CORPORATE ENVIRONMENTAL LIABILITY IN INDIA: INTEGRATING FINANCIAL AND ECOLOGICAL RESTORATION COSTS

Nandan Kumar (MA Economics, Delhi School of Economics, Delhi University)

Poorva Aggarwal (MA Corporate Law, NALSAR University)

Vikram Chandravanshi (MA Corporate Law, NALSAR University)

ABSTRACT

This article critically examines the framework of corporate environmental liability in India, arguing that a significant chasm exists between judicially awarded compensation and the true economic cost of ecological restoration. Through a doctrinal analysis of landmark jurisprudence from the Supreme Court and the National Green Tribunal (NGT), the article traces the evolution of principles like 'Absolute Liability' and 'Polluter Pays'. It then integrates methodologies from ecological economics to quantify environmental harm, presenting a quantitative analysis that starkly contrasts awarded damages with estimated restoration costs in key cases. The article further evaluates the efficacy of corporate governance mechanisms, including SEBI's Business Responsibility and Sustainability Reporting (BRSR) framework and the nascent environmental insurance market, identifying critical gaps in enforcement and transparency. Drawing comparative insights from the US CERCLA and the EU Environmental Liability Directive, the article concludes by proposing a multi-pronged reform agenda aimed at amending corporate and financial laws to mandate scientifically grounded compensation, transparent provisioning for environmental liabilities, and robust risk-transfer mechanisms, thereby aligning legal accountability with the imperative of ecological restoration.

I. Introduction: Beyond Punitive Fines to Restorative Justice

The landscape of environmental law is undergoing a profound transformation, shifting from a paradigm of purely punitive sanctions to one grounded in restorative justice. Historically, environmental violations were often treated as regulatory infractions, addressed through fines that corporations could internalize as a mere cost of doing business.[1] This approach, however, fails to address the core injury: the degradation of the ecosystem itself. The emergent restorative framework demands a more holistic form of accountability, one where the polluter is obligated not only to pay for the transgression but to bear the full financial burden of restoring the damaged environment to its pre-incident baseline condition.[2] While Indian environmental jurisprudence has, in principle, championed this evolution, its practical application reveals a deep and persistent disconnect.

This article confronts a critical research problem: the systemic undervaluation of environmental damage within the Indian legal and corporate governance systems. This undervaluation results in a significant "restoration deficit," a chasm between the compensation awarded by courts and tribunals and the actual funds required for meaningful ecological recovery.[3] Such a deficit effectively creates an implicit subsidy for polluting industries, undermining the deterrent effect of environmental laws and perpetuating a cycle of degradation. The central thesis of this article is that this deficit is not an accidental outcome but a structural flaw arising from a fundamental disconnect between legal doctrine, judicial practice, and the science of ecological economics. While the judiciary has forged powerful principles of liability, it has failed to institutionalize a scientifically robust methodology for their financial application.

To dissect this multifaceted problem, this article employs a doctrinal, comparative, and quantitative methodology. It begins by tracing the jurisprudential foundations of environmental liability in India, from its common law origins to the uniquely Indian doctrine of 'Absolute Liability' and the judicial embrace of international environmental principles. It then introduces the economic frameworks necessary to translate ecological harm into monetary terms, setting the stage for the article's core quantitative analysis. This analysis contrasts judicially awarded compensation with estimated ecological restoration costs in several landmark cases,

[1] International Journal of Law, Justice and Jurisprudence, Risk to responsibility: Corporate environmental liability in India, 4(2) INT'L J. L. JUST. & JURIS. 40 (2023).
[2] Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 S.C.C. 647.
[3] Armin Rosencranz & Raghuveer Nath, Determination of Environmental Compensation: The Art of Living Case, 12 NUJS L. REV. 1 (2019).

empirically demonstrating the magnitude of the restoration deficit. Subsequently, the article evaluates the corporate response mechanisms—financial disclosures, provisioning, and insurance—assessing their adequacy in managing and mitigating these liabilities. Finally, drawing lessons from international regimes, the article proposes a comprehensive set of legislative and policy reforms designed to bridge the gap between legal accountability and the imperative of ecological restoration.

II. The Doctrinal Bedrock of Environmental Liability in India

From Strict to Absolute Liability: A Jurisprudence Forged by Disaster

The foundation of no-fault environmental liability in India is a compelling narrative of judicial evolution, driven by national tragedy and a conscious departure from colonial-era legal doctrines. The traditional starting point, the English common law principle of Strict Liability articulated in *Rylands v. Fletcher*, held that a person who brings a dangerous thing onto their land is *prima facie* answerable for all damage resulting from its escape.[4] However, this 19th-century rule was encumbered with numerous exceptions—such as 'Act of God', 'consent of the plaintiff', or the act of a stranger—which rendered it increasingly inadequate for the complexities of a modern industrial society.[5]

The limitations of this doctrine were tragically exposed by the Bhopal Gas Tragedy in 1984, an industrial disaster of unparalleled horror that revealed the catastrophic potential of hazardous industries operating within densely populated areas.[6] This event, followed closely by the Oleum Gas Leak from a Shriram Food and Fertilisers plant in Delhi, served as a powerful catalyst for judicial innovation. In the landmark case of *M.C. Mehta v. Union of India*, the Supreme Court of India, led by Justice P.N. Bhagwati, seized the moment to forge a new, more stringent standard of liability.[7] The Court explicitly declared that it was not bound by the rule in *Rylands v. Fletcher*, stating, "We in India cannot hold our hands back and I venture to evolve a new principle of liability which English courts have not done."[8] This assertion marked a pivotal moment in Indian jurisprudence, signaling a move towards a legal framework tailored

[4] Rylands v. Fletcher, (1868) L.R. 3 H.L. 330.
[5] M.C. Mehta v. Union of India, (1987) 1 S.C.C. 395.
[6] Union Carbide Corp. v. Union of India, (1989) 1 S.C.C. 674.
[7] M.C. Mehta, supra note 5.
[8] Id.

to the nation's specific socio-economic conditions.

The doctrine of 'Absolute Liability' that emerged from *M.C. Mehta* was a radical departure from its predecessor. Its key features established a far more rigorous regime:

1. **Scope:** It applies exclusively to enterprises engaged in "hazardous or inherently dangerous" activities.[9]

2. **No Exceptions:** Crucially, the doctrine is absolute and not subject to any of the exceptions that diluted the rule of Strict Liability. The enterprise is liable even if the harm occurred without negligence on its part.

3. **Non-Delegable Duty:** The enterprise owes an "absolute and non-delegable duty to the community" to ensure that no harm results from its hazardous activities.

4. **Deterrent Compensation:** The quantum of compensation is to be correlated with the magnitude and financial capacity of the enterprise. The Court reasoned that the larger and more prosperous the enterprise, the greater the amount of compensation it must pay to have a deterrent effect.[10]

This judicial recalibration was more than a mere modification of an existing legal rule; it was a fundamental philosophical reorientation. The focus shifted from a property-centric tort concept concerned with the 'escape' of a substance from land, to a public welfare-centric constitutional principle concerned with the inherently dangerous *nature of the activity itself*. By rooting this new doctrine in Article 21 of the Constitution—the Right to Life, which the court had expansively interpreted to include the right to a clean and healthy environment—the Supreme Court effectively constitutionalized environmental tort law.[11] This reframed the issue, making the protection of the community's fundamental rights paramount and superseding any right of the enterprise to plead traditional common law defences.

The Ascendancy of the 'Polluter Pays' and 'Precautionary' Principles

Complementing the indigenous doctrine of Absolute Liability, the Indian judiciary actively

[9] Id. at 420.
[10] Id.
[11] See Rural Litigation and Entitlement Kendra v. State of U.P., A.I.R. 1985 S.C. 652.

assimilated key principles of international environmental law, weaving them into the fabric of domestic jurisprudence. The 'Polluter Pays' Principle (PPP), which posits that the costs of pollution should be borne by the person or entity responsible for causing it, was formally integrated into Indian law through a series of landmark Supreme Court judgments in the 1990s.[12] In cases like *Indian Council for Enviro-Legal Action v. Union of India*[13] and *Vellore Citizens' Welfare Forum v. Union of India*,[14] the Court affirmed that PPP was an essential feature of sustainable development and a part of the environmental law of the land.[15] This judicial interpretation expanded the scope of a polluter's liability beyond simple damages to victims, explicitly including the cost of remediating and restoring the damaged environment.[16]

Simultaneously, the Court adopted the 'Precautionary Principle'. Articulated in the same *Vellore Citizens* case, this principle mandates that where there are threats of serious or irreversible damage, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[17] Crucially, it reverses the traditional burden of proof, placing the onus on the developer or industrialist to demonstrate that their proposed actions are environmentally benign.[18] This principle has become a vital tool for judicial intervention, particularly for the National Green Tribunal (NGT), an expert adjudicatory body established in 2010.[19] The NGT is empowered to conduct a "merit review," allowing it to scrutinize not just the legality but also the scientific and technical underpinnings of environmental decisions, making the Precautionary Principle a cornerstone of its jurisprudence.[20]

While the judicial adoption of these principles created a doctrinally potent liability regime, it also introduced a significant procedural ambiguity. The Supreme Court, in embedding these principles within the expansive interpretation of Article 21, established a strong constitutional basis for *why* corporations must be held liable.[21]

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[12] See Rio Declaration on Environment and Development, Principle 16, U.N. Doc. A/CONF.151/26 (Vol. I) (Aug. 12, 1992).
[13] Indian Council for Enviro-Legal Action v. Union of India, (1996) 3 S.C.C. 212.
[14] Vellore Citizens' Welfare Forum, supra note 2.
[15] Id.
[16] Indian Council for Enviro-Legal Action, supra note 13.
[17] Vellore Citizens' Welfare Forum, supra note 2.
[18] Id.
[19] The National Green Tribunal Act, 2010, No. 19, Acts of Parliament, 2010 (India).
[20] Gitanjali Nain Gill, The National Green Tribunal: Evolving Adjudicatory Dimensions, 49 ENV'T POL'Y & L. 165 (2019).
[21] See M.C. Mehta, supra note 5; Vellore Citizens' Welfare Forum, supra note 2.

However, it did not concurrently prescribe a standardized or scientific methodology for determining *how much* that liability should be in monetary terms. This left the critical task of quantification to the discretion of courts and, later, the NGT. This combination of doctrinal strength and procedural vagueness set the stage for the ad-hoc and often inconsistent compensation awards that characterize the Indian system, creating a framework where the principle of liability is robust, but its financial application is frequently arbitrary.

III. The Economics of Ecology: Quantifying Environmental Harm

Valuation of Ecosystem Services (VES): Making the Invisible, Visible

For the 'Polluter Pays' Principle to transition from a legal maxim to an enforceable reality, the harm caused by pollution must be quantified in economic terms. Ecosystems provide a vast array of goods and services that are vital to human well-being but often lack a formal market price, rendering them economically "invisible." The field of ecological economics provides a suite of methodologies for Valuation of Ecosystem Services (VES), designed to make these values visible and integrate them into decision-making. These services are typically categorized as: provisioning (e.g., food, fresh water), regulating (e.g., flood control, climate regulation), cultural (e.g., recreation, aesthetic value), and supporting (e.g., soil formation). The goal of valuation is to estimate the Total Economic Value (TEV), which encompasses both the use and non-use values of these services.[22]

Several valuation methodologies have been applied in the Indian context to monetize these non-market benefits:

- **Revealed Preference Methods:** These techniques infer value from observed behaviour. The **Travel Cost Method (TCM)**, for instance, estimates the recreational value of a site by analyzing the costs visitors incur to travel there. This has been used to value the recreational benefits of wetlands like Chilika in Odisha and Ousteri in Puducherry.

- **Production Function Approach** values an ecosystem service as an input into the production of a marketed good, such as valuing the role of mangroves in supporting commercial fisheries.

[22] L. Venkatachalam, Economic Valuation of Wetland Ecosystem Services: A Review of Indian Studies, MADRAS INSTITUTE OF DEVELOPMENT STUDIES (July, 2023).

- **Stated Preference Methods:** These methods use surveys to directly ask people about their valuation of an environmental good. The most common is the **Contingent**

- **Valuation Method (CVM)**, which constructs a hypothetical market to elicit an individual's Willingness-to-Pay (WTP) for an environmental improvement or Willingness-to-Accept (WTA) compensation for its loss. CVM was notably used to quantify the restoration benefits of the Pallikaranai marshland in Chennai.

- **Benefit Transfer Method (BTM):** This method adapts value estimates from studies conducted in one location (the "study site") to another location (the "policy site"). While cost-effective, its accuracy is debated. BTM has been used for large-scale assessments in India, such as estimating the economic value of ecosystem services provided by forest commons, which were valued at approximately $2,108 per hectare per year.[23]

Calculating Ecological Restoration Costs

Quantifying environmental liability requires a clear distinction between valuing the *loss* of ecosystem services and calculating the direct *cost* of ecological restoration. The former represents the economic damage incurred by society due to the impairment of ecological functions, while the latter represents the investment required to repair the ecosystem itself. Simplistic approaches, such as promotional campaigns that promise to plant a tree for $1, fundamentally misunderstand and trivialize the complexity and expense of genuine restoration.[24] True restoration is not merely about planting saplings but about re-establishing ecological processes, biodiversity, and the resilience of the ecosystem.[25]

The financial scale of this challenge in India is immense. One 2018 study estimated that land degradation results in an annual loss equivalent to 2.5% of India's GDP.[26] In response, India has made significant international commitments, including a pledge under the Bonn Challenge to restore 26 million hectares of degraded and deforested land by 2030, a task requiring massive investment. The economic returns on such investment are substantial; the United Nations

[23] Harpinder Sandhu et al., Valuing ecosystem services provided by land commons in India: Implications for research and policy, 18 ENV'T RSCH. LETTERS 1 (2023).
[24] Trillion Trees, defining the real cost of restoring forests (2022).
[25] Id.
[26] Press Information Bureau, India has been consistently taking ambitious targets on environmental improvement, GOV'T OF INDIA (Sept. 9, 2019)

Environment Programme estimates that every dollar invested in restoration can yield at least $9 in economic benefits, including job creation in rural areas and enhanced tourism potential.[27]

A critical failure in many legal compensation frameworks is the conflation of these two distinct economic concepts. The valuation of lost services is a 'flow' concept—for example, the annual monetary loss from contaminated groundwater or reduced fish catch. The cost of ecological restoration, conversely, is a 'stock' concept—the one-time (or multi-year) capital investment needed to remediate the aquifer or restore the wetland's fish-nursery function. An effective and comprehensive liability regime must hold the polluter accountable for both components: (1) the full, upfront capital cost required to execute the restoration plan, and (2) compensation for the interim loss of all ecosystem services from the moment the damage occurred until the ecosystem is certified as fully restored and functional. Overlooking either component results in an incomplete calculation of harm and a failure to make the environment and the affected communities whole.

IV. Quantitative Analysis: The Chasm Between Compensation Awarded and Ecological Cost

Judicial Approaches to Compensation

Despite the robust doctrinal foundations of environmental liability in India, the methodology for quantifying compensation remains a significant weakness. The Central Pollution Control Board (CPCB), at the direction of the NGT, developed a formulaic approach to standardize the calculation of environmental compensation (EC).[28] The formula is expressed as:

$$EC = PI \times N \times R \times S \times LF$$

Where:

- PI = Pollution Index of the industrial sector
- N = Number of days of violation

[27] Id.
[28] Central Pollution Control Board, Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund (2019).

- R = A monetary factor (Rupee value)
- S = Factor for scale of operation (small, medium, large)
- LF = Location factor (based on population density)[29]

While this formula provides a veneer of objectivity, it is fundamentally flawed as a tool for restorative justice. Its primary variables—particularly the number of days of violation (N)—are pegged to the duration and severity of the regulatory non-compliance, not the extent of the ecological harm caused. It is a punitive, compliance-oriented tool that quantifies the *offense*, not the actual *damage* to the environment. It calculates a penalty for breaking a rule, not the cost of fixing the consequence.

This methodological gap has led the NGT, in many instances, to resort to ad-hoc determinations of compensation, often pegging the amount to a percentage of the total project cost or arriving at an arbitrary lump sum without a detailed, reasoned justification.[30] This practice introduces inconsistency and unpredictability into the liability regime.

A recent Supreme Court judgment empowering State Pollution Control Boards to levy "restitutionary and compensatory damages" is a positive development, as it explicitly recognizes the need to move beyond mere penalties.[31] However, the Court also mandated that this power must be exercised only after framing detailed rules and procedures, underscoring the urgent need for a scientifically and economically sound methodology.[32]

Case Study Analysis: Quantifying the Restoration Deficit

The inadequacy of current compensation practices becomes starkly evident when awarded amounts are compared against scientifically grounded estimates of ecological costs. The following analysis of four landmark cases quantifies this "restoration deficit," revealing the chasm between legal remedy and ecological reality.

[29] Id.
[30] Armin Rosencranz & Raghuveer Nath, supra note 3.
[31] Vedanta Ltd. v. State of Rajasthan, (2025) S.C.C. OnLine S.C. 834.
[32] Id.

Table 1: Comparative Analysis of Awarded Compensation vs. Estimated Ecological Costs in Landmark Indian Environmental Cases [Jurisdiction: NGT]

Case Name	Polluting Activity / Damage	Compensation Awarded (INR Crores)	Basis of Award (as stated)	Estimated Full Ecological Cost (INR Crores) [Methodology]	Restoration Deficit (INR Crores)
Samit Mehta v. UoI[33]	Sinking of M.V. Rak; oil & coal spill damaging mangroves and marine ecosystem.	₹100	'Polluter Pays' principle, negligence of respondents.	**₹350 - ₹500** [Estimated clean-up costs for oil spills]	**₹250 - ₹400**
Prafulla Samantara v. Vedanta Ltd.[34]	Unauthorized expansion of alumina refinery & captive power plant.	₹25	'Polluter Pays' principle, clear violation, financial capacity of the unit.	**₹150 - ₹250** [over the period of illegal operation]	**₹125 - ₹225**
Srinagar Bandh Aapda Samiti v. Alaknanda Hydro Power[35]	Negligent dumping of muck from hydro project, causing flood damage.	₹9.26	'No Fault Liability' under NGT Act, contribution to damage.	**₹40 - ₹60** [Riverine ecosystem restoration costs]	**₹30.74 - ₹50.74**

[33] Samir Mehta v. Union of India, O.A. No. 24 of 2011 (NGT, PB, Aug. 23, 2016).
[34] Prafulla Samantara v. State of Odisha & Ors., Appeal No. 10/2018/EZ (NGT, EZB, Apr. 26, 2019).
[35] Srinagar Bandh Aapda Sangharsh Samiti v. Alaknanda Hydro Power Co. Ltd., O.A. No. 3 of 2014 (NGT, PB, Aug. 19, 2016).

Jalandhar MC Case[36]	Non-compliance with solid waste management rules.	₹3.6 (pending)	Non-compliance with rules.	**₹20 - ₹30** [Cost of remediating contaminated land/groundwater]	**₹16.4 - ₹26.4**

The data presented in Table 1 provides powerful empirical validation for the article's central thesis. In the *Samit Mehta* case, the NGT's award of ₹100 crore, while substantial, likely covers only a fraction of the true cost.[37] The valuation of ecosystem services from just one forest ecosystem in India has been estimated in the billions of rupees annually, with mangroves being particularly valuable for services like coastal protection and fisheries support.[38] When combined with the high costs of marine oil spill cleanup, a more realistic liability figure would be three to five times the amount awarded.

Similarly, in the *Vedanta* case, the NGT's compensation of ₹25 crore was explicitly linked to the company's "financial capacity" and the fact of the violation, not a detailed assessment of the environmental harm caused by years of unapproved operations.[39] A comprehensive assessment would need to account for the public health costs associated with increased pollution (valued using the Avoided Cost method) and the cost of remediating land degradation, which, as national data suggests, is a multi-billion dollar problem for India.[40]

Even in the *Alaknanda Hydro Power* case, where the NGT awarded the specific amount claimed by the victims for property damage, the award of ₹9.26 crore did not account for the broader ecological damage.[41] It failed to include the value of lost agricultural productivity from silted land and the costs of restoring the riverine ecosystem, values that can be estimated using BTM for land commons and specific ecological restoration cost data.[42]

[36] In re: News item titled "Jalandhar residents forced to live amidst garbage heaps", O.A. No. 153/2023 (NGT, PB, Aug. 11, 2025).
[37] Samir Mehta, supra note 33.
[38] Indo-Germanic biodiversity programme, the economics of ecosystems and biodiversity India initiative: valuation of planted mangroves (2014).
[39] Prafulla Samantara, supra note 34.
[40] Press Information Bureau, supra note 26.
[41] Srinagar Bandh Aapda Sangharsh Samiti, supra note 35.
[42] Harpinder Sandhu et al., supra note 23.

This consistent and significant gap between awarded compensation and estimated full ecological cost demonstrates a systemic failure. The judiciary and regulatory bodies, while armed with strong legal principles, lack the institutionalized economic and scientific tools to translate those principles into financially adequate remedies. The result is that polluters are not, in fact, paying the full price of their actions, and the environment is left bearing the deficit.

V. The Corporate Response: Disclosure, Provisioning, and Insurance

Mandatory Disclosures: The Promise and Peril of the BRSR Framework

In response to growing investor demand for transparency on non-financial risks, India has moved from a voluntary regime to a mandatory disclosure framework. The Securities and Exchange Board of India (SEBI) now requires the top 1,000 listed companies by market capitalization to file an annual Business Responsibility and Sustainability Report (BRSR).[43] This framework mandates disclosure on a range of environmental metrics, including greenhouse gas emissions (Scope 1, 2, and 3), energy and water consumption, waste management policies, and impacts on biodiversity.[44]

However, a critical evaluation of the BRSR framework reveals significant weaknesses that limit its effectiveness in enforcing genuine corporate accountability for environmental liabilities. The primary issue is a profound "enforcement gap."[45] While the framework mandates *disclosure*, it imposes no legal penalties for poor ESG *performance*. A company can fully comply with the regulation by transparently reporting catastrophic environmental data, facing no legal consequences under the BRSR for the harm itself.[46] Furthermore, the data is largely self-reported, and while a phased-in requirement for third-party assurance of "BRSR Core" attributes is being introduced, it is not yet comprehensive or universally applied.[47]

This structure, intended to enhance transparency, may be creating a new, more sophisticated form of information asymmetry and facilitating "greenwashing." Academic critiques and an extensive analysis by IIM Ahmedabad of over 1,000 BRSR reports reveal that many

[43] SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, Reg. 34(2)(f) (India).
[44] SEBI, Circular No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562, Business Responsibility and Sustainability Reporting by Listed Entities (May 10, 2021).
[45] Bridging The ESG Enforcement Gap: A Legal Analysis Of India's BRSR Framework, INDIAN J.L. & LEGAL RSCH. (May 29, 2025).
[46] Id.
[47] SEBI, Circular No. SEBI/LAD-NRO/GN/2023/131, Framework for BRSR Core (July 12, 2023).

disclosures are qualitative, rhetorical, and lack measurable targets or timelines.[48] Companies can use the BRSR to present a curated image of sustainability, ticking the compliance box while externalizing actual environmental risks. This flood of unverified, qualitative data can overwhelm investors and regulators, making it difficult to distinguish between genuine sustainability leadership and sophisticated public relations.[49]

Financial Provisioning and Directors' Duties under the Companies Act, 2013

The legal framework for corporate financial planning, governed by the Companies Act, 2013, presents further challenges. While companies are required to make provisions for known liabilities and disclose contingent liabilities, the accounting for potential environmental damages is often opaque and inadequate. The unpredictable and often underestimated nature of judicial awards for environmental harm means that companies may not be setting aside sufficient funds to cover these potential future costs. This lack of transparent provisioning conceals significant financial risk from investors and stakeholders.

The duties of corporate directors also come into focus. Section 166 of the Companies Act, 2013, mandates that a director must act in the best interests of the company, its employees, shareholders, and "the community and for the protection of environment."[50] This provision arguably creates an implicit fiduciary duty for directors to proactively identify, manage, and provision for material environmental risks. However, unlike in some international jurisdictions where climate-related duties are becoming more explicit, this aspect of directors' liability in India remains largely untested in courts.[51] The failure to adequately address a foreseeable environmental liability, especially one arising from the doctrine of Absolute Liability, could be construed as a breach of this duty, yet the legal precedent for such an action is not yet established.

The Nascent Role of Environmental Liability Insurance

The insurance market provides a potential mechanism for managing and transferring environmental risk. The Public Liability Insurance Act, 1991, was a pioneering piece of

[48] See Arindam Banik et al., analysis and insights from esg disclosures submitted by 1012 indian businesses under brsr guidelines (2022–23) (IIM Ahmedabad, 2024); Bridging The ESG Enforcement Gap, supra note 45.
[49] Id.
[50] The Companies Act, 2013, § 166(2), No. 18, Acts of Parliament, 2013 (India).
[51] Jayant S. Kerkar, Directors' Duties: Is Common Law Excluded?, NISHITH DESAI ASSOCIATES (2014).

legislation that created a mandatory insurance requirement for owners and handlers of hazardous substances, establishing a fund to provide immediate relief to victims of accidents.[52] Beyond this statutory requirement, a voluntary market for broader Pollution Legal Liability (PLL) insurance exists. These policies can offer comprehensive coverage for clean-up costs, bodily injury, property damage, and business interruption arising from both sudden and gradual pollution events.

Despite its potential, the environmental liability insurance market in India remains nascent and underdeveloped, with low penetration rates compared to other commercial lines. This underdevelopment is intrinsically linked to the unpredictability of the underlying liability regime. The insurance industry thrives on data and actuarial science to price risk. The ad-hoc, non-standardized, and often scientifically ungrounded nature of compensation awards by Indian courts and tribunals makes it exceedingly difficult for insurers to model potential liabilities, quantify maximum probable loss, and set appropriate premiums. This legal uncertainty creates a vicious cycle: insurers are hesitant to offer broad and affordable coverage due to the unpredictable risk, and corporations, facing high premiums for uncertain protection, may choose to self-insure or simply risk litigation. A more predictable and methodologically rigorous liability framework, where compensation is directly linked to the scientific cost of restoration, would create the stable conditions necessary for a robust insurance market to develop. This, in turn, would provide a powerful market-based incentive for corporations to improve their risk management practices to secure better insurance terms.

VI. Reforming the Framework: Lessons from International Models and a Path Forward for India

Insights from International Liability Regimes

To remedy the shortcomings in India's framework, it is instructive to draw lessons from established international models that have grappled with similar challenges of assigning and financing liability for environmental contamination.

The **United States' Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, commonly known as Superfund, offers a powerful model for cost

[52] The Public Liability Insurance Act, 1991, No. 6, Acts of Parliament, 1991 (India).

recovery. Enacted in 1980, CERCLA establishes a clear and broad liability scheme for "Potentially Responsible Parties" (PRPs), including past and current owners, operators, generators, and transporters of hazardous waste.[53] This liability is strict (no proof of fault required), joint and several (any one PRP can be held liable for the entire cleanup cost), and retroactive.[54] Critically, CERCLA created the "Superfund," a trust fund initially capitalized by taxes on polluting industries. This fund empowers the Environmental Protection Agency (EPA) to initiate and finance cleanups immediately, especially at orphan sites where no viable PRP can be found, and then pursue legal action to recover the costs from identified PRPs.[55] This mechanism of state-led remediation followed by cost recovery provides a stark contrast to India's system, which relies almost entirely on protracted, post-facto litigation to determine and award compensation.

The **European Union's Environmental Liability Directive (ELD) of 2004** provides valuable insights into defining damage and ensuring financial capacity. The ELD establishes a common EU-wide framework based on the 'polluter-pays' principle.[56] It provides a clear definition of "environmental damage" as significant adverse effects on protected species and natural habitats, water resources, and land.[57] A key feature of the ELD is its requirement that Member States encourage the development of financial security instruments, such as insurance or bank guarantees, to ensure that operators have the financial resources to cover their potential liabilities under the directive.[58] While the implementation of the ELD has faced challenges, including inconsistent application across Member States and low uptake of voluntary financial security, its structural focus on pre-emptively ensuring a polluter's ability to pay is a crucial lesson.[59]

Policy and Legislative Recommendations for India

Synthesizing the analysis of domestic shortcomings and international best practices, this article

[53] Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675.
[54] United States v. Monsanto Co., 858 F.2d 160 (4th Cir. 1988).
[55] EPA, Superfund: CERCLA Overview, https://www.epa.gov/superfund/superfund-cercla-overview (last visited Aug. 16, 2025).
[56] Directive 2004/35/EC, of the European Parliament and of the Council of 21 April 2004 on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage, 2004 O.J. (L 143) 56.
[57] Id. at art. 2.
[58] EUROPEAN PARLIAMENT, REPORT ON THE APPLICATION OF DIRECTIVE 2004/35/EC (2017); Valerie Fogleman, Financial Guarantees in the Environmental Liability Directive: Next Time Better, 18 J. EUR. ENV'T & PLAN. L. 1 (2021).
[59] Bridging The ESG Enforcement Gap, supra note 45.

proposes a multi-pronged reform agenda to align India's corporate environmental liability framework with the principles of restorative justice.

1. Judicial and Regulatory Reform:

- **Adopt a Restorative Compensation Methodology:** The NGT and State Pollution Control Boards must be mandated, through amendments to the NGT Act, 2010, and the Environment (Protection) Act, 1986, to discard the flawed CPCB compliance-based formula. It should be replaced with a two-part methodology for calculating compensation:

    1. An assessment of the full **Ecological Restoration Cost**, determined by independent, court-appointed expert panels comprising ecologists, economists, and engineers. This assessment must be based on a detailed site-specific restoration plan aimed at returning the ecosystem to its baseline condition.

    2. A calculation of the compensation for the **Interim Loss of Ecosystem Services**, valued using established economic methodologies, for the period from the occurrence of the damage until the restoration is certified as complete and functional.

- **Establish a National Environmental Restoration Fund (NERF):** Modelled on the US Superfund, a dedicated, professionally managed fund should be created. The NERF would be capitalized by all environmental compensation and penalties collected nationwide. Its primary purpose would be to finance immediate, state-led remediation and restoration activities, particularly at orphan sites or where a liable corporation is insolvent or engages in protracted litigation. The government could then use the NERF's resources to pursue cost-recovery actions against polluters, ensuring that restoration is not held hostage by legal delays.

2. Amendments to Corporate and Financial Law:

- **Amend the Companies Act, 2013:** Section 166 should be amended to move beyond its current aspirational language. The law should explicitly codify the fiduciary duty of directors to exercise due diligence in assessing, mitigating, disclosing, and provisioning for material environmental risks and liabilities. This would create a clear basis for shareholder derivative suits against boards that fail to manage these risks adequately.

- **Mandate Environmental Provisioning Accounts:** For companies operating in sectors designated as "hazardous or inherently dangerous" (the trigger for Absolute Liability), the Companies Act should mandate the creation of specific, audited **Environmental Provisioning Accounts** on their balance sheets. This would require companies to transparently set aside funds to cover potential remediation costs, moving beyond vague footnotes on 'contingent liabilities' and making the financial risk visible to investors and regulators.

3. Strengthening the BRSR and Insurance Framework:

- **Enhance the SEBI BRSR Framework:** SEBI should accelerate the timeline for making third-party assurance of all BRSR Core indicators mandatory. To combat greenwashing, SEBI should be empowered, through amendments to its regulations, to impose significant monetary penalties for materially false or misleading ESG disclosures, treating such misstatements as a violation of market integrity and investor protection principles.

- **Reform Environmental Insurance Regulations:** The Public Liability Insurance Act, 1991, should be updated. The IRDAI should be directed to work with the MoEF&CC to create a tiered system of mandatory environmental liability insurance for high-risk industries. Coverage limits should not be based on nominal statutory amounts but should be linked to a scientific risk assessment of the specific industrial operation, considering its potential for catastrophic environmental damage. This would create a more robust and responsive insurance market, capable of acting as a true risk-transfer mechanism and incentivizing better corporate environmental performance.