assessment (EIA) as the essential legal procedure to operationalize these obligations.

A. General Principles of International Law

States have a duty to respect the general principles of international law governing relations among States.¹¹⁷ In addition to general principles such as good faith, the following 13 principles apply to State conduct with respect to the scientific evidence about climate-related damage to the earth's environment and damage caused outside of their jurisdiction and control, to other States and the areas beyond national jurisdiction, including the earth's climate system. These principles will also guide the remedies required by findings of State responsibility.

1. The *principle of preventing harm* to other States and to the shared commons beyond a State's territorial jurisdiction is clear.¹¹⁸ The obligation is ancient, well established, and dates from Roman law.¹¹⁹ The duty to prevent any harm, including transboundary harm, is a basic principle of international law and understood to be customary international law.¹²⁰ It is also restated in many soft-law instruments, such as Principle 21 of the Stockholm Declaration¹²¹ and Principle 2 of the Rio Declaration,¹²² and in MEAs, such as Principles 3 and 14 of the Convention on Biological Diversity (CBD),¹²³ Article 194 of UNCLOS,¹²⁴ and the agreement under UNCLOS on the conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ).¹²⁵

As a result, a State is in violation of its duty of prevention if an activity or practice under its effective control or jurisdiction causes environmental harm to another State or the commons.¹²⁶ Equally, Article 3 of the UNFCCC and Article 6 of the Paris Agreement urge States to take precautionary measures to prevent climate change and to mitigate GHG emissions and their effects.¹²⁷

The duty to prevent harm applies to climate change. Prevention of harm is codified in many international agreements, including international watercourses,¹²⁸ stratospheric ozone,¹²⁹ and transboundary air pollution.¹³⁰

In its recent advisory opinion, ITLOS recognized that this principle places a constraint upon States' exercise of their sovereign right to exploit, which shows the importance of environmental protection and preservation.¹³¹ The tribunal also acknowledged that due to the diffuse and cumulative nature of climate change, it might be difficult to specify which activities under the jurisdiction and control of one State cause damage to other States.¹³² However, ITLOS underscored that this difficulty has more to do with causation and should be distinguished from the obligation to prevent harm.¹³³

The ICJ's jurisprudence on the duty of prevention of harm is well established. The ICJ ruled in the Nuclear Weapons Advisory Opinion that this principle was confirmed and established that "existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment."¹³⁴ The ICJ confirmed in 1949 "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States."¹³⁵

In 2010, the ICJ reaffirmed 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. . . . A State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obli-

117. IAN BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* (7th ed. 2008); PATRICIA BIRNIE ET AL., *INTERNATIONAL LAW & THE ENVIRONMENT* (3d ed. 2009); PHILIPPE SANDS & JACQUELINE PEEL, *PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW* (4th ed. 2009); ROBINSON & KURUKULASURIYA, *supra* note 37, at 32-33.

118. *See* Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, ¶ 29 (July 8).

119. Nuclear Tests (Austl. v. Fr.), 1974 I.C.J. 372, 388, Annex 261, Dissenting Opinion of Judge Castro.

120. Nuclear Tests (Austl. v. Fr.), Judgment, 1974 I.C.J. 253, ¶ 39 (Dec. 20); Trail Smelter Case (U.S. v. Can.), Apr. 16, 1938, and Mar. 11, 1941, *in* 3 U.N. REPORT OF INTERNATIONAL ARBITRAL AWARDS 1905 (2006). *See also* Certain Activities Carried Out by Nicaragua in the Boarder Area (Costa Rica v. Nicar.), Judgment, 2015 I.C.J. 665, ¶ 104 (Dec. 16).

121. Stockholm Declaration, *supra* note 111, princ. 21.

122. Rio Declaration, *supra* note 111, princ. 2.

123. CBD, prins. 3 and 14, June 5, 1992, 1760 U.N.T.S. 79, 31 I.L.M. 818, <https://www.cbd.int/doc/legal/cbd-en.pdf>.

124. UNCLOS, *supra* note 3, art. 194.

125. Agreement Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, *opened for signature* June 19, 2023, C.N.203.2023.

126. ICJ Note, *supra* note 37, ¶ 44.

127. UNFCCC, *supra* note 5, art. 3; Paris Agreement, *supra* note 10, art. 6.

128. *See* Convention on the Law of the Non-Navigational Uses of International Watercourses art. 7(1), May 21, 1997, 2999 U.N.T.S. 77 ("Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.")

129. Vienna Convention for the Protection of the Ozone Layer art. 2, Annex 35, Mar. 22, 1985, 1513 U.N.T.S. 293.

130. Convention on Long-Range Transboundary Air Pollution art. 2, Annex 26, Nov. 13, 1979, 1302 U.N.T.S. 217.

131. ITLOS Advisory Opinion, *supra* note 2, at ¶¶ 187, 246.

132. *Id.* ¶ 252.

133. *Id.*

134. *See* Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, ¶ 29, Annex 264 (July 8).

135. Corfu Channel (U.K. v. Alb.), Merits, Judgment, 1949 I.C.J. 4 (Apr. 9).

gation “is now part of the corpus of international law relating to the environment.”¹³⁶

Based on the duty to prevent transboundary damage, the ICJ lays out States’ substantive and procedural duties, including the need to conduct EIAs and due diligence, aspects further discussed below.¹³⁷

2. The *principle of equity* is also ancient and foundational. The principle of equity plays a vital role when it comes to determining States’ legal obligations in the context of climate change. Equity refers to notions of fairness in the administration of justice, and is explicitly allowed as a matter to be considered by the ICJ in Article 38(2) of the ICJ Statute.¹³⁸ Reflecting this provision, the ICJ may rule *ex aequo et bono*, in equity, if the parties clearly express this intention. The ICJ is thus encouraged to apply equitable principles and carefully weigh various considerations relevant to the case to achieve an equitable result.¹³⁹

In the context of climate change, equity invokes considerations of historic versus current responsibility. In the 1969 case ruling of the *North Sea Continental Shelf*, the ICJ affirmed: “The legal notion of equity is a general principle directly applicable as a law [The court] must apply equitable principles as an integral part of international law and carefully weigh the various considerations it deems relevant, so as to achieve an equitable result.”¹⁴⁰ Moreover, Article 2, paragraph 2 of the Paris Agreement also includes equity as a principle to be reflected in the implementation of the agreement, along with the principle of common but differentiated responsibilities and respective capabilities, discussed next.¹⁴¹

3. The *principle of common but differentiated responsibility and respective capabilities* (CBDR-RC) relates to norms of equity, and addresses the common responsibility to protect the global environment in tandem with the need to apply different standards of conduct between developed and developing States.¹⁴² CBDR-RC can be found in Principle 12 of the Stockholm Declaration,¹⁴³ Principles 6 and 7 of the Rio Declaration,¹⁴⁴ Article 3(1) of the UNFCCC,¹⁴⁵ and Articles 20(4) and 21 of the CBD.¹⁴⁶ According to these

and similar provisions in other MEAs, the differentiated treatment derives from two main reasons: on the one hand, developed countries have contributed the most to global environmental problems, including climate change, and on the other hand, these countries have greater technological and financial resources to respond to the crisis.¹⁴⁷

In its advisory opinion, ITLOS emphasized that low-lying and other small island countries, countries with low-lying coastal, arid, and semi-arid areas or areas susceptible to floods, droughts, and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to climate change.¹⁴⁸ This supports the need to take full consideration of the specific needs and concerns of developing countries, as stated in the UNFCCC.¹⁴⁹

For example, small island States and States with river deltas and shallow coasts are currently experiencing the devastating effects of climate change and environmental degradation. Many of these States are among the so-called developing countries, proving the relevance of CBDR-RC when determining the States’ legal obligations. All States, developed and developing, are urged to take measures to combat climate change, as seen in relevant instruments that deal with mitigation, including the Bali Action Plan, the Copenhagen Accord, and the Cancun Agreements.

However, standards differ: developed countries’ mitigation measures must curb emissions and are permeated by specific commitments or targets. Developing countries’ mitigation measures are set in terms of sustainable development, supported by technology, financing, and capacity-building transfer.¹⁵⁰ Additionally, under the Paris Agreement, developing countries are also bound by nationally determined contributions (NDCs), where they can set their own emission-reduction targets according to their respective capabilities. As ITLOS stated, each Party’s successive NDC represents progression and should reflect its highest possible ambition, according to its CBDR-RC considering national circumstances.¹⁵¹

The reference to CBDR-RC injects a certain degree of flexibility when it comes to implementation. This principle seeks to accommodate the needs and interests of States with limited means and capabilities, and to address the disproportionate burden implementation might mean to these States.¹⁵² Nevertheless, ITLOS is adamant in signaling that this should not be used as an excuse to unduly postpone or even exempt the implementation of States’ obligations

136. *Pulp Mills on the River Uruguay* (Arg. v. Uru.), Judgment, 2010 I.C.J. 14, ¶ 101 (Apr. 20).

137. *Certain Activities Carried Out by Nicaragua in the Border Area* (Costa Rica v. Nicar.), Judgment, 2018 I.C.J. 15 (Feb. 2); *Construction of a Road in Costa Rica Along the San Juan River* (Nicar. V. Costa Rica), Judgment, 2015 I.C.J. 665, ¶ 153 (Apr. 4).

138. Statute of the ICJ art. 38(2) (1945).

139. *North Sea Continental Shelf* (Ger. v. Den.), Merits, Judgment, 1969 I.C.J. 3, ¶ 60 (Feb. 20).

140. *Id.*

141. ITLOS Advisory Opinion, *supra* note 2, ¶ 227.

142. *Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)*, LAWS. RESPONDING CLIMATE CHANGE (May 15, 2012), <https://legalresponse.org/legaladvice/the-principle-of-common-but-differentiated-responsibilities-and-respective-capabilities-a-brief-summary/>.

143. Stockholm Declaration, *supra* note 111, princ. 12.

144. Rio Declaration, *supra* note 111, princs. 6, 7.

145. UNFCCC, *supra* note 5, art. 3(1).

146. CBD, *supra* note 123, arts. 20(4), 21.

147. *Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)*, *supra* note 142.

148. ITLOS Advisory Opinion, *supra* note 2, ¶ 69.

149. *Id.*

150. *Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)*, *supra* note 142.

151. ITLOS Advisory Opinion, *supra* note 2, ¶ 218. One example of how CBDR-RC plays an important role in determining liability is found in the Montreal Protocol. Article III countries were only required to meet the reduction schedule if they were provided with sufficient support. Their capacity determined the standard of due diligence and, consequently, liability. Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 1522 U.N.T.S. 3.

152. ITLOS Advisory Opinion, *supra* note 2, ¶ 226.

to climate change.¹⁵³ According to ITLOS, CBDR-RC is a key principle during implementation, where States with greater means and capabilities should do more to address the negative impacts of climate change.¹⁵⁴

The CBDR-RC principle is also embedded in the obligation of mutual aid and assistance, where developed States are better positioned to meet their environmental responsibilities and are encouraged to assist developing States.¹⁵⁵ Assistance can be in the form of scientific, technical, educational, or other means, and is intended as a way to address an inequitable situation, where States that have contributed the least to GHG emissions are suffering the worst consequences.¹⁵⁶ Capacity-building, technical development and transfer, and financial assistance are key.¹⁵⁷

ITLOS identified three categories in the context of UNCLOS: (1) the promotion of programs of scientific, educational, technical, and other assistance to developing States¹⁵⁸; (2) the provision of appropriate assistance, especially to developing States, to minimize the effects of major incidents that may cause marine pollution¹⁵⁹; and (3) the provision of appropriate assistance concerning the preparation of EIAs.¹⁶⁰ Further, ITLOS considers that the expression “other assistance” may include financial assistance.¹⁶¹

4. The *principle of preparation* provides that States have obligations to prevent and prepare for clear and present threats from the impacts of climate change. “The oldest and simplest justification for government is as protector: protecting citizens from violence.”¹⁶² Many persons suffer the violence of extreme heat, wildfires, floods, and other climate-related injuries. Scientific consensus is that climate impacts are now foreseeable and, therefore, are subject to mitigation and adaptation measures. Failure to take affirmative measures to prevent climate harms breaches this obligation.

One significant mechanism to operationalize this duty can be found in national action plans. International instruments such as the Paris Agreement and CBD include provisions that encourage States to take measures to prepare for climate change impacts.¹⁶³ GHG emissions reduction, alternative energy promotion, and in situ and ex situ conservation strategies under the CBD, among others, allow States to plan and prepare for what is coming. Further, this duty is deeply intertwined with the duty to prevent harm, referenced above.

5. The *principle of international cooperation*¹⁶⁴ is a fundamental tenet of environmental law and governance, enshrined in the Charter of the U.N. It emphasizes the necessity of collaborative efforts among nations to address global challenges that transcend national boundaries. Cooperation addresses a multitude of issues. For instance, dust storms generated from desertified lands in one country can deposit sand and soil thousands of miles away, impacting air quality and the environment in other regions.¹⁶⁵

International cooperation mandates that States work together to share knowledge, resources, and technologies, to coordinate policy and action across borders and with respect to the commons. As ITLOS stated, the duty to cooperate under general international law is central to the examination of States’ obligations amid the climate crisis.¹⁶⁶ The UNFCCC’s preamble makes it clear that the climate regime contemplates and gives substance to the duty of cooperation.¹⁶⁷

This duty is an integral part of State obligations, and in the case of UNCLOS, there are specific obligations in Articles 197, 200, and 201 that complement the general duty to cooperate.¹⁶⁸ These specific obligations range from developing a common regulatory framework, including international rules, standards, and recommended practices and procedures, to promoting studies, research programs, and information exchange to establish appropriate scientific criteria.¹⁶⁹ Further, international cooperation is vital for pooling financial resources necessary to support a large-scale undertaking to address climate change, including antidesertification initiatives. Such support is essential in helping affected countries implement sustainable land practices, such as those in “national action programmes” under the U.N. Convention to Combat Desertification (UNCCD).¹⁷⁰

6. The *principle of precaution* encompasses the determination of significant harm as articulated in Principle 15 of the Rio Declaration, Article 3 of the UNFCCC, and in the customary EIA, which states that “lack of full scientific certainty shall not be used as a reason” for taking reasonable measures “to prevent environmental degradation.”¹⁷¹ Essentially, even if scientific uncertainty exists, States should make an effort to protect the environment. The precautionary principle calls on States to act in a way that protects the environment, even in cases of scientific uncertainty.¹⁷² Failure to anticipate predictable harms violates the duty to do no harm as well as the precautionary principle, and gives rise to redress obligations.

153. *Id.*

154. *Id.* ¶ 227.

155. *Id.* ¶ 326.

156. *Id.* ¶ 327.

157. *Id.* ¶ 329.

158. *Id.* ¶ 332.

159. *Id.* ¶ 334.

160. *Id.* ¶ 335.

161. *Id.* ¶ 336.

162. *3 Responsibilities Every Government Has Towards Its Citizens*, WORLD ECON. F. (Feb. 13, 2017), <https://www.weforum.org/agenda/2017/02/government-responsibility-to-citizens-anne-marie-slaughter/>.

163. Paris Agreement, *supra* note 10, art. 4; CBD, *supra* note 123, art. 6.

164. Abbas Poorhashemi, *Principles of International Environmental Law*, 4 CIFILE J. INT’L L. 80, 84 (2023), <https://doi.org/10.30489/cifj.2022.367502.1059>.

See also ROBINSON & KURUKULASURIYA, *supra* note 37, at 29.

165. Food and Agriculture Organization of the U.N., *Sand and Dust Storms*, <https://www.fao.org/land-water/land/sds/en/> (last visited Nov. 23, 2024).

166. ITLOS Advisory Opinion, *supra* note 2, ¶ 295.

167. *Id.* ¶ 298.

168. *Id.* ¶¶ 299 et seq.

169. *Id.* ¶¶ 301-320.

170. UNCCD, June 17, 1994, U.N. Doc. A/AC.241/27, 33 I.L.M. 1328.

171. Rio Declaration, *supra* note 111; UNFCCC, *supra* note 5.

172. ICEL Note, *supra* note 37, ¶ 94.

In its advisory opinion, ITLOS stated that scientific certainty is not required when determining the necessary measures to address climate change impacts. Rather, States must apply the precautionary approach in regulating, for example, marine pollution from GHG emissions.¹⁷³ An instance of this duty appears, for example, in Article 192 of UNCLOS that provides: “States have the obligation to protect and preserve the marine environment.” ITLOS, in its advisory opinion, finds that this duty “requires States to ensure that non-State actors under their jurisdiction or control comply with such measures. The obligation of the State, in this instance, is one of due diligence.”¹⁷⁴

7. The *principle of solidarity* is a foundational concept in international relations and environmental law, emphasizing the moral and practical necessity for nations to support each other in addressing global challenges.¹⁷⁵ In the context of desertification the principle of solidarity is particularly applicable, because desertification is a problem that not only affects the ecological and economic stability of individual countries, but also has broader implications for global environmental health and human security.¹⁷⁶ Moreover, solidarity is not only about providing assistance, but also about sharing the burdens and responsibilities of environmental management equitably. It recognizes the interconnectedness of our global ecosystem and the shared benefits of maintaining its health.¹⁷⁷ For instance, sustainable land management practices such as afforestation, restoration of soil health in degraded lands, and sustainable agricultural practices all can sequester carbon while averting desertification.

8. The *principle of sustainable development*¹⁷⁸ is part of core global norms since the Rio Declaration. It is the foundation for the U.N. SDGs. It is intrinsically linked to all climate-related problems, given that it seeks to harmonize economic growth, social inclusion, and environmental integrity.

For example, in the context of desertification, this principle is significant because the degradation of land undermines the ecological foundation that supports all three pillars of sustainable development.¹⁷⁹ Climate-driven desertification depletes the natural capital, including soil health, water availability, and biodiversity, that are essential for agriculture, forestry, and other land-based economic activities. This degradation not only compromises the ability of current generations to meet their needs—such as food security and livelihoods—but also jeopardizes

the prospects for future generations to enjoy a healthy and productive environment.¹⁸⁰

Sustainable development emphasizes the integration of environmental health with economic and social policies to ensure that development today does not sacrifice future welfare.¹⁸¹ One of the most direct applications of the sustainable development principle in combating desertification is through the pursuit of land degradation neutrality (LDN), a concept advanced by the UNCCD. LDN is a transformative approach that aims not just to halt the net loss of productive land, but to reverse it through strategies that balance land degradation with restoration and sustainable land management.¹⁸² This approach aligns with sustainable development by ensuring that the use and management of land resources are conducted in a way that maintains or enhances the land’s productivity and ecological health.

9. The *principle of proportionality* is a fundamental tenet of international law that ensures measures taken by States are balanced and appropriate relative to their objectives.¹⁸³ This principle is particularly pertinent in managing environmental issues caused by climate change. In the context of desertification, the principle of proportionality mandates that interventions by States or international bodies should match the severity of environmental harm, such as land degradation. This is crucial because both underreacting and overreacting to the problem can lead to inefficiencies and injustices. For example, overly aggressive measures may lead to significant disruptions in local economies and cultures, particularly in regions where traditional land use is an integral part of community identity and survival.¹⁸⁴ Conversely, insufficient action can allow degradation to continue unchecked, exacerbating environmental damage and its associated social and economic costs.¹⁸⁵

10. The *principle of non-regression* is a critical component of international environmental law, designed to prevent any backsliding on previously secured environmental protection achievements.¹⁸⁶ This principle asserts that environmental conservation should be an advancing front, continuously building upon past successes without regression.¹⁸⁷ It holds that once a certain level of environmental protection has been established, States are obligated not to adopt measures that would weaken or diminish that lev-

173. ITLOS Advisory Opinion, *supra* note 2, ¶ 213.

174. *Id.* ¶ 396.

175. Kostiantyn Gorobets, *Solidarity as a Practical Reason: Grounding the Authority of International Law*, 69 NETH. INT’L L. REV. 3 (2022), <https://doi.org/10.1007/s40802-022-00211-3>.

176. UNCCD, *UNCCD FAQ*, <https://www.unccd.int/unccd-faq> (last visited Nov. 23, 2024).

177. IPCC, *supra* note 43.

178. ROBINSON & KURUKULASURIYA, *supra* note 37, at 25.

179. *Three Pillars of Sustainability: A Brief Guide*, GLOB. EPROCURE (Apr. 28, 2023), <https://www.gep.com/blog/strategy/three-pillars-of-sustainability-brief-guide>.

180. IPCC, *supra* note 43.

181. ROBINSON & KURUKULASURIYA, *supra* note 37, at 25.

182. *Id.*

183. Thomas Cottier et al., *The Principle of Proportionality in International Law* (National Centres of Competence in Research, Working Paper No. 2012/38, 2012).

184. Lennart Olsson et al., *Land Degradation*, in CLIMATE CHANGE AND LAND: AN IPCC SPECIAL REPORT ON CLIMATE CHANGE, DESERTIFICATION, LAND DEGRADATION, SUSTAINABLE LAND MANAGEMENT, FOOD SECURITY, AND GREENHOUSE GAS FLUXES IN TERRESTRIAL ECOSYSTEMS 345 (P.R. Shukla et al. eds., Cambridge Univ. Press 2019), <https://doi.org/10.1017/9781009157988.006>.

185. *Id.*

186. UNEP Law and Environment Assistance Platform, *Principle of Non-Regression*, <https://leap.unep.org/en/knowledge/glossary/principle-non-regression> (last visited Nov. 23, 2024).

187. *Id.*

el.¹⁸⁸ In the broader context of environmental protection, the principle of non-regression ensures that progress in managing and safeguarding the environment, including combating climate change, is maintained and not undermined by future legislative or policy changes.¹⁸⁹

Internationally, the principle of non-regression has been recognized in significant environmental declarations and agreements. For instance, the Rio+20 Declaration on Justice, Governance, and Law for Environmental Sustainability (2012) explicitly affirms the necessity of avoiding actions that would reduce legal environmental protections or access to environmental justice.¹⁹⁰ Moreover, the Paris Agreement embeds this principle by requiring each Party to present progressively ambitious NDCs.¹⁹¹ This requirement ensures that each successive NDC does not fall below the level of ambition set by its predecessors, thereby embedding a non-regressive path in global climate efforts. Where a State's GHGs continue or increase, after 1992 (UNFCCC) and especially after 2015 (Paris Agreement), that State's conduct violates this non-regression principle.

11. The *polluter-pays principle* provides that the polluter should bear the costs of its pollution. This internalizes into the economy the externalities through quantifying the costs of remediating the harm or compensating for the harm inflicted.¹⁹² Following the polluter-pays principle, developed States should bear the costs of climate-related pollution. The industrialized States have emitted the most GHGs, and thus developed nations have the responsibility to financially support the efforts to combat the harm they caused, specifically in developing and least-developed States.

Applying the polluter-pays principle aims to ensure environmental justice and equity by providing a funding mechanism for developing and least-developed States to implement positive change toward a healthy, clean, and sustainable environment. Beyond finance, a remedy can advance sharing of knowledge, technology, and expertise. This has been a long-standing responsibility of States under various MEAs. The fight against climate change should not be taken on by States acting individually, as it is a global issue. By sharing technologies, knowledge, and expertise, developing States and least-developed States can more efficiently participate in the global efforts to combat climate change.

12. The *principle of due diligence* in international environmental law obliges States to act responsibly by taking all appropriate measures to prevent significant transboundary environmental harm,¹⁹³ including severe local and cross-border ecological, economic, and social repercussions. This principle mandates conduct, apart from results. Due diligence is to be performed through the obligation of States to assess environmental impacts (i.e., through EIA).

As discussed further below, EIA is an obligation of customary international law,¹⁹⁴ and is expressly required for the marine environment in Article 206 of UNCLOS (and in the BBNJ Agreement). While the UNFCCC (Article 4) notes the appropriateness of EIA, and Principle 17 of the Rio Declaration expressly requires the use of EIA in national decisionmaking, States have been slow to employ EIA to address coping with the adverse impacts of climate change.¹⁹⁵ This principle and the content of EIAs will be further discussed below.

13. The *principle of self-determination* is implicated when the impacts of climate change eliminate the homelands of peoples and some or all of the territory of the States. These phenomena carry profound implications for State sovereignty, and the right and principle of self-determination and its extent to territorial integrity. These are among the legal questions presented when States claim climate impacts are an “existential” threat.

Observing self-determination is a duty *erga omnes*. Each State is a subject of international law, whose criteria for existence and recognition of statehood are established by the Montevideo Convention of 1933.¹⁹⁶ Sovereignty is “the notion which, in the internal order, expresses the supreme power (*suprema potestas*) to govern, to command and to decide, and which, linked to the emergence of the modern State, is inseparable from it.”¹⁹⁷ The right of peoples to self-determination enables the acquisition of sovereignty and designates “their right to decide freely on their internal and external affairs without foreign interference.”¹⁹⁸ State sovereignty gives rise to the notion of territorial integrity, protected by the prohibition on the use of force.¹⁹⁹

The right of self-determination is a core principle in the U.N. Charter regarding peaceful relations.²⁰⁰ The right

188. *Id.*

189. Jose Daniel & Pranav Ganesan, *Non-Regression in Climate Action and the Rights of Present and Future Generations*, WORLD'S YOUTH FOR CLIMATE JUST., <https://www.wy4cj.org/legal-blog/non-regression-in-climate-action-and-the-rights-of-present-and-future-generations> (last visited Nov. 23, 2024). See also Michel Prieur, *Non-Regression in Environmental Law*, 5 S.A.P.I.E.N.S 53 (2012), https://www.researchgate.net/publication/295974021_Non-regression_in_environmental_law.

190. Rio+20 U.N. Conference on Sustainable Development, *The Future We Want*, U.N. Doc. A/CONF.216/L.1, at 32 (June 19, 2012), https://www.un.org/disabilities/documents/rio20_outcome_document_complete.pdf.

191. Paris Agreement, *supra* note 10, art. 4(3).

192. Rio Declaration, *supra* note 111, princ. 16.

193. ROBINSON & KURUKULASURIYA, *supra* note 37, at 33.

194. Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 14 (Apr. 20).

195. Taako Edema George et al., *An Evaluation of the Environmental Impact Assessment Practice in Uganda: Challenges and Opportunities for Achieving Sustainable Development*, 6 HELIYON e04758 (2020), <https://doi.org/10.1016/j.heliyon.2020.e04758>.

196. Montevideo Convention on the Rights and Duties of States, Dec. 26, 1933, 165 L.N.T.S. 19.

197. JEAN SALMON, DICTIONNAIRE DE DROIT INTERNATIONAL PUBLIC (2001).

198. *Id.*

199. *Id.*

200. U.N. Charter art. 1(2) (as a purpose of the U.N. being “[t]o develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples . . .”), art. 55 (referring to the goal of the U.N., in the fields of social and economic development and respect for human rights, to create the “conditions of stability and well-being which are necessary for peaceful and friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples”).

to self-determination is a “fundamental human right”²⁰¹ and carries *erga omnes* obligations.²⁰² In its 1975 Western Sahara Advisory Opinion, the ICJ recognized that peoples have a legal tie to their territory and resources, even in the absence of formal sovereignty.²⁰³ Hence, given the nature of the adverse effects of climate change, they will likely produce negative interference with (1) the political, economic, social, and cultural development of climate-vulnerable peoples and States, as well as (2) loss of territory and resources, which can (3) pose questions that reconfigure the notion of transboundary harm.

Self-determination is protected as a human right under common Article 1 of the International Covenant on Civil and Political Rights (ICCPR) and Article 1 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) (Common Article 1). Paragraph 1 of Common Article 1 protects a right of peoples to “freely determine their political status and freely pursue their economic, social and cultural development.” Paragraph 2 of Common Article 1 protects the right of peoples to the free disposition of natural wealth and resources. A people may not “be deprived of its own means of subsistence.” Paragraph 3 of Common Article 1 imposes a positive obligation on States to “promote the realization of the right of self-determination.”²⁰⁴ Therefore, the right to self-determination includes an economic dimension as well as a cultural one.

The ICESCR recognizes in Article 15 “the right of everyone” to “take part in cultural life.” Due to the negative effects of climate change, the political, economic, social, and cultural development of the SIDS will be affected. How can a people fully express their identity if sea-level rise threatens its existence?

B. The Law of Human Rights

States have a universal obligation to respect and progressively attain human rights, and the duty to protect against foreseeable violations of human rights.²⁰⁵ A State may not lawfully avoid its obligations to protect, promote, and fulfill human rights.²⁰⁶ These obligations entail the need to

respect human rights, guarantee their protection, and take all necessary steps to protect and preserve them.

As such, human rights entail both positive and negative obligations. States must not infringe human rights, but States also have a duty to sufficiently protect human rights. Failure to regulate, supervise, or monitor third parties’ activities that cause environmental harm could lead to a State being held accountable for breaching its international legal obligations.²⁰⁷

In many States, individuals are experiencing infringement of their human rights due to the devastating effects of climate change. Environmental degradation and human rights are deeply interconnected and the infringement of one affects the enjoyment of the other.²⁰⁸ Particularly relevant are threats to marginalized groups, who tend to suffer the worst and most disproportionate impacts.

The law of human rights, including the right to life and health, applies in the climate change context. The European Convention on Human Rights²⁰⁹ provides two articles dedicated to two different aspects of the right to life: Article 2 and Article 8. Article 2 protects the right to life as the situation implies a certain proximity to death, as in the ban on death penalty in the European Charter of Fundamental Rights²¹⁰ or in protection against the criminal acts of others.

Article 8 establishes the right to private life and entails a duty understood to cover the more remote risks of certain death. The *KlimaSeniorinnen Schweiz* ruling of the European Court of Human Rights bases the protection of individuals against global warming on Article 8, rather than Article 2 (§ 59 of the decision), since the effects of climate change are “too remote” to engage Article 2): “Article 8 must be seen as encompassing a right for individuals to effective protection by the State authorities from serious adverse effects of climate change on their life, health, well-being and quality of life.”²¹¹

In the *Daniel Billy* decision, the U.N. Human Rights Committee affirmed that human rights jurisprudence has established that “environmental degradation can compromise effective enjoyment of the right to life and that severe environmental degradation can adversely affect an individual’s well-being and lead to a violation of the right to

201. Legal Consequences of the Separation of the Chagos Archipelago From Mauritius in 1965, Advisory Opinion, 2019 I.C.J. 95, ¶ 144 (Feb. 25).

202. *Id.* ¶ 180; Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 136, ¶¶ 155-156 (July 9).

203. Western Sahara, Advisory Opinion, 1975 I.C.J. 12, ¶¶ 149-152 (Oct. 16).

204. Office of the High Commissioner for Human Rights, CCPR General Comment No. 12: Article 1 (Right to Self-Determination), The Right to Self-Determination of Peoples (Mar. 13, 1984).

205. G.A. Res. 217(III)A, Universal Declaration of Human Rights, at 71 (Dec. 10, 1948); ICCPR, Dec. 16, 1966, 999 U.N.T.S. 171, 6 I.L.M. 368; ICESCR, Dec. 16, 1966, 993 U.N.T.S. 3; Paris Agreement, *supra* note 10, pmb. See, e.g., Torres Strait Islanders Petition (*Daniel Billy v. Austl.*), Judgments U.N.H.R., art. 17, at 3-4, U.N. Doc. CCPR/C/135/D/3624/2019 (2022). Other treaty bodies have also recognized the interrelationship between climate change and human rights. CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW, STATES’ HUMAN RIGHTS OBLIGATIONS IN THE CONTEXT OF CLIMATE CHANGE: GUIDANCE PROVIDED BY THE UN HUMAN RIGHTS TREATY BODIES (2023), <https://www.ciel.org/reports/human-rights-treaty-bodies-2023/>.

206. MAASTRICHT PRINCIPLES ON THE HUMAN RIGHTS OF FUTURE GENERATIONS 8, ¶ XIV (2023), <https://www.rightsoffuturegenerations.org/the-principles>.

207. ICCPR, *supra* note 205, art. 6. See European Convention on Human Rights, as amended by Protocol Nos. 11 and 14 as from its entry into force on June 1, 2010, and the Convention for the Protection of Human Rights and Fundamental Freedoms, Nov. 4, 1950, available at <https://www.coe.int/en/web/compass/the-european-convention-on-human-rights-and-its-protocols>. See also African Charter on Human and Peoples’ Rights art. 4, June 1, 1981, entered into force Oct. 21, 1986, available at <https://au.int/en/treaties/african-charter-human-and-peoples-rights>.

208. UNEP, COMPENDIUM OF SUMMARIES OF JUDICIAL DECISIONS IN ENVIRONMENT RELATED CASES 232 (2005).

209. European Convention on Human Rights, *supra* note 207.

210. See European Commission, *EU Charter of Fundamental Rights*, https://commission.europa.eu/aid-development-cooperation-fundamental-rights-your-rights-eu/eu-charter-fundamental-rights_en (last visited Dec. 6, 2024).

211. Verein KlimaSeniorinnen Schweiz v. Switzerland, No. 53600/20, ¶ 519 (Apr. 9, 2024), <https://www.klimasenioren.ch/wp-content/uploads/2024/04/CASE-OF-VEREIN-KLIMASENIORINNEN-SCHWEIZ-AND-OTHERS-V-SWITZERLAND.pdf>.

life.”²¹² The “risk of an entire country becoming submerged under water” is an “extreme risk” that could lead to conditions “incompatible with a right to life with dignity” even before the risk is realized. The right to life is foundational to social and economic rights when they are implicated by the harms associated with global warming. The scientific reality of current and impending climate injuries satisfies the requirement of immediacy of the threat of death to invoke duties under the human right to life, as determined by the U.N. Human Rights Committee.

Particularly relevant is the human right to water. The right to water has been understood to be a part of ICESCR by the Committee on Economic, Social, and Cultural Rights (CESCR) despite not being explicitly mentioned.²¹³ The human right to water is important both as a stand-alone right and in connection to the enjoyment of other rights, including adequate standard of living, adequate housing, and food.²¹⁴ In its Resolution 64/292 in 2010, the U.N. General Assembly explicitly recognized the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.²¹⁵

In October 2010, the Human Rights Council declared in Resolution 15/9 “that the human right to safe drinking water and sanitation derives from the right to an adequate standard of living and is indivisibly linked to the right to the highest attainable standard of physical and mental health, as well as to the right to life and dignity.”²¹⁶ In the same way as the right to environment, the right to drinking water derives from dignity and well-being.²¹⁷ The right to water is also supported by Article 24(c) of the Convention on the Rights of the Child (CRC).

In the context of climate-induced displacement, it becomes relevant to underscore that States’ human rights obligations extend to migrants under their jurisdiction or effective control. The two covenants establish that “States are obligated to protect against arbitrary or forced migration, which threatens the effective enjoyment of a broad array of rights protected under the ICESCR and the ICCPR.”²¹⁸ The ICCPR guarantees the right of all persons to leave any country, including one’s own, and to move freely and choose one’s place of residence within a country once lawfully present. The Paris Agreement explicitly acknowledges the rights of all persons in vulnerable situations, including migrants, call-

ing for States to respect, promote, and consider human rights when taking climate action.

This survey of human rights law in relation to State obligations to protect the climate system makes evident that all human rights derive from the right to a healthy environment. Jurists have noted the “compelling evidence for a human right to a safe, clean, healthy, and sustainable environment under customary international law.”²¹⁹ The right to water and the right to life establish positive State obligations, answering the first question of the General Assembly’s request for the ICJ’s advisory opinion. The second part of the General Assembly’s request emphasizes the legal consequences of States’ obligations. Most immediately, States violate human rights obligations through the cumulative effects of their actions resulting in existential threats such as desertification or sea-level rise. SIDS and States with low coastal plains are being inundated, and people are losing shelter, work, education, livelihoods, and even their lives.²²⁰

The climate crisis exposes denials of rights to a healthy environment. The State has a duty to provide for the improvement of all aspects of environmental and industrial hygiene under the ICESCR.²²¹ The application of human rights depends on the context to which it applies. The term “right to a quality environment” is sometimes preferred, as it allows for a variety of national formulations, such as the right to an “environment respectful of health,”²²² or the “right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment.”²²³ The 1972 Stockholm Declaration guides an understanding of the right to a healthy environment, as Principle 1 defines it as protecting dignity and well-being. The right to a healthy environment as a norm of customary international law is coupled with an obligation of non-regression.

A State’s acts and omissions can amount to a violation of their duty to protect human rights. States have the obligation to actively protect human rights from their actions, as well as third parties’ actions. Failure to take measures to prevent foreseeable human rights harm (such as adopting and implementing policies aimed at reducing emissions), as well as actively contributing to and exacerbating climate change (e.g., through financing), consti-

212. Torres Strait Islanders Petition (Daniel Billy v. Austl.), Judgments U.N.H.R., art. 17, U.N. Doc. CCPR/C/135/D/3624/2019 (2022).

213. CESCR, General Comment No. 15: The Right to Water, U.N. Doc. E/C.12/2002/11 (Jan. 20, 2003).

214. Daphina Misiedjan & Scott O. McKenzie, *The Human Right to Water*, in ELGAR ENCYCLOPEDIA OF ENVIRONMENTAL LAW 335 (Michael Faure ed., Edward Elgar Publishing 2023).

215. G.A. Res. 64/292 (July 8, 2010).

216. U.N.H.R.C. Res. 15/9 (Oct. 6, 2010).

217. U.N. OFFICE OF THE HIGH COMMISSIONER OF HUMAN RIGHTS, HUMAN RIGHTS, CLIMATE CHANGE, AND MIGRATION: KEY MESSAGES, <https://www.ohchr.org/sites/default/files/Documents/Issues/ClimateChange/materials/KMMigration.pdf>.

218. *Id.* at 5.

219. WILLIAM A. SCHABAS, *THE CUSTOMARY INTERNATIONAL LAW OF HUMAN RIGHTS* 335 (2021).

220. “Reef island and coastal area habitability in small islands is expected to decrease because of increased temperature, extreme sea levels and degradation of buffering ecosystems, which will increase human exposure to sea-related hazards (high confidence).” IPCC, *CLIMATE CHANGE 2022: IMPACTS, ADAPTATION, AND VULNERABILITY. CONTRIBUTION OF WORKING GROUP II TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE* 2046 (H.-O. Pörtner et al. eds., 2022).

221. International Covenant on Economic, Social and Cultural Rights arts. 11, 12, entered into force Jan. 3, 1976, available at <https://www.ohchr.org/sites/default/files/icescr.pdf>.

222. See, e.g., French Charter for the Environment art. 1, <https://www.elysee.fr/en/french-presidency/the-charter-for-the-environment>; N.Y. CONST. art. I, §19.

223. See, e.g., PA. CONST. art. I, § 27. See also N.Y. CONST. art. I, §19.

tutes a violation of human rights obligations.²²⁴ Moreover, the Universal Declaration of Human Rights (Article 8), the ICCPR (Article 2(3)), and other human rights texts stipulate that States must provide for effective remedies for violations of human rights.²²⁵

The General Assembly's request for an advisory opinion has underscored the need to confirm all States' obligations toward those most vulnerable to climate change. The following subsections discuss the human rights framework in relation to three particularly climate-vulnerable groups: (1) Indigenous peoples, (2) children, and (3) future generations.

1. Rights of Indigenous Peoples

The U.N. Declaration on the Rights of Indigenous Peoples (UNDRIP) makes clear that Indigenous peoples enjoy all human rights, in addition to the rights included in the declaration.²²⁶ The traditional knowledge of Indigenous peoples contributes to understanding and coping with climate-related impacts. Indigenous peoples are already being harmed by climate-related impacts and need to be consulted in decisionmaking about climate change.²²⁷ The legal framework for doing so is illustrated by the impacts in the Arctic.

The Ottawa Declaration affirms that the Arctic Council provides a “means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic.”²²⁸ The Arctic Council emphasizes the need for Arctic States to work together in a cooperative manner to achieve a similar goal. The Ottawa Declaration is unique in its recognition of the vital place Indigenous communities have in the Arctic. The knowledge that Indigenous communities have in the region is extensive, and the declaration recognizes the importance of having Indigenous groups at the table during the decisionmaking process.

The declaration focuses on issues common to all States in the Arctic. Climate change and biodiversity loss are two topics that are studied thoroughly by the Arctic Council in a collaborative way among Members.²²⁹ This cooperative approach fosters inclusive decisionmaking processes that incorporate a wide range of perspectives and traditional

knowledge. This framework can and should be used in the broader context of addressing the impacts on a global scale as well. For example, the Inuit Circumpolar Council (ICC) was founded in 1977. The ICC has flourished and grown into a major international nongovernmental organization representing approximately 180,000 Inuit of Alaska, Canada, Greenland, and Chukotka (Russia).²³⁰

The U.N. Permanent Forum on Indigenous Issues (UNPFII) is the key body dealing with Indigenous rights.²³¹ Comparable systems for involving Indigenous peoples in environmental decisionmaking in relation to climate change are required. The UNPFII plays an instrumental role in advancing Indigenous rights within the U.N. system. Through this U.N. channel, the ICC has an important forum to encourage States to observe their climate change duties.

The internationality of the Inuit people and the universality of the effects make the ICC an extremely influential group among Arctic States. This diversity strengthens the ICC's advocacy effort, as it can draw upon a broad range of experiences, knowledge, and perspectives among Inuit people living across the Arctic region. When States address climate change impacts in other regions, international law supports establishing a comparable consultation modality for engaging with Indigenous peoples on climate change.

2. Rights of Children

Human rights of children and future generations occupy a significant spot when it comes to the duty to address climate change impacts on a healthy environment. U.N. Human Rights Council Resolution 45/30 establishes the obligation of States to respect, protect, and fulfill human rights and to address environmental harm.²³² A healthy environment is vital to the protection and enjoyment of several children's rights, including the right to life, health, and development. The CRC explicitly references connections between children's rights and the environment, including the following:

- (i) the link between child's rights to the highest attainable standard of health, which includes rights to nutritious food and safe drinking water, with issues of environmental pollution (article 24), and (ii) its definition of children's right to information on environmental health issues and identification of environmental education as one of the goals of education (article 29).²³³

224. Statement, U.N., Five UN Human Rights Treaty Bodies Issue a Joint Statement on Human Rights and Climate Change (Sept. 16, 2019), <https://www.ohchr.org/en/statements/2019/09/five-un-human-rights-treaty-bodies-issue-joint-statement-human-rights-and>.

225. U.N. 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*, ¶ 38, U.N. Doc. A/HRC/37/58 (Jan. 24, 2018).

226. G.A. Res. 61/295, United Nations Declaration on the Rights of Indigenous Peoples (Oct. 2, 2007).

227. Rio Declaration, *supra* note 111, princ. 10.

228. Declaration on the Establishment of the Arctic Council, ¶ 1(a) (1996) (referred to as the Ottawa Declaration).

229. See generally Arctic Council, *Working Groups*, <https://arctic-council.org/about/working-groups/> (last visited Nov. 23, 2024).

230. ICC, *About ICC*, <https://www.inuitcircumpolar.com/about-icc/> (last visited Nov. 23, 2024); Arctic Council, *About the Arctic Council*, <https://arctic-council.org/about/> (last visited Nov. 23, 2024).

231. ICC, *The Inuit Circumpolar Council Political Universe*, <https://www.inuitcircumpolar.com/about-icc/icc-political-universe/> (last visited Nov. 23, 2024).

232. U.N.H.R.C. Res. 45/30, Rights of the Child: Realizing the Rights of the Child Through a Healthy Environment (Oct. 13, 2020), <https://documents.un.org/doc/undoc/gen/g20/264/85/pdf/g2026485.pdf>.

233. MARIA ANTONIA TIGRE ET AL., THE GLOBAL NETWORK FOR HUMAN RIGHTS AND THE ENVIRONMENT, WHITE PAPER ON THE RIGHT OF THE CHILD TO A SAFE, CLEAN, HEALTHY, AND SUSTAINABLE ENVIRONMENT, <https://gnhre.org/wp-content/uploads/2022/03/GNHRE-White-Paper-Children-rights-and-environment-2.pdf>. See CRC, Nov. 20, 1989, 1577 U.N.T.S. 3, 28 I.L.M. 1456.

Further, the CRC also emphasized the importance of the environment to children's health and particularly the need to address climate change as a threat and inequalities intensifier.²³⁴ Other children's rights are also affected by climate change, including access to education, adequate food, adequate housing, safe drinking water, and sanitation.²³⁵ Moreover, children from marginalized communities are especially affected by climate change due to structural and intersecting vulnerabilities based on gender, ethnicity, disability, age, location, and income.²³⁶

3. Future Generations

Following the rights of the child, each State owes analogous obligations to future generations, as recognized for example in the CBD, and regional human rights treaties, most notably the Aarhus Convention and Escazú Agreement.²³⁷ States have recognized climate change since 1992 as a "common concern of humankind," and while observing the principle of solidarity, along with today's youth and children,²³⁸ all future generations are entitled to the enjoyment of a healthful environment. Guaranteeing rights into the future must begin in the present and reflect the complexities of climate change in its temporal and spatial scope.²³⁹

The U.N. special rapporteur pointed out:

[T]he line between future generations and today's children shifts every time another baby arrives and inherits their full entitlement of human rights. It is critical, therefore, that discussions of future generations take into account the rights of the children who are constantly arriving, or have already arrived, on this planet.²⁴⁰

234. U.N. Committee on the Rights of the Child, General Comment No. 15 (2013) on the Right of the Child to the Enjoyment of the Highest Attainable Standard of Health (art. 24), ¶ 50, U.N. Doc. CRC/C/GC/15 (Apr. 17, 2013).

235. U.N.H.R.C. Res. 32/33, Human Rights and Climate Change (July 18, 2016), <https://documents.un.org/doc/undoc/gen/g16/157/72/pdf/g1615772.pdf>.

236. TIGRE ET AL., *supra* note 233.

237. Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters, June 25, 1998, 2161 U.N.T.S. 447 (Aarhus Convention); Regional Agreement on Access to Information, Public Participation, and Justice in Environmental Matters in Latin America and the Caribbean, Mar. 4, 2018 (Escazú Agreement), <https://repositorio.cepal.org/entities/publication/86cae662-f81c-4b45-a04a-058e8d26143c>; CBD, *supra* note 123, pmbf. ("Determined to conserve and sustainably use biological diversity for present and future generations").

238. Convention on the Rights of the Child, *adopted* Nov. 20, 1989, *available at* <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child>.

239. TIGRE ET AL., *supra* note 233.

240. U.N. Human Rights Council, *supra* note 225, ¶ 68.

Courts already have acknowledged this connection, including *Oposa v. Factoran* (Philippines)²⁴¹ and *Future Generations v. Ministry of the Environmental* (Colombia).²⁴²

C. Obligations of Due Diligence

Observing due diligence is the obligation of States to undertake all possible measures to comply with their international legal obligations.²⁴³ This is an obligation of conduct deeply related to the principle of good faith. As such, a State cannot be held responsible if it has taken all reasonable measures and acted in good faith to prevent foreseeable damage.²⁴⁴ These measures must also be taken according to each State's capabilities to address GHG emissions within their jurisdiction or under their control.²⁴⁵

Due diligence is expected in preventing and mitigating harm from activities under a State's control or jurisdiction. It entails, as previously stated by the ICJ, not only the adoption of rules and measures, but a certain level of vigilance in their enforcement.²⁴⁶ Due diligence is, hence, an integral part of project planning and economic development, including conducting EIAs.²⁴⁷ The standard of due diligence varies depending on the level of risk of the activities conducted and is deeply informed by scientific evidence and evolving technology. As a result, it must be updated in accordance with the latest scientific consensus.

Specific due diligence duties are provided in several MEAs, including Article 2(1) of the Espoo Convention²⁴⁸ and Part XII of UNCLOS.²⁴⁹ The Paris Agreement also contains references to due diligence requirements (i.e., when designing and implementing each State's NDCs). As Prof. Christina Voigt observes, each NDC needs to include a progressive level of ambition, reflecting each country's highest possible ambition.²⁵⁰ The Paris Agreement also establishes a minimum standard for action to reduce GHGs, which can serve as a baseline to determine the specific obligations of States. Good faith, and other general principles of law, compel a State to set the maximum achievable reduction in GHG emissions.

In its advisory opinion, ITLOS found that guaranteeing prevention, reduction, and control of the marine environment is not required; rather, what matters is to make

241. G.R. No. 101083, 224 S.C.R.A. 792 (July 30, 1993), https://lawphil.net/judjuris/juri1993/jul1993/gr_101083_1993.html (also at 33 I.L.M. 173 (1994)).

242. Corte Suprema de Justicia [C.S.J.] [Supreme Court], abril 5, 2018, STC4360-2018 (Dejusticia), ¶ 11.2.

243. *Id.* ¶ 55.

244. Republic of Singapore, Written Statement to ITLOS in re Request for an Advisory Opinion Submitted by the Commission of Small Island States on Climate Change and International Law (Case No. 31), ¶ 31 (June 16, 2023), https://itlos.org/fileadmin/itlos/documents/cases/31/written_statements/1/C31-WS-1-15-Singapore.pdf.

245. *Id.* ¶ 40.

246. Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 14, ¶ 10 (Apr. 20).

247. *Id.*

248. Convention on Environmental Impact Assessment in a Transboundary Context art. 2(1), Feb. 25, 1991, 1989 U.N.T.S. 309.

249. UNCLOS, *supra* note 3, pt. XII.

250. Christina Voigt, *The Power of the Paris Agreement in International Climate Litigation*, 32 RECIEL 237, 242 (2023).

best efforts to achieve that result.²⁵¹ Hence, the tribunal described States' obligations of conduct as "an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost to obtain the intended result."²⁵² In other words, to act with due diligence in good faith.²⁵³ In accordance with the ICJ's *Pulp Mills on the River Uruguay* case, ITLOS further explained that the obligation of due diligence requires a State to put in place a national system (legislation, administrative procedures, enforcement mechanisms) to regulate a specific activity and to exercise adequate vigilance.²⁵⁴

ITLOS also highlighted the relevance of due diligence with regard to activities that are mostly carried out by private persons or entities.²⁵⁵ Last, ITLOS underscored the variability of the concept of due diligence, whose standard varies depending on the particular circumstances to which the obligation applies.²⁵⁶ In particular, with respect to transboundary pollution affecting the environment of other States, ITLOS found that the standard of due diligence can be more stringent and should be determined objectively taking into account relevant factors, which could make it highly demanding.²⁵⁷

D. EIA

EIA provides tools that, when used appropriately, can prevent significant transboundary harm, as required by customary international law.²⁵⁸ In this context, customary international law requires public notification and consultation about actions that may cause environmental harm.²⁵⁹ EIA components are (1) identification of an action that could potentially have a significant impact on the environment; (2) notification to all stakeholders; (3) consultation in good faith about potential impacts; (4) publication; (5) consultation on means and measures to prevent the negative impacts; and (6) modification of activities in accordance with the EIA.²⁶⁰

Both the UNFCCC and Article 4 of the Paris Agreement recognize EIA.²⁶¹ Failing to conduct an EIA could lead to a violation of a State's international legal obligations, even in the absence of an environmental harm.²⁶² As stated by ITLOS, this obligation is a procedural obligation of due diligence.²⁶³

EIA plays a vital role in anticipating environmental and climate harms. It entails preparedness, planning, and adoption of necessary measures to address these harms.

Article 206 of UNCLOS, for example, requires States to assess potentially harmful effects of planned activities prior to the execution and to disseminate the obtained results.²⁶⁴ As such, EIA should be included and required in various State actions in response to climate change. EIA requirements can be in the form of a specific action for a particular project or activity, or it could take a more generic or strategic EIA. Each EIA can determine the volume of GHG emissions associated with an action, and identify all opportunities to maximize reductions of GHG emissions and means for sequestering carbon.

Most importantly, EIA calls for meaningful participation of all stakeholders, an aspect that could be reinforced especially when dealing with historically underrepresented States. As an international obligation, failure to conduct the necessary EIA implicates State responsibility. Since virtually all States have enacted national EIA laws, there is every reason for due diligence in international law to expect a robust use of EIA in relation to climate change.

IV. State Responsibility and Remedies

Actions and omissions related to international law obligations, alone or in combination, can give rise to State responsibility.²⁶⁵ A State's failure to act in accordance with its legal duties, such as to reach climate commitments (both in terms of temperature goals and financial contributions), is a violation of that State's legal duties. The State is responsible then for the damage resulting from past and current harms.

The International Law Commission (ILC) has codified the rules of customary international law regarding State liability for internationally wrongful acts.²⁶⁶ These rules establish that a State may owe obligations to another State or the international community as a whole, depending on the content of the international obligation and the circumstances of the breach.²⁶⁷ Failure to have regard for scientific findings about climate change and failure to act to halt and avert harm, especially to those more vulnerable to climate impacts, renders a State responsible, both to other States and to the international community of States.

Traditional remedies under State responsibility for breach of a duty are compensation, reparations, or satisfaction, provided by the State in breach of its duties, to the State injured as a result. Since all States, to greater or lesser

251. ITLOS Advisory Opinion, *supra* note 2, ¶ 2.

252. *Id.*

253. *Id.* ¶ 273.

254. *Id.* ¶ 235.

255. *Id.* ¶ 236.

256. *Id.* ¶ 239.

257. *Id.* ¶¶ 256-257.

258. ICJ Note, *supra* note 37, ¶ 63.

259. *Id.* ¶ 64.

260. *Id.* ¶ 65.

261. Paris Agreement, *supra* note 10, art. 4.

262. *Pulp Mills on the River Uruguay* (Arg. v. Uru.), Judgment, 2010 I.C.J. 14 (Apr. 20).

263. ITLOS Advisory Opinion, *supra* note 2, ¶ 345.

264. *Id.* ¶ 352.

265. G.A. Res. 56/83, art. 33(1) (Jan. 28, 2002) (corrected by U.N. Doc. A/56/49(Vol. I)/Corr.4 (June 6, 2007), available at <https://documents.un.org/doc/undoc/gen/n01/477/97/pdf/n0147797.pdf>).

266. ILC, Responsibility of States for Internationally Wrongful Acts art. 1 (2001), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf ("Every internationally wrongful act of a State entails the international responsibility of that State."). See also Draft Articles on Responsibility of States for Internationally Wrongful Acts, With Commentaries (2001), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf.

267. *Id.* See also JAMES CRAWFORD, THE INTERNATIONAL LAW COMMISSION'S ARTICLES ON STATE RESPONSIBILITY (Cambridge Univ. Press 2002), https://assets.cambridge.org/97805218/13532/frontmatter/9780521813532_frontmatter.pdf.

degrees, have contributed to climate change, these traditional approaches to remedies are not apt. Damage to the earth's climate system is harming all of life as we know it, and each and every State and the entire commons.

To hold States accountable for a breach of legal duties relative to climate change, State responsibility will entail a new sort of remedy. Each State is obliged to contribute to a *collective remedy*. The rationale for a collective remedy becomes evident when reviewing the limitations of traditional remedies.

A. Traditional Remedies

Article 1 of the ILC's Responsibility of States for Internationally Wrongful Acts (Articles of State Responsibility) provides that "[e]very internationally wrongful act of a State entails the international responsibility of that State."²⁶⁸ Wrongful acts are any State action or omission "attributable to the State under international law" and constituting "a breach of an international obligation of the State."²⁶⁹

Under this framework, in conjunction with the general principles of international law and treaty obligations, the scientific evidence confirms that States have committed internationally wrongful acts by failing to prevent the impacts of climate change by (1) reducing GHG emissions; (2) cooperating effectively enough through sharing information, technology, and resources; or (3) protecting the human rights of present and future generations. Consequently, States incur responsibility for their actions. The duty of States to make reparations to fund a collective remedy may be proportionate to their emissions of GHGs (the largest volumes are from Brazil, China, the European Union, Indonesia, India, Japan, Russia, and the United States).²⁷⁰

The ILC Articles of State Responsibility oblige States to provide full reparation for the harms caused by their internationally wrongful acts.²⁷¹ Forms of reparation include restitution,²⁷² compensation,²⁷³ and satisfaction.²⁷⁴ Restitution is the preferred form of reparation and refers to reestablishing the situation as before the wrongful act was committed. However, this is not always possible, especially when it comes to responsibility for climate harms, such as the ones experienced today by climate-vulnerable States, including SIDS and States with river deltas and shallow coasts where land areas are inundated.

Some SIDS claim compensation from other States that could be held liable for their GHG emissions causing the

SIDS' existential threats to their sovereignty.²⁷⁵ A claim by an individual State for loss and damage from another State that has breached its duty of due diligence by failing to ensure prevention, reduction, or control of pollution from GHG emissions faces the challenge of establishing the causation for the specified harm by the offending State. This is the problem of attribution. Its emissions are not directly linked to the specific harm experienced by another State. When evidence of attribution can establish and assign State responsibility, restitution in theory could take the form of restoration of the environment to a pre-pollution ecological rebalance.

A remedy of compensation could come in the form of contributions to the loss-and-damage fund or other liability funds, or direct compensation to those harmed by the pollution caused by the wrongful act of a State.²⁷⁶ A remedy of satisfaction could imply carrying out the actions that a State should have taken in the first place to avoid the causation of the harm. Regarding climate change, satisfaction could be manifested by States adopting more ambitiously targeted emission limitations for reducing GHGs, as Micronesia has urged.²⁷⁷

However, climate-related injury is the result of diffuse pollution, without a basis to assign attribution to a single source. Assigning attribution to those developed States with the most GHG pollution still leaves open questions about how to equitably allocate remedial obligations. Meanwhile, in the absence of effective remedial measures, the climate crisis is likely to deepen. Traditional remedies, therefore, offer inadequate relief.

Responsibility for climate change-related loss and damage is recognized in Article 8 of the Paris Agreement, drawing upon the approach of the Warsaw international mechanism for loss and damage.²⁷⁸ It was addressed during the 2019 Conference of the Parties (COP), which emphasized the adverse impacts of climate change on the SIDS.²⁷⁹ The Warsaw international mechanism provides roles to (1) enhance knowledge and understanding of comprehensive risk management approaches to address loss and damage associated with the adverse effects of climate change, including slow onset impacts; (2) strengthen dialogue, coordination, coherence, and synergies among relevant stakeholders; and (3) enhance action and support, including finance, technology, and capacity-building, to address loss and damage associated with the adverse

268. See ILC, *supra* note 266, art. 1.

269. *Id.* art. 2.

270. World Resources Institute, *CAIT Climate Data Explorer*, <https://www.wri.org/data/climate-watch-cait-country-greenhouse-gas-emissions-data> (last visited Dec. 6, 2024). See also Annex I of the UNFCCC, under Article 4(2), being the list of developed country Parties and other Parties, amended by the third Conference of the Parties in decision 4/CP.3.

271. ILC, *supra* note 266, art. 31(1).

272. *Id.* art. 35.

273. *Id.* art. 36.

274. *Id.* art. 37.

275. Federated States of Micronesia, Written Statement to ITLOS in re Request for an Advisory Opinion Submitted by the Commission of Small Island States on Climate Change and International Law (Case No. 31), ¶ 57 (June 16, 2023), https://itlos.org/fileadmin/itlos/documents/cases/31/written_statements/1/C31-WS-1-30-FS_Micronesia_01.pdf.

276. *Id.*

277. *Id.*

278. UNFCCC, *Report of the Conference of the Parties on Its Nineteenth Session, Held in Warsaw From 11 to 23 November 2013*, U.N. Doc. FCCC/CP/2013/10/Add.1 (Jan. 31, 2014), <https://unfccc.int/sites/default/files/resource/docs/2013/cop19/eng/10a01.pdf#download>.

279. "Requests the Global Environment Facility to give due consideration in its sixth replenishment period to funding for small island developing States and the least developed countries in order to enable them to address their urgent needs and to comply with their obligations under the Convention[.]" *Id.* dec. 2/CP.19, ¶ 10.

effects of climate change. These considerations may also be relevant to shaping remedies under the ILC Articles of State Responsibility.

Interstate negotiations on loss and damage have been inconclusive. As Prof. Sandrine Maljean-Dubois explained, establishing a system for managing loss and damage caused by climate change has been a major issue in climate negotiations for many years, as a strong demand from the countries of the South.²⁸⁰ These States consider that climate justice requires compensation for the damage caused mainly by historical emissions (i.e., from the countries of the North and affecting the countries of the South).

In 2007, the Bali Action Plan called for “[d]isaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change[.]”²⁸¹ Finally, in 2012, the Doha Conference decided to defer the issue to the Warsaw Conference in 2013, deciding that an “institutional arrangement, such as an international mechanism,” would be put in place.²⁸² An institutional precedent is found in the Gulf War Reparations and the U.N. Compensation Commission.²⁸³

The collective remedy needs to learn from this negotiated framework regarding compensation for damage, adapt the climate context where all States bear some responsibility for harmful emissions, and marry state responsibility to the Sendai Framework for disaster relief by requiring enhanced provisions for mutual aid, capacity-building for preparedness and coping, and financing with future impacts. It is the responsibility of each State to contribute expertise and funds for such a collective remedy.

Since *all* States are suffering loss and damage, and scientific estimates are that this pattern of injury will worsen, the effectiveness of any available traditional remedy under the ILC Articles of State Responsibility is likely to be ephemeral. A collective remedy should prioritize measures to build capacity to cope with ongoing climate disruptions. Past debates on loss and damage illustrate that this approach cannot provide remedies at a scale needed to adequately address the harms now experienced and foreseen. The Paris Agreement in Article 8 emphasizes the importance of minimizing and addressing loss and damage.

When the Alliance of Small Island States (AOSIS) advocated for the creation of an international insurance mechanism to compensate for the damage suffered by victims

of sea-level rise,²⁸⁴ States in the developed North opposed it, arguing that Article 8 of the Paris Agreement does not involve or provide a basis for any liability or compensation. The Paris Agreement promotes the achievement of sustainable objectives through progressive measures to enhance financial flows²⁸⁵; however, States have not robustly honored their undertakings. Notwithstanding the Paris Agreement’s Article 52, the principles of international law *erga omnes* provide a sufficient basis for imposing responsibility under the ILC Articles of State Responsibility, independently and irrespectively of the Paris Agreement.

The pervasive and diffuse nature of the acts and omissions of States causing climate change damage suggests that the most appropriate remedies will be those that mandate programs and undertakings to rapidly mitigate GHG emissions and maximize sequestration of carbon. States need to rapidly address adapting to and coping with the adverse impacts of climate-related damage. Framing collective remedies will progressively advance international law, just as continuing mandamus remedies have emerged in national courts in South Asia, the Philippines, or elsewhere.²⁸⁶ There is scope within the ILC’s Articles of State Responsibility to provide appropriate climate change remedies.

Notwithstanding claims for remedies for loss and damage by States heavily impacted by climate change, State responsibility also necessarily must entail cooperation by all States to avert future harm while compensating for past harm. A collective remedy would need to include cessation of the wrongful acts and provide for restoration where possible, or provide compensation in-kind, such as by providing for new human settlements for persons displaced by climate-related impacts. This is particularly important for climate-vulnerable States that are already experiencing biodiversity loss and climate-induced migration. Any collective remedy will require international cooperation to structure financial flows as well as accelerate capacity-building and mutual aid for coping with natural disasters.²⁸⁷

280. Sandrine Maljean-Dubois, *Au milieu du gué: le mécanisme de Varsovie relatif aux pertes et préjudices liés aux changements climatiques*, in QUEL DROIT POUR L’ADAPTATION DES TERRITOIRES AUX CHANGEMENTS CLIMATIQUES? L’EXPÉRIENCE DE L’ÎLE DE LA RÉUNION 123 (Anne-Sophie Tabau ed., DICE Editions 2018).

281. UNFCCC, *Report of the Conference of the Parties on Its Thirteenth Session, Held in Bali From 3 to 15 December 2007*, dec. 1/CP.13, U.N. Doc. FCCC/CO/2007/6/Add.1 (Mar. 14, 2008) (Bali Action Plan §1(c)(iii)).

282. UNFCCC, *Report of the Conference of the Parties on Its Eighteenth Session, Held in Doha From 26 November to 8 December 2012*, dec. 3/CP.18, U.N. Doc. FCCC/CP/2012/8/Add.1 (Feb. 28, 2013) (Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhancing adaptive capacity ¶ 9).

283. See GULF WAR REPARATIONS AND THE UN COMPENSATION COMMISSION: ENVIRONMENTAL LIABILITY (Cymie Payne & Peter Sand eds., 2011).

284. As part of the UNFCCC negotiations, Vanuatu proposed in 1991 the creation of an international insurance mechanism to compensate for the damage suffered, based on compulsory contributions, according to the gross domestic product (GDP) of industrialized countries, their ability to pay, and their historical responsibilities. During the negotiations launched in Bali, AOSIS put forward a proposal for a “multi-window mechanism” in 2008.

285. Paris Agreement, *supra* note 10, arts. 2(1)(c), 5(1).

286. Krishi R. Shah, *Continuing Mandamus—The Crescendo of Curative Jurisprudence in Environmental Laws*, PGCL MOOT Cr. Soc’y (Dec. 13, 2020), <https://www.mootcourtsocietypgcl.com/post/continuing-mandamus-the-crescendo-of-curative-jurisprudence-in-environmental-laws>. For the Philippines, see Supreme Court Rules of Procedure for Environmental Cases (2010), https://lawphil.net/courts/supreme/am/am_09-6-8-sc_2010.html. Compare practice in U.S. courts, Robert E. Easton, *The Dual Role of the Structural Injunction*, 99 YALE L.J. 1983 (1990), https://openyls.law.yale.edu/bitstream/handle/20.500.13051/16698/77_99YaleLJ1983_June1990_.pdf.

287. Because of adverse climate impacts, most States already need help in salvaging what is lost or threatened, building back, adapting, or moving on. Infrastructure will have to be adequate for providing shelter and housing, water, and education for displaced people, as well as transportation of humans and goods. Existing roads will likely suffer from further climate impacts. In-kind remedies will be difficult to design and fulfill. Further, cultural heritage protection requires specific ways of compensation that might not correlate with dominant understandings of exclusive financial flows. Sustaining cultural heritage is a key part of self-determination.

B. A Collective Remedy

Should the ICJ require a collective remedy for States' responsibility for climate change injury, it would invite a debate in the U.N. General Assembly about how governments can better cooperate to ensure fulfilling human rights obligations and to abate the impacts of climate change. The COPs to the multilateral environmental agreements will face the same challenge, as will all U.N. specialized agencies. A collective remedy, therefore, will oblige States to address how to assist all States to proactively collaborate in order to avert further harm.

This is particularly relevant because there is an existential threat that climate change poses to some States, such as some small island States and States with river deltas and shallow coasts. Averting further loss and damage could include establishing early warning systems and proactively improving the conditions of those States that are currently negatively impacted by climate impacts, including social and economic impacts. Remedies for a loss-and-damage approach need to build upon provisions of international environmental law.

Complementing the legal obligations under general principles of international law are the clear duties established in treaties establishing the MEAs, and the programs that the MEAs have adopted to advance their treaty objectives. A collective remedy can take the form of a mandamus or structural injunction to require implementation of these previously agreed-upon obligations. Characteristically, these obligations are guided by science, require cooperation and sharing of resources, and include commitments through national action plans. The principle of CBDR-RC will guide an equitable allocation of remedial responsibilities among States.

The climate (UNFCCC), desertification (UNCCD), and biodiversity (CBD) agreements collectively provide a clear basis for all States to implement remedies to actively combat climate impacts, because they have already assumed obligations under these MEAs. Even if some States are not directly affected by a specific impact (e.g., desertification), their commitments under the UNFCCC and the UNCCD are intrinsically connected, through the earth's climate system, to the fight against desertification globally, thereby obligating them to take action. Moreover, a State's shared membership with sister States in the UNFCCC, the UNCCD (both with 197 Member States), and the CBD with its participating 196 Member States²⁸⁸ underscores the global recognition of linkages between climate change, biodiversity, and desertification. This overlap in membership highlights the appropriateness of a collective remedy.

The mechanisms agreed to in MEAs can be required to shape appropriate remedies. One State's claims to climate-related harm may need clarification. The dispute settlement mechanisms under MEAs can be invoked to harmonize compliance, for example, under the UNCCD

with the Committee for the Review of the Implementation of the Convention (CRIC).²⁸⁹ Policy decisions by a COP²⁹⁰ can also help resolve disputes and ensure compliance with the obligations and commitments under these agreements. Further, national, regional, and international courts and tribunals will increasingly hear climate-related adjudications.²⁹¹ This will lead to a set of precedents on the structure and scope of collective climate-related legal remedies to enforce obligations under international law.

An equitable, collective remedy may require different scales of action. For instance, both the UNFCCC and the Paris Agreement oblige States to prevent dangerous anthropogenic interference with the climate system,²⁹² and to undertake measures that limit temperature increase.²⁹³ Further, the Paris Agreement includes the goal to increase adaptation ability and to foster climate resilience through financial flow.²⁹⁴ The principle of CBDR-RC requires high-income, high-emitting States to mitigate and adapt first and fastest. This is particularly relevant for States that have not contributed as much to the climate crisis and are experiencing the devastating effects firsthand.

Currently, scientific reports show that there remains a notable gap between the stated commitments and actual progress in reducing GHGs. As of April 2024, not a single Party to the agreement has met its mitigation targets.²⁹⁵ Of Arctic States, for example, only Norway has made significant strides to fulfilling its commitments under the agreement.²⁹⁶ The collective remedy will require "action-forcing" specific measures to prevent backsliding and noncompliance, such as appointing judicial commissions, as courts in South Asia have done.²⁹⁷ EIA can also provide needed procedures to ensure that a State meets its obligations to a collective remedy. The collective remedy will need to assign a priority to training and capacity-building, and will benefit from the worldwide epistemic community of climate experts that is emerging, akin to how the medical professions have with the World Health Organization.

To address these issues, the ICJ advisory opinion can outline the framework of a collective remedy, reflecting substantive international law. The ICJ effectively passes the duty to apply its ruling back to the Member States of the U.N. General Assembly. The General Assembly can provide the details and procedural measures by which States observe their substantive duties.

289. UNCCD, *Committee for the Review of the Implementation of the Convention*, <https://www.unccd.int/convention/governance/cric> (last visited Nov. 23, 2024).

290. UNFCCC, *Conference of the Parties (COP)*, <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop> (last visited Nov. 23, 2024).

291. U.N. Dag Hammarskjöld Library, *UN Documentation: International Court of Justice*, <https://research.un.org/en/docs/icj> (last visited Nov. 23, 2024).

292. UNFCCC, *supra* note 5, art. 2.

293. Paris Agreement, *supra* note 10, art. 2(1)(a).

294. *Id.* art. 2(1)(b).

295. Climate Action Tracker, *Find Your Country*, <https://climateactiontracker.org/> (last visited Nov. 23, 2024).

296. *Id.*

297. *See, e.g.,* PARVEZ HASSAN, *RESOLVING ENVIRONMENTAL DISPUTES IN PAKISTAN: THE ROLE OF JUDICIAL COMMISSIONS* (2019).

288. CBD, *List of Parties*, <https://www.cbd.int/information/parties.shtml> (last visited Nov. 23, 2024).

Environmental agreements, such as the 1987 Montreal Protocol or the 1985 Vienna Convention for the Protection of the Ozone Layer,²⁹⁸ provide effective environmental law models to draw upon in crafting the collective remedy. The ICJ’s remedial framework can be designed for incremental implementation, with urgent crises being addressed as a priority. The court can provide benchmark dates and default remedies if the States in the General Assembly prove unable to meet the timetable of the collective remedy.

The collective remedy will be a progressive development in international law. Cooperation in sharing management of climate impacts will advance the SDGs. Rather than responding to apparently one-off natural disasters, or a single harmful, unlawful act of a sovereign State, remedies for climate change must be ongoing and irreversible. A new and different kind of cooperation inevitably will emerge, one that provides relief while also building capacity.

A precedent for such collaboration can be found in already existing regional cooperation agreements. For instance, the 1976 Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution, and its protocols, launched a coordinated effort to protect the marine environment through a regional approach,²⁹⁹ including obligations to take measures to prevent pollution of the Mediterranean, including land-based sources.³⁰⁰ UNEP has a suite of comparable regional seas agreements.³⁰¹

C. Components of Collective Remedies

A collective remedy for State responsibility will be as multifaceted as the impacts from climate change,³⁰² and will evolve over time as new impacts emerge. Each MEA and other environmental agreement, and all U.N. specialized agencies and other international agencies, will have roles to play. With that in mind, international environmental law provides illustrations of how many possible remedies may be designed, including measures of reparation in the form of compensation and/or mandates for cooperation on all significant climate-related harms. The following examples of legal frameworks illustrate how remedies will depend on international cooperation as the world deals with the climate crisis. Remedies will adapt in response to ongoing scientific studies.

International law currently provides a range of mechanisms that can serve as the basis for a collective remedy enabling States to observe their legal obligations. These proven methodologies can provide the framework and modes of implementation for a collective remedy. Such

remedial measures can be broadly categorized as (1) financial, (2) technical, and (3) capacity-building.

1. Financial Remedies

Since *erga omnes* obligations of due diligence under international law require States to set the highest possible targets for reducing GHG emissions through their national climate action plans under the Paris Agreement, collective remedies will need to “compensate” those States harmed by compelling payments to fund mandated collective remedies. Establishing a progressive payment schedule could induce laggard States to meet their due diligence obligations.

For example, a collective remedy could mandate that the longer a State delays, the higher would be its payments required to fund the collective remedies. Ultimately, the collective remedy could provide that failure to contribute as mandated would preclude a recalcitrant State from sharing in the remedies available.³⁰³ Where a State is recalcitrant, the ICJ advisory opinion can provide the predicate for other States to demand further sanctions under international law.

Moreover, the ICJ’s advisory opinion provides a definitive statement of State obligations with respect to climate change. With the legal duties clarified, the stage is set for a range of public or private parties to take further legal actions in courts at regional, national, and subnational levels to enforce adherence to the law as stated by the ICJ. National courts will be called upon to adjudicate climate claims under their own national legal frameworks and effectively enforce the international duties.

While providing money cannot be the only solution to solve issues of climate change, funding is essential to facilitate significant mitigation and adaptation measures. Climate finance is essential for mitigation initiatives. It enables countries to make large-scale investments in renewable energy, energy efficiency, and low-carbon infrastructure. By providing financial resources, developed States can assist developing States in accessing clean technologies and transitioning toward more resilient economies.

Climate finance is also critical for adaptation measures, especially in areas that are more vulnerable to the effects of climate change. In addition to international finance flows, the magnitude of the climate crisis indicates that all States will need to self-finance, to some degree, and to establish their own new national savings and credit regimes. The collective remedy is likely to be insufficient without “self-help.”

One aspect of a collective remedy for addressing funding gaps could be to create a “just transition fund” under the principles of cooperation, solidarity, equity, and CBDR-RC. Although States too often have not met their pledges to

298. UNEP, *The Montreal Protocol on Substances That Deplete the Ozone Layer*, <https://ozone.unep.org/treaties/montreal-protocol> (last visited Nov. 23, 2024).

299. UNEP, *Mediterranean Action Plan—Who We Are*, <https://www.unep.org/unepmap/who-we-are> (last visited Nov. 23, 2024).

300. Convention on the Protection of the Mediterranean Sea Against Pollution art. 8, Feb. 16, 1976, 1102 U.N.T.S. 27.

301. See UNEP, *UNEP Regional Seas Programme*, <https://www.unep.org/topics/ocean-seas-and-coasts/regional-seas-programme> (last visited Nov. 23, 2024).

302. The reports of the IPCC set forth the many facets that remedies will need to address. IPCC, *supra* note 43.

303. This sort of sanction is under the Convention on International Trade in Endangered Species (CITES). Peter H. Sand, *Enforcing CITES: The Rise and Fall of Trade Sanctions*, 22 RECIEL 251 (2013), https://www.researchgate.net/publication/281148646_Enforcing_CITES_The_Rise_and_Fall_of_Trade_Sanctions.

comparable voluntary funds, they offer useful precedents. Unlike voluntary funds, the collective remedy would mandate that States pay their fair share into the fund to observe their State responsibility to make compensation for harm.

States, including those with affluent economies and advanced technologies, have willingly supported funds like the Multilateral Fund for the Implementation of the Montreal Protocol. Contributions to this fund are couched in terms of CBDR-RC, cooperation, and solidarity. The fund has been able to receive a budget of \$965 million for the triennium 2024-2026 and to advance the phaseout of chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs).³⁰⁴ This model also ensures cooperation from States receiving payments, because this support is contingent upon receiving aid from the fund.

Framing a collective remedy based on precedents such as the Montreal Protocol can ensure a reciprocity in meeting the due diligence obligations of both developed and developing States. Consider these examples of financing for a collective remedy:

- *Mandate enhanced use of the Global Environment Facility (GEF)*. The GEF serves as a financial mechanism for the UNCCD and provides funding for projects and programs that address desertification, land degradation, and drought.³⁰⁵
- *Focus remedies through the Green Climate Fund (GCF)*. The GCF is a financial mechanism under the UNFCCC that supports projects and programs related to climate change mitigation and adaptation, including those that address the links between climate change and desertification.³⁰⁶ Article 9 of the Paris Agreement established the GCF as a mechanism to channel climate finance to developing countries.³⁰⁷
- *Employ the Adaptation Fund*. The Adaptation Fund is another financial mechanism under the UNFCCC that supports concrete adaptation projects and programs in developing countries, including those that aim to build resilience to the impacts of desertification and drought.³⁰⁸

304. Multilateral Fund for the Implementation of the Montreal Protocol, *Home Page*, <http://legacy.multilateralfund.org/default.aspx> (last visited Dec. 6, 2024).

305. GEF, COMBATING LAND DEGRADATION (2022), https://www.thegef.org/sites/default/files/documents/2022-05/gef_combating_land_degradation_2022_05.pdf.

306. *Accelerating Land Restoration in Africa*, GCF (Nov. 1, 2021), <https://www.greenclimate.fund/speech/accelerating-land-restoration-africa>.

307. Paris Agreement, *supra* note 10, art. 9, ¶ 8.

308. Adaptation Fund, *Chad Oasis Project: Reversing the Degradation Trend in the Oases of Borkou, Ennedi West, and Wadi Fira Through Strengthening Adaptation Measures and Improving Resilience to Climate Change of Vulnerable Communities*, <https://www.adaptation-fund.org/project/chad-oasis-project-reversing-the-degradation-trend-in-the-oases-of-borkou-ennedi-west-and-wadi-fira-through-strengthening-adaptation-measures-and-improving-resilience-to-climate-change-of-vulnerable/> (last visited Nov. 23, 2024).

- *Credit bilateral and multilateral aid*. Countries can also access financial support for desertification control and sustainable land management through bilateral and multilateral aid arrangements, such as official development assistance³⁰⁹ and South-South cooperation.³¹⁰
- *Align regional cooperation*. The cooperation of States to protect the Arctic region also illustrates how finance may be incorporated into remedial measures. As most areas of the Arctic experience drastic shifts in its climate, climate finance offers a crucial mechanism to protect the ecosystems and people in the region. Each region could be tasked to establish a regional council, like the Arctic Council, with the support of the regional development banks (e.g., Asian Development Bank, European Bank for Reconstruction and Development, African Development Bank Group, Inter-American Development Bank).

Similar financing strategies are found in other international organizations as well. The Organisation for Economic Co-operation and Development (OECD) has a framework of promoting climate-resilient and sustainable development infrastructure and economies with its Members.³¹¹ Private investments play a significant role in delivering long-term sustainable development outcomes. The OECD collaborates with developing countries to assist them in mobilizing domestic resources using CBDR-RC principles. These programs are aimed for non-OECD nations to build more resilient economies.

A collective remedy could mandate establishing a progressive financial system. The implementation of progressive financial targets within mechanisms such as the GEF, GCF, and Adaptation Fund represents a strategic approach to enhancing global efforts against climate change. This involves establishing clear, measurable objectives that must be achieved before subsequent funding tranches are released.

Such targets would be aligned with specific outcomes, such as the reclamation of degraded land, increases in vegetation cover, or improvements in soil health, and would be evaluated at predefined intervals. Such a system aims to ensure that funding is not only used effectively, but also drives ambition and fosters a culture of continual improvement among recipient countries. An Adaptation Fund, dedicated to more direct adaptation projects, could focus its resources on innovative practices that significantly

309. R. OMOTAYO OLANIYAN, OFFICIAL DEVELOPMENT ASSISTANCE AND SUSTAINABLE DEVELOPMENT IN AFRICA: TOWARDS A NEW STRATEGY (2000), <https://www.un.org/esa/sustdev/documents/04olan.pdf>.

310. *South-South-North Collaboration Will Address Desertification in Africa's Sahel*, IISD SDG KNOWLEDGE HUB (June 29, 2012), <https://sdg.iisd.org/news/south-south-north-collaboration-will-address-desertification-in-africas-sahel/>.

311. Canada, Denmark, Norway, Sweden, and the United States are all members of the OECD. The only non-OECD nation in the Arctic is Russia. See OECD, *Sustainable Development Goals (SDGs)*, <https://www.oecd.org/dac/sustainable-development-goals.html> (last visited Nov. 23, 2024).

reduce vulnerability to desertification, with funds released as milestones are reached.

2. Technical Remedies

To be effective, a collective remedy will need to give priority to technology transfer and assistance. In coping with ongoing climate impacts, these tools are as important as, if not more than, financial relations. Without expertise, funds cannot be allocated and invested effectively. Some examples are:

- *Mandate that States deploy climate remedies through all U.N. specialized agencies and programs.* Several U.N. agencies, such as the Food and Agriculture Organization (FAO),³¹² the U.N. Development Programme (UNDP),³¹³ and UNEP,³¹⁴ provide technical assistance and support to countries in developing and implementing strategies and programs to combat desertification and promote sustainable land management.
- *Require methodologies for sharing and integrating the scientific and technical bodies.* The UNFCCC, CBD, UNCCD, and other relevant international environmental agreements have established scientific and technical bodies, such as the Committee on Science and Technology³¹⁵ and the Science-Policy Interface,³¹⁶ which provide advice and guidance on the latest scientific and technological developments related to desertification control and sustainable land management.
- *Mandate delivering climate remedies through regional and international research and development organizations.* There are many regional and international research and development organizations, such as the Consultative Group on International Agricultural Research (CGIAR)³¹⁷ and the International Center for Agricultural Research in the Dry Areas (ICARDA),³¹⁸ that conduct research and provide technical support on sustainable land management practices and technologies.

312. FAO, *Action Against Desertification*, <https://www.fao.org/in-action/action-against-desertification/overview/en/> (last visited Nov. 23, 2024).

313. UNDP Global Policy Centre on Resilient Ecosystems and Desertification, *Sustainable Land Management and Restoration*, <https://www.undp.org/policy-centre/nairobi/sustainable-land-management-and-restoration> (last visited Nov. 23, 2024).

314. *From Chile to China: The Global Battle Against Desertification*, UNEP (May 10, 2022), <https://www.unep.org/news-and-stories/story/chile-china-global-battle-against-desertification>.

315. UNCCD, *Committee on Science and Technology*, <https://www.unccd.int/convention/governance/cst> (last visited Nov. 23, 2024).

316. UNCCD, *Science*, <https://www.unccd.int/science/overview> (last visited Nov. 23, 2024).

317. CGIAR, CGIAR ANNUAL REPORT 1999: SCIENCE FOR THE POOR AND THE ENVIRONMENT (2000), <https://documents1.worldbank.org/curated/en/570481468172162734/pdf/multi-page.pdf>.

318. Reliefweb, *International Center for Agricultural Research in the Dry Areas*, <https://reliefweb.int/organization/icarda> (last visited Nov. 23, 2024).

Again, the Arctic illustrates this element. Like the duty to cooperate and the duty of due diligence, CBDR-RC advocates for research and monitoring of the current situation in the Arctic. Organizations are already in place to achieve this goal. Namely, the Arctic Council serves as a high-level intergovernmental scientific and social council aimed at promoting cooperation, coordination, and interaction among the Arctic States, Arctic Indigenous peoples, and other Arctic inhabitants on common Arctic issues, on issues of sustainable development, and on environmental protection in the Arctic.³¹⁹

3. Capacity-Building

The collective remedy will need to require an ongoing commitment to capacity-building. Some examples are:

- *Require that remedies include enhancing capacity-building frameworks.* The UNCCD and other relevant international agreements have established capacity-building frameworks and programs, such as the Capacity Building Marketplace³²⁰ and the Capacity-Building Initiative for Transparency (CBIT),³²¹ which aim to strengthen the institutional and human capacities of countries to address desertification and promote sustainable land management.
- *Mandate that all remedies include training and education components.* Many international organizations and institutions, such as universities and research centers, offer training and education programs on sustainable land management,³²² desertification control, and related topics, which can help build the capacities of individuals and institutions in affected countries.³²³
- *Mandate use of and enhance knowledge-sharing platforms.* There are several knowledge-sharing platforms and networks, such as the UNCCD Knowledge Hub and the World Overview of Conservation Approaches and Technologies,³²⁴ which facilitate the exchange of knowledge, best practices, and lessons learned on desertification control and sustainable land management.

Finance, technical support, and capacity-building are essential components of a collective remedy. The general

319. Arctic Council, *supra* note 229.

320. UNCCD Capacity Building Marketplace to Be Launched During CRIC 11, IISD SDG KNOWLEDGE HUB (Apr. 8, 2013), <https://sdg.iisd.org/news/unccd-capacity-building-marketplace-to-be-launched-during-cric-11/>.

321. Climate Transparency Platform, *About CBIT-GSP*, <https://climate-transparency-platform.org/about> (last visited Nov. 23, 2024).

322. Allerton Project, *Sustainable Land Management*, <https://www.allertontrust.org.uk/training/sustainable-land-management/> (last visited Nov. 23, 2024).

323. FAO eLearning Academy, *Sustainable Land Management and Restoration*, <https://elearning.fao.org/course/view.php?id=454> (last visited Nov. 23, 2024).

324. UNCCD, *Knowledge-Sharing Systems*, <https://www.unccd.int/resources/knowledge-sharing-systems> (last visited Nov. 23, 2024).

principles of international law and the extensive guidance of soft-law instruments can be relied upon to fashion remedies that are effective in the specific context of a climate-related harm.³²⁵ Soft-law instruments provide guidance and recommendations on climate change in the context of biodiversity stewardship, desertification control, and sustainable land management.

D. Conceptualizing a Collective Remedy Amidst the Unfolding Climate Crisis

The climate crisis is not a one-time event, with compensation or restoration required under the Articles of State Responsibility after wrongful acts have concluded. Acts, or failures to act, with respect to climate change are ongoing. State responsibility is also fluid, since some States will decide to recognize and adhere to their international law obligations before others do so. Some graduated scale of remedial obligations may be required to induce States to comply as rapidly as possible and to hold them accountable for not doing so.

It is unprecedented for the Articles of State Responsibility to require collective remedies that can ensure that each State will be obliged to consider how to honor its environmental commitments under international law. The climate crisis is also unprecedented. Restoration of, and adaptation to, changing natural systems requires reiterative reassessments of remedies and their effectiveness. Many of the legal tools available under environmental law remain untested in many States. Environmental law is a young and still expanding field of law.

A collective remedy under State responsibility is also enmeshed within and must reflect the rapidly evolving and unpredictable changes to earth's climate system. Conceptualizing a collective remedy will require States to confront the many emerging issues that constitute State responsibility for changing climate-related impacts. Core issues among these are the impacts associated with: (1) accommodating human displacement and migration; (2) assuring potable water supplies; (3) sustaining biodiversity; (4) mitigating more natural disasters through response and management; and (5) addressing expanding desertification. General principles of international law and human rights indicate priorities to be reflected in collective remedies appropriate to these six areas of current injury.

1. Displacement and Migration

Climate change is driving human settlements and even entire populations away from their lands and homes. Weather-related events, such as extreme weather, sea-level rise, floodings, droughts, biodiversity loss, and loss

of land, are all drivers of climate-induced migration.³²⁶ In particular, individuals and communities that live in a close relationship with the land and derive their livelihoods from land-related work are among the most impacted. Indigenous communities, peasants, fishers, and islanders are being forced out of their ancestral and traditional lands, in what can be considered a human rights violation.³²⁷ Climate-induced migration has become more frequent, and its impacts have reached more and more communities worldwide.

Considerations of climate justice will need to guide collective remedies addressing displacement. New human settlements for displaced populations will be required. States with larger geographic areas may have the space to plan and provide new human settlements. The U.N. Human Settlements Programme (UN-Habitat) will require substantial support to address these objectives.³²⁸ Moreover, wealthier countries have historically emitted more GHGs, having a greater responsibility for climate change. In addition, a State's ancestral territory, even if uninhabitable, has been recognized by other States as a basis for recognizing its sovereignty. So, small island States will continue to shape the multilateral decisionmaking about climate change.³²⁹

2. Potable Water Supplies

As States cause changes in earth's hydrologic cycle, they undermine the human right to water.³³⁰ This is an ongoing phenomenon, and a collective remedy must anticipate changing circumstances. Climate change impacts freshwater supplies. Droughts caused by extreme weather events contribute to water scarcity.

Lack of access to freshwater supplies also affects the right to food security. Previously farmed land is now experiencing shortages of freshwater supply, impacting crop production. Further, sea-level rise, coastal flooding, tropical cyclones, and storms have the potential of allowing saline seawater to penetrate agricultural lands, affecting crops. States have the obligation to ensure a minimum essential amount of water, water facilities, and services are provided in a nondiscriminatory basis. States have the obligation to adopt "effective measures" and cooperate to guarantee the realization of this right.³³¹

325. SUSANNE ALTVATER ET AL., UMWELTBUNDESAMT, LEGAL INSTRUMENTS TO IMPLEMENT THE OBJECTIVE "LAND DEGRADATION NEUTRAL WORLD" IN INTERNATIONAL LAW (2015).

326. Maya Moore & Dennis Wesselbaum, *Climatic Factors as Drivers of Migration: A Review*, 25 ENV'T DEV. & SUSTAINABILITY 2955 (2023), <https://doi.org/10.1007/s10668-022-02191-z>.

327. Torres Strait Islanders Petition (Daniel Billy v. Austl.), Judgments U.N.H.R., art. 17, U.N. Doc. CCPR/C/135/D/3624/2019 (2022).

328. UN-Habitat, *Home Page*, <https://unhabitat.org/> (last visited Nov. 23, 2024).

329. U.N. General Assembly, Zero Draft 78th Session on Scope, Modalities, Format, and Organization of the High-Level Plenary Meeting on Addressing the Existential Threats Posed by Sea Level Rise (Mar. 8, 2024), <https://www.un.org/pga/wp-content/uploads/sites/108/2024/03/SLR-zero-draft-modalities-final-8-March-1.pdf>.

330. Office of the High Commissioner for Human Rights, General Comment No. 15: The Human Right to Water (Arts. 11 and 12 of the Covenant), U.N. Doc. E/C.12/2002/11 (Jan. 20, 2023), <https://www.refworld.org/legal/general/cescr/2003/en/39347>.

331. *Id.* ¶¶ 1, 31-36, 60.

3. Sustaining Biodiversity

Biodiversity loss is a major crisis for all States. Biological diversity plays a vital role in protecting human and natural health, while providing the necessary elements for present and future generations. Climate change acts to intensify the drivers of biodiversity loss. All States are susceptible to biodiversity loss. For example, States that are the home for important ecosystems, such as coral reefs and mangroves, are impacted by sea-level rise, ocean warming, and ocean acidification. Losses of biodiversity, in turn, adversely impact the economies that communities depend upon to derive their livelihoods. In the marine environment, the estimated collective value of coral reefs amounts to \$29 billion per annum.³³²

4. Natural Disaster Response and Management

Climate change causes and exacerbates natural disasters. Extreme weather events have been identified as the cause of tropical cyclones and storms, droughts, and heat waves. Scientists forecast that such catastrophes will increase in frequency and intensity as the climate crisis unfolds.

For years, States have cooperated to provide mutual aid in times of catastrophes. Acknowledging the relationship between disasters and climate change, any collective remedy for the breach of a State's climate change duties, in particular obligations of due diligence, will require States to strengthen and extend the Sendai Framework for Disaster Risk Reduction, adopted during the Third World Conference on Disaster Risk Reduction, which was held in Sendai, Japan, from March 14-18, 2015.³³³

The Sendai Framework's main goal is "[t]he substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries."³³⁴ More important, this framework identifies the State as the primary party responsible for providing effective disaster relief. There are many other nongovernmental organizations and intergovernmental organizations that are also critical to fulfilling disaster relief missions and for reducing disaster risk.³³⁵ Ensuring international cooperation that goes beyond short-term economic relief and covers capacity-building is essential in order to prevent further climate harm. The Sendai Framework specifically recognizes the need for States to enhance the implementation capacity and capability of developing countries, with a major emphasis on SIDS.³³⁶

332. GEO-6, *supra* note 45, at 10.

333. G.A. Res. 69/283, Sendai Framework for Disaster Risk Reduction 2015-2030 (June 3, 2015) [hereinafter Sendai Framework].

334. U.N. Office for Disaster Risk Reduction, *Implementing the Sendai Framework*, <https://www.undrr.org/implementing-sendai-framework/what-sendai-framework> (last visited Nov. 23, 2024).

335. Sendai Framework, *supra* note 333, at 19.

336. See U.N. Office for Disaster Risk Reduction, *Small Island Developing States (SIDS)*, <https://www.undrr.org/implementing-sendai-framework/sendai-framework-action/small-island-developing-states> (last visited Dec. 6, 2024).

5. Desertification

A collective remedy appropriate for mandating collaborative remedies, for example in combating desertification, is found in the exemplary initiative of the Great Green Wall (GGW) project in Africa.³³⁷ The GGW initiative, spearheaded by the African Union, is a transformative effort aimed at combating the severe impacts of desertification across the Sahel, from Senegal in the west to Djibouti in the east.³³⁸ Launched in 2007, this ambitious project seeks to restore 100 million hectares of currently degraded land by 2030, while also sequestering 250 million tons of carbon and creating 10 million green jobs.³³⁹

The project represents a direct response to the environmental degradation threatening the livelihoods of millions and aligns with the SDGs aimed at ecological restoration and economic stability in the region. By fostering a collaborative approach among multiple African nations, it leverages regional cooperation and international partnerships to tackle a shared environmental challenge effectively. This holistic approach to combating desertification shows how regional cooperation can be a key component of collective climate change remedies.

The U.N. General Assembly will respond to the ICJ advisory opinion. Whether or not the ICJ mandates a collective remedy, the General Assembly on its own initiative can address the many facets of such a novel remedy as the climate crisis unfolds. As the ITLOS advisory opinion makes plain,³⁴⁰ the climate crisis requires a holistic response, not merely one under sectoral agreements, such as the UNFCCC and Paris Agreement, or the biodiversity or desertification MEAs.

V. Conclusion

Disruptions throughout earth's biosphere are already evident and beyond the capacity of individual States to repair. Each State's legal obligations to protect each other and the shared oceans and atmosphere are duties *erga omnes*. These duties are owed immediately by each State to each State. Violating these duties gives rise to State responsibility.

The ICJ advisory opinion on State responsibility for climate change will need to usher in an entirely new kind of remedy. The ICJ will acknowledge the harm caused to date and the ongoing nature of the injuries to States and to the commons. Traditional remedies of compensation will not, and cannot, make amends for such losses. The only way that States can effectively compensate for the damage caused by their individual and combined breach of international legal duties in relation to climate change will be to undertake substantial commitments to adhere to a col-

337. GGW, *The Great Green Wall*, <https://thegreatgreenwall.org/about-great-green-wall> (last visited Nov. 23, 2024).

338. *Id.*

339. Martin Armstrong, *The Great Green Wall Begins to Rise*, STATISTA (Mar. 3, 2022), <https://www.statista.com/chart/26980/great-green-wall-progress/>.

340. ITLOS Advisory Opinion, *supra* note 2.

lective remedy, guided by norms of solidarity, equity, and other international law principles.

Contributions to a collective remedy will be compulsory and mandatory. Sanctions for failure to adhere to the remedy can include exclusion from the international support systems for capacity-building and disaster relief, and other climate impacts, although that could impede the relief sought collectively. Every State must see their self-interest in adhering to the terms of the collective remedy, as is already the case with States meeting their obligations through the Montreal Protocol adopted under the Vienna Convention for the Protection of the Ozone Layer.³⁴¹ The collective remedy for the ICJ's ruling on State responsibility would be entirely new and unique: mandated by a court's advisory opinion, but fashioned by States collectively through the U.N. General Assembly.

General principles of international law and human rights law fundamentally define each State's climate obligations, beyond their treaty obligations. In light of the exigent realities of climate change, it is patently insufficient, and unlawful, for a State to set minimal or unambitious NDCs under the Paris Agreement. Affluent and technologically developed States have obligations, under CBDR-RC and other principles, to make financial contributions for natural disaster mitigation, adaptation, and recovery under the Sendai Framework. States can no longer credibly argue that human rights obligations are exclusively negative, considering the rulings by human rights tribunals holding developed States liable for breaching a positive obligation to protect human rights.³⁴² States have an affirmative duty to protect people from the violence of climate change impacts.

To attain the SDGs under the 2030 Agenda for Sustainable Development, "the future we want,"³⁴³ the general principles of international law make clear that the only way forward is a multilateral path. The climate goals under the UNFCCC and Paris Agreement are pathways that must be harmonized with all other State obligations. Failing to cooperate leads States to retreat into national efforts and protectionism, which cannot stem climate change impacts and lead ultimately to their own demise. Climate change does not respect international borders, and there is no protection in isolationism. The only solution is cooperation, mandated through a collective remedy.

The ICJ advisory opinion inevitably will guide the General Assembly's decisions about the cooperative measures needed at all levels of government. Equity determines how States share their capabilities for the common good. This will mean making decisions under the rules of the U.N. General Assembly, by vote of a majority of States, and not by the consensus model employed in some MEAs, in

which one State can hold up the will of all States. There is no equity in that. Further, consensus decisionmaking is slow and stifles cooperation and innovation. As the U.N. General Assembly debates the terms of a collective remedy, international law supports a collective remedy, even if not in the context of compensation and liability.

To apply and enforce the law stated in the ICJ's climate advisory opinion, subnational or national or regional or international courts will likely be called upon to order remedies within the scope of their jurisdiction. It is conceivable also that some national courts will assume universal jurisdiction to enforce *erga omnes* duties that protect the climate system and prevent harm. Just as the biosphere and climate system are universal, so are equity and justice. Since the climate crisis pervades all jurisdictions, and implicates or diminishes the sovereignty of each State, it will ultimately be the States, through the U.N. General Assembly or other interstate organizations, that will fashion the suite of collective remedies to address climate change. The U.N. General Assembly has begun these multilateral negotiations in effect by recognizing in 2022 the human right to a clean, healthy, and sustainable environment,³⁴⁴ and by requesting in 2023 the ICJ advisory opinion.

The commentaries in this Article have demonstrated that the international law governing State obligations regarding climate change is known and accessible. The scientific consensus on climate change has underscored the main and more dire consequences of the climate crisis. For small island States, States with river deltas and shallow coasts, States in the Arctic, or States facing desertification, harms are evident and urgent. Remedies are needed with immediate effect.

Whether or not these commentaries have accurately predicted the approach that the ICJ will take in its advisory opinion, they reflect the aspiration that international law *can* guide States to ameliorate and halt human activity causing climate change. The ICJ's forthcoming advisory opinion will be consequential. The coming years will witness new agencies emerging to further cooperation among State and non-State actors as the human right to the environment takes on new meaning amidst earth's changing climate.

Climate change affects all aspects of life on earth. In response, patterns of human governance at all levels are shifting. General principles of law will persist, as will human rights law, because they have universal qualities. Methodologies, such as EIA, which are lawfully required worldwide, will guide the decisionmaking about climate and the environment at all levels of governance.

The ICJ's advisory opinion, and the General Assembly's response, will be either a benefit or a bane, depending on the Assembly's fidelity to holdings in the IJC's advisory opinion, and the rule of law and the Assembly's effectiveness in negotiating pathways ahead to guide implementation of the ICJ's rulings. In some way, the earth's biosphere will persist, but the future of human civilization is less clear.

341. See Mario Molina & Durwood Zaelke, *The Montreal Protocol: Triumph by Treaty*, UNEP (Nov. 20, 2017), <https://www.unep.org/news-and-stories/story/montreal-protocol-triumph-treaty>.

342. Torres Strait Islanders Petition (Daniel Billy v. Austl.), Judgments U.N.H.R., art. 17, U.N. Doc. CCPR/C/135/D/3624/2019 (2022).

343. U.N. General Assembly, Resolution Adopted by the General Assembly on 27 July 2012, A/RES/66/288 (Sept. 11, 2012) (updated and expanded by the U.N. General Assembly, Pact for the Future, A/99/L.2 (Sept. 20, 2024), <https://documents.un.org/doc/undoc/ld/n24/252/89/pdf/n2425289.pdf>.

344. G.A. Res. A.76/300 (July 28, 2022), <https://digitallibrary.un.org/record/3983329?v=pdf>.