ENVIRONMENTAL IMPACT ASSESSMENT AND STATE RESPONSIBILITY IN TRANSBOUNDARY ENVIRONMENTAL HARM

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ABSTRACT

International environmental law has moved from a reactive model of liability toward a preventive model centred on environmental impact assessment, due diligence, cooperation and reparation. This paper examines the legal architecture governing activities that may cause significant transboundary environmental harm. It argues that a transboundary environmental impact assessment has emerged as a requirement of general international law where a proposed activity presents a risk of significant adverse transboundary impact, but that the obligation remains primarily procedural and conduct-based. Its content is shaped by domestic authorization processes, treaty obligations, the gravity of risk, scientific knowledge and the principle of sustainable development. The paper further analyses the no-harm rule, the duties to notify, consult and cooperate, and the evidentiary thresholds needed to establish causation and international responsibility. It then further evaluates available remedies, including cessation, ecological restoration, compensation and guarantees of non-repetition, with attention to the difficulties of valuing environmental damage. Finally, it considers the evolving procedural and substantive position of affected communities, civil society organizations and the asserted right to a clean, healthy and sustainable environment. The paper concludes that international law increasingly integrates environmental protection, participatory governance and climate-conscious development, while still preserving State sovereignty and demanding proof of breach, causation and legally cognizable harm.

Keywords: Transboundary environmental harm, Environmental Impact Assessment, No-harm rule, Due Diligence, State responsibility, Public participation, Right to a healthy environment.

I. Introduction

The central question in contemporary international environmental law is not merely whether States may pursue economic and infrastructural development, but how they must manage foreseeable risks that cross borders. The discipline has developed around a preventive logic: States retain sovereign control over their territory and natural resources, yet must ensure that activities within their jurisdiction do not cause significant injury to other States or to shared environmental resources.

The paper examines the issue through four central legal frameworks. Firstly, the duty to conduct an environmental impact assessment (EIA) where significant transboundary risk is present has been recognized as part of general international law. Secondly, the no-harm rule and due diligence obligations including the obligations of reasonable vigilance, notification, consultation and cooperation when risk thresholds are met. Thirdly, international responsibility and reparation. Fourthly, the procedural environmental rights and the right to a healthy environment.

II. Transboundary Environmental Impact Assessment as General International Law

The modern starting point for the transboundary environmental impact assessment is the International Court of Justice's formulation in Pulp Mills, where the Court stated that an EIA is required under general international law when a proposed industrial activity may have a significant adverse impact in a transboundary context, particularly on a shared resource.[1] This formulation of ICJ was again reiterated in the joined Costa Rica/Nicaragua proceedings, which treated risk assessment as a preliminary legal duty where potentially harmful activities may affect another State or a shared environment.[2] The legal significance of these decisions is that an EIA is no longer only a domestic planning device but it is a procedural expression of prevention across the jurisdiction of one State in international law.

The EIA obligation, however, is not crystallized in one single rule or definition but it is best understood as an obligation of conduct rather than an obligation of result. A State must identify risk, gather relevant scientific information, evaluate impacts, consider mitigation and

[1] Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 14, paras. 204-205 (Apr. 20).

[2] Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar.) and Construction of a Road in Costa Rica Along the San Juan River (Nicar. v. Costa Rica), Judgment, 2015 I.C.J. 665, paras. 104, 153, 161 (Dec. 16).

maintain monitoring where necessary. Yet the judgement in Pulp Mills case also leaves States with a margin to determine the specific content of the assessment through domestic law or authorization processes. This preserves regulatory pluralism while preventing States from ignoring transboundary risk altogether. The scholarship on international EIA similarly treats the obligation as a procedural standard whose content varies with context, risk and available knowledge.[3]

The treaty law also complements this customary rule. The Convention on Biological Diversity requires environmental impact assessment of projects likely to have significant adverse effects on biological diversity and, where appropriate, arrangements for notification, exchange of information and consultation concerning activities likely to affect biodiversity of other States.[4] The Espoo Convention codifies a more detailed transboundary EIA model, including notification, documentation and consultation, although its direct applicability depends on treaty relations.[5] The United Nations Convention on the Law of the Sea contains a comparable duty to assess activities that may cause substantial pollution or significant and harmful changes to the marine environment.[6] Climate instruments add a further layer by requiring implementation of mitigation obligations in a manner consistent with equity, common but differentiated responsibilities and sustainable development.[7]

Soft-law instruments supply interpretive content. The Stockholm and Rio Declarations articulate the balance between permanent sovereignty and the responsibility not to cause transboundary environmental damage.[8] These instruments are not treaties in themselves, but they are repeatedly used by courts, tribunals and States as evidence of normative expectations. They support the view that transboundary EIA operates as a procedural bridge between sovereignty and prevention. It does not create a foreign veto over development; rather, it ensures that decisions are informed, transparent and responsive to foreseeable harm.

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[3] Neil Craik, The International Law of Environmental Impact Assessment 56-88 (Cambridge Univ. Press 2008).
[4] Convention on Biological Diversity art. 14(1)(a), June 5, 1992, 1760 U.N.T.S. 79.
[5] Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 1989 U.N.T.S. 309.
[6] United Nations Convention on the Law of the Sea art. 206, Dec. 10, 1982, 1833 U.N.T.S. 3.
[7] United Nations Framework Convention on Climate Change art. 3(1), May 9, 1992, 1771 U.N.T.S. 107; Paris Agreement to the United Nations Framework Convention on Climate Change arts. 2, 4, Dec. 12, 2015, U.N.T.S. No. 54113.
[8] United Nations Conference on Environment and Development, Rio Declaration on Environment and Development, princs. 2, 10, 13, U.N. Doc. A/CONF.151/26/Rev.1 (Aug. 12, 1992); United Nations Conference on the Human Environment, Stockholm Declaration on the Human Environment, princ. 21, U.N. Doc. A/CONF.48/14/Rev.1 (June 16, 1972).

III. The No-Harm Rule and Due Diligence

The no-harm rule is the substantive foundation of transboundary environmental law. Its classic arbitral statement appears in Trail Smelter, and the ICJ later affirmed in the Nuclear Weapons advisory opinion that States must ensure activities within their jurisdiction respect the environment of other States and areas beyond national control.[9] In contemporary law, the rule is not generally treated as imposing strict liability for every harmful consequence. The Pulp Mills judgement describes the principle of prevention as an obligation of conduct i.e., the State must use all means at its disposal to avoid significant transboundary damage, but liability does not arise solely because harm occurs.[10]

Due diligence gives operational meaning to the no-harm rule. It requires a State to act with reasonable vigilance, administrative control and good faith in light of foreseeable risk. The ILC Draft Articles on Prevention of Transboundary Harm characterize due diligence as a duty to take appropriate measures to prevent significant transboundary harm or at least minimize the risk of it.[11] International tribunals have emphasized that the concept of due diligence is variable which simply can be framed as the more serious the risk, the higher the required standard of care and the more advanced the scientific knowledge, the more demanding the expected response.[12]

Notification, consultation and cooperation are not ceremonial duties. They are legal mechanisms for managing shared risk before harm occurs. The arbitral pronouncements in Lake Lanoux case, MOX Plant case and Southern Bluefin Tuna case demonstrates that cooperation is central to the equitable use and protection of shared resources, even where one State retains sovereign control over the activity.[13] The duty to consult does not necessarily imply a duty to obtain consent. It does, however, require meaningful engagement, exchange of relevant information and willingness to consider risk-reduction measures. A State that

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[9] Trail Smelter Arbitration (U.S. v. Can.), 3 R.I.A.A. 1905 (1941); Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, para. 29 (July 8).
[10] Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 14, para. 187 (Apr. 20).
[11] Int'l Law Comm'n, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries, art. 3, [2001] 2 Y.B. Int'l L. Comm'n 146, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2).
[12] Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion, ITLOS Case No. 17, para. 117 (Feb. 1, 2011); Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission, Advisory Opinion, ITLOS Case No. 21, para. 131 (Apr. 2, 2015).
[13] Lake Lanoux Arbitration (Fr. v. Spain), 12 R.I.A.A. 281 (Arb. Trib. 1957); MOX Plant Case (Ir. v. U.K.), Provisional Measures, ITLOS Case No. 10 (Dec. 3, 2001); Southern Bluefin Tuna Cases (N.Z. v. Japan; Austl. v. Japan), Provisional Measures, ITLOS Case Nos. 3 & 4, paras. 77-80 (Aug. 27, 1999).

withholds material information undermines the very preventive function of due diligence.

Sustainable development adds complexity to prevention rather than replacing it. The Gabčíkovo-Nagymaros case described sustainable development as the need to reconcile economic development with environmental protection.[14] Arbitral practice, including Iron Rhine arbitration case and Indus Waters arbitration case, similarly recognizes that infrastructure, resource use and environmental protection must be balanced rather than treated as mutually exclusive.[15] This balancing is especially important in climate-related infrastructure, where renewable energy and coastal resilience may serve public interests while still posing localized ecological risks. The law therefore resists both extremes that in one way it does not permit unchecked development and in other way it also does not transform procedural environmental obligations into an automatic veto.

Sovereignty over natural resources and sovereign equality protects the ability of States to design domestic regulatory systems and pursue development policies.[16] Still, sovereignty is now no longer absolute in environmental matters. It is conditioned by prevention, cooperation and accountability. The most defensible legal position is therefore one of integrated sovereignty i.e., States may develop, but must assess, notify, consult and mitigate where significant transboundary risk is reasonably foreseeable.

IV. International Responsibility and Reparation for Environmental Harm

International responsibility requires more than environmental concern. Under the Articles on Responsibility of States for Internationally Wrongful Acts, the responsibility upon a State arises when conduct attributable to a State breaches an international obligation.[17] Once responsibility is established, the responsible State must make full reparation for the injury caused. The Chorzów Factory case remains the classic authority for the principle that reparation should, as far as possible, wipe out the consequences of the unlawful act and re-establish the

[14] Gabčíkovo-Nagymaros Project (Hung. v. Slovk.), Judgment, 1997 I.C.J. 7, para. 140 (Sept. 25).
[15] Iron Rhine Arbitration (Belg. v. Neth.), 27 R.I.A.A. 35 (Perm. Ct. Arb. 2005); Indus Waters Kishenganga (Pak. v. India), PCA Case No. 2011-01, Partial Award (Perm. Ct. Arb. Feb. 18, 2013).
[16] G.A. Res. 1803 (XVII), Permanent Sovereignty over Natural Resources (Dec. 14, 1962); Charter of Economic Rights and Duties of States, G.A. Res. 3281 (XXIX), art. 2, U.N. Doc. A/RES/3281(XXIX) (Dec. 12, 1974).
[17] International Law Commission, Articles on Responsibility of States for Internationally Wrongful Acts arts. 2, 31, 36, in Report of the International Law Commission on the Work of Its Fifty-Third Session, U.N. GAOR, 56th Sess., Supp. No. 10, U.N. Doc. A/56/10 (2001).

situation that would have existed absent the breach.[18]

Environmental claims come with unique challenges when it comes to proving them. The claimant must show breach, injury and a sufficient causal nexus. The pronouncement in Ahmadou Sadio Diallo case confirms that compensation requires proof of injury caused by the internationally wrongful act, even though the Court may use equitable considerations where exact quantification is difficult.[19] In the Certain Activities compensation judgment, the ICJ accepted that environmental damage is compensable under international law and that loss of ecosystem services may be valued, while still requiring a reasoned evidentiary basis.[20]

The available remedies include cessation, restitution, ecological restoration, compensation and guarantees of non-repetition. Restitution and restoration are especially important because environmental damage often affects both nature and people at the same time. Harm to wetlands, biodiversity, coastal buffers, or fisheries can disrupt ecosystems while also impacting the livelihoods of communities that depend on them. The United Nations Compensation Commission's environmental claims practice illustrates that restoration costs and environmental monitoring may be compensable where supported by evidence.[21] At the same time, international tribunals remain cautious about speculative claims. Where a natural event, third-party conduct or pre-existing vulnerability is alleged to have caused the injury, the claimant must establish that the wrongful act was a legally relevant cause of the loss.[22]

The remedy analysis therefore reflects a balance between ecological realism and legal proof. Courts increasingly recognize that environmental damage cannot always be valued with market precision. Nonetheless, reparation is not a punitive or abstract exercise. It must respond to established injury, not merely risk, policy disagreement or generalized environmental anxiety. This evidentiary discipline is crucial to maintaining the legitimacy of environmental adjudication.

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[18] Factory at Chorzów (Ger. v. Pol.), Merits, 1928 P.C.I.J. (ser. A) No. 17, at 47 (Sept. 13).
[19] Ahmadou Sadio Diallo (Republic of Guinea v. Democratic Republic of the Congo), Compensation, Judgment, I.C.J. Reports 2012, paras. 13, 24, 33.
[20] Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar.), Compensation, Judgment, 2018 I.C.J. 15 (Feb. 2).
[21] U.N. Comp. Comm'n, Report and Recommendations Made by the Panel of Commissioners Concerning the Fifth Instalment of "F4" Claims, paras. 430, 433, U.N. Doc. S/AC.26/2005/10 (June 30, 2005).
[22] Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosn. & Herz. v. Serb. & Montenegro), Judgment, 2007 I.C.J. 43 (Feb. 26); Eritrea-Ethiopia Claims Commission, Decision No. 7: Guidance Regarding Jus ad Bellum Liability, 26 R.I.A.A. 631.

V. Public Participation, Information Rights and Affected Communities

Modern environmental law increasingly treats public participation and access to information as components of effective due diligence. The Aarhus Convention is the most developed treaty expression of access to environmental information, public participation in decision-making and access to justice.[23] Even outside its treaty membership, the Aarhus convention has influenced broader expectations of environmental governance. The very Principle 10 of Rio Declaration also presents environmental decision making as a participatory process, where people should have access to information and effective judicial or administrative remedies.

The ILC Draft Articles on Prevention of Transboundary Harm also acknowledge the need to provide the public likely to be affected with relevant information and an opportunity to be heard.[24] The doctrinal question is whether these participatory principles have crystallized into customary obligations enforceable in every transboundary context? Under North Sea Continental Shelf case, customary international law requires sufficiently general State practice accompanied by opinio juris.[25] Widespread treaty practice, national environmental laws and judicial references are evidence of normative movement, but they do not automatically settle the content, beneficiaries and remedies of a customary rule.

A careful position is therefore preferable. At minimum, participation and information rights inform the content of due diligence where significant transboundary harm is foreseeable. Keeping affected communities away from environmental information can undermine both the legal validity and the public credibility of an EIA. However, the exact procedures such as who must be consulted, where consultations should take place, and how legally binding they are often depend on the treaty itself, domestic laws, and the nature of the dispute. While international law increasingly emphasizes meaningful public participation, it does not yet provide a single uniform procedure that applies everywhere.

VI. The Right to a Clean, Healthy and Sustainable Environment

The asserted right to a clean, healthy and sustainable environment is one of the fastest

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[23] 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.

[24] Int'l Law Comm'n, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries, art. 13, [2001] 2 Y.B. Int'l L. Comm'n 146, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2).

[25] North Sea Continental Shelf (F.R.G. v. Den.; F.R.G. v. Neth.), Judgment, 1969 I.C.J. 3, paras. 71-74 (Feb. 20).

developing areas in the domain of public international law. The United Nations Human Rights Council and General Assembly have recognized the right in influential resolutions.[26] Regional jurisprudence, including the Inter-American Court's environmental advisory opinion and the pronouncement in Lhaka Honhat's case, has linked environmental protection to rights to life, health, property, culture and community integrity.[27] European and UN human rights decisions have also increasingly treated environmental degradation and climate risk as capable of engaging human rights obligations.[28]

The harder question is whether this right has crystallized into a precise, judicially enforceable rule of customary international law in transboundary disputes. A careful consideration is necessary. General Assembly resolutions may evidence opinio juris, but they are not automatically binding. Regional judgments may be persuasive, but they do not create universal obligations for all States. The ICJ has traditionally been cautious in declaring new customary rules, especially where State practice and legal conviction remain uneven.[29]

The most persuasive approach is to treat the right as an emerging interpretive principle that strengthens existing duties of prevention, assessment, cooperation and remedy. It may shape the standard of due diligence and reinforce participation, information and access to justice. But absent a specific treaty or settled customary rule, it should not be used to bypass the ordinary requirements of breach, causation and injury. Diplomatic protection similarly allows a State to espouse claims of its nationals only within recognized legal limits; it does not create substantive rights where none exist.[30] The principle of pacta tertiis further confirms that treaty obligations cannot generally be imposed on non-parties without consent.[31]

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[26] G.A. Res. 76/300, The Human Right to a Clean, Healthy and Sustainable Environment, U.N. Doc. A/RES/76/300 (July 28, 2022); Human Rights Council Res. 48/13, The Human Right to a Clean, Healthy and Sustainable Environment, U.N. Doc. A/HRC/RES/48/13 (Oct. 8, 2021).

[27] The Environment and Human Rights, Advisory Opinion OC-23/17, Inter-Am. Ct. H.R. (ser. A) No. 23 (Nov. 15, 2017); Indigenous Communities of the Lhaka Honhat Association (Our Land) v. Argentina, Merits, Reparations and Costs, Inter-Am. Ct. H.R. (ser. C) No. 400 (Feb. 6, 2020).

[28] Verein KlimaSeniorinnen Schweiz v. Switzerland, App. No. 53600/20, Eur. Ct. H.R. (Grand Chamber Apr. 9, 2024); Daniel Billy v. Australia, Comm. No. 3624/2019, Human Rights Committee, U.N. Doc. CCPR/C/135/D/3624/2019 (Sept. 22, 2022).

[29] Jurisdictional Immunities of the State (Ger. v. It.: Greece intervening), Judgment, 2012 I.C.J. 99 (Feb. 3); S.S. Lotus (Fr. v. Turk.), 1927 P.C.I.J. (ser. A) No. 10 (Sept. 7).

[30] Mavrommatis Palestine Concessions (Greece v. U.K.), 1924 P.C.I.J. (ser. A) No. 2, at 12 (Aug. 30); Draft Articles on Diplomatic Protection with Commentaries, [2006] 2 Y.B. Int'l L. Comm'n 24, U.N. Doc. A/CN.4/SER.A/2006/Add.1 (Part 2).

[31] Vienna Convention on the Law of Treaties art. 34, May 23, 1969, 1155 U.N.T.S. 331.

VII. Conclusion

International environmental law now functions through a layered framework. Customary international law requires States to carry out assessments where significant transboundary risks are foreseeable, while treaty law imposes more specific obligations and soft law helps define preventive expectations. Rules of State responsibility provides for remedies when there's a breach and which is subsequently, is established and its causation can be proven. At the center of this framework is the Environmental Impact Assessment, although its role remains procedural and conduct-based. It requires States to act in good faith through assessment, disclosure, monitoring, and mitigation measures, but it does not promise complete environmental protection or guarantee that harm will never occur.

The no-harm rule and due diligence obligations are and can be best understood as disciplines of responsible sovereignty. They do not eliminate the right to development, especially where sustainable development and climate mitigation measures are available. They do, however, require States to seriously evaluate and account for transboundary environmental risks before approving activities that may cause significant harm. Where harm is established, international law permits restitution, ecological restoration, compensation and guarantees of non-repetition, including for environmental damage and ecosystem services. The emerging right to a healthy environment and participatory governance norms adds human centric approach to this framework, but their enforceability still depends on the legal basis of the claim, the precision of the obligation, and the quality of the evidence available. The future of the field, thus, lies in integrating the overall development, climate action and environmental protection without abandoning the evidentiary and consent-based structure of international law.