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ENVIRONMENTAL LIABILITY ALLOCATION - PRINCIPLES

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1. INTRODUCTION

The past year has witnessed several significant developments in fixing liability for climate and environmental harm, signalling a decisive shift from abstract notions of responsibility to concrete legal and financial accountability, even in areas as complex and contested as climate change. From California's proposed Polluters Pay Climate Superfund Act, which seeks to impose financial liability on major fossil fuel companies for climate-related damages (California State Legislature, 2025), to the landmark ruling of the Hamm Higher Regional Court in Saúl Luciano Lliuya v. RWE, affirming the proportional liability of major emitters for climate impacts (Hamm Higher Regional Court, 2025), the legal landscape is rapidly evolving. Parallel policy proposals, such as those advanced by Eurodad and the Global Alliance for Tax Justice advocating additional taxes on fossil fuel profits (Trilling, 2025), further reflect a growing consensus that the emphasis is no longer on achieving perfect certainty in attribution, but on ensuring that those who have contributed meaningfully to environmental degradation bear an enforceable share of the economic burden of its impacts.

While these contemporary developments appear novel, the concept of holding individuals accountable for environmental harm is not new. Early civilisations recognised rudimentary forms of environmental responsibility. Plato, in The Laws, suggested that those who polluted water sources should not only compensate for the damage but also restore the resource (Jowette, 2008). In ancient India, Kautilya's Arthashastra prescribed financial penalties for acts such as polluting public spaces and water bodies, with fines serving compensatory and deterrent purposes (Rangarajan, 1992). Roman law similarly developed principles of nuisance and liability for harmful acts affecting neighbouring property and community resources (Ibbetson, 2003). These early formulations, though limited in scope, reveal an enduring concern for regulating environmental harm through liability.

Environmental liability, however, began to take explicit legal shape during the Industrial Revolution, when large-scale industrial activity caused widespread pollution and harm to human health and property. Initially, liability was addressed through traditional tort law, focusing primarily on personal injury or property damage, with little recognition of harm to the environment as an independent legal interest. It was only in the mid-twentieth century, following major environmental disasters and increased scientific understanding of ecological damage, that environmental liability emerged as a distinct legal concept. The 1972 Stockholm Conference on the Human Environment marked a turning point, and the OECD's articulation of the Polluter Pays Principle in the same year provided a normative foundation for modern environmental liability regimes (United Nations, 1972).

This evolution found an early and influential expression in statutory frameworks such as the United States' Comprehensive Environmental Response, Compensation, and Liability Act, 1980 (CERCLA), the first law to expressly impose strict and retroactive liability for environmental contamination. Enacted against the backdrop of disasters such as Love Canal (USEPA & NYSDEC, 2013) and the inadequacy of existing legal remedies, CERCLA firmly established environmental liability as an independent and enforceable legal mechanism. The principles governing environmental liability have continued to expand and adapt in response to new forms of environmental harm. Against this backdrop, this column examines the principles underlying the allocation of environmental liability and their growing relevance in addressing contemporary environmental challenges.

2. NEED FOR ENVIRONMENTAL LIABILITY

Environmental liability allocation is essential for protecting the environment and human health by ensuring accountability for environmental harm. Natural resources such as air, water, land, and ecosystems are fundamental to life, and unchecked pollution can cause irreversible damage. By enforcing the polluter pays principle, environmental liability places the responsibility for prevention, control, remediation, and restoration on those who cause pollution, rather than shifting the burden to society or future generations. Importantly, it also serves as a tool of environmental justice by ensuring that communities affect-

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ed by pollution—often economically weaker and socially marginalized groups—receive compensation and legal protection instead of bearing the costs of harm they did not cause.

A central justification for environmental liability lies in the internalization of environmental costs. Industrial activities frequently generate pollution, resource depletion, and health hazards that disproportionately impact poorer communities living near industrial zones, landfills, or polluted water bodies. These harms are usually treated as external costs and excluded from the market price of goods. Environmental liability converts such external costs into internal costs by legally requiring industries to account for environmental damage, health impacts, and social consequences. As a result, expenses related to pollution control, waste management, cleanup, compensation, and environmental restoration become part of regular business operations, closely reflecting the polluter pays principle.

By internalizing environmental costs, environmental liability promotes fairness, deterrence, and sustainable development. Industries are encouraged to adopt cleaner technologies and safer production methods to minimize liability, thereby reducing environmental risks at the source. At the same time, when polluters pay the true cost of environmental damage, product prices better reflect their real social costs, preventing unfair competition based on environmentally harmful practices. This approach protects the public—especially economically weaker sections—from absorbing hidden costs of pollution and ensures that environmental protection is integrated into industrial decision-making, supporting both social justice and long-term environmental sustainability.

3. PRINCIPLES OF ENVIRONMENTAL LIABILITY

The principles of environmental liability allocation determine who should bear responsibility for environmental damage and how that responsibility is shared. The main principles are discussed below.

3.1 Polluter Pays Principle

The polluter pays principle is a foundational concept in environmental liability allocation, placing responsibility for environmental harm squarely on the person or industry that causes pollution. It requires polluters to bear the costs of preventing, controlling, and remedying environmental damage, ensuring that such burdens are not transferred to the public or the state. The principle emerged in response to the limitations of traditional fault-based liability systems, which proved inadequate for addressing widespread and long-term environmental harm. Its origins lie in economic theory of the 1960s (OECD, 1992), and it was formally articulated by the Organisation for Economic Co-operation and Development (OECD) in 1972 to promote efficient resource use through the internalization of environmental costs (United Nations, 1972). Subsequently, the principle gained international recognition through instruments such as the Stockholm Declaration (1972) and the Rio Declaration on Environment and Development (1992), marking its evolution from a policy guideline to a recognized legal norm.

Over time, the polluter pays principle has been incorporated into binding legal frameworks and judicial decisions across jurisdictions. In the European Union, it is enshrined in Article 191 of the Treaty on the Functioning of the European Union and underpins environmental liability directives. In the United States, legislation such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) gives effect to the principle by imposing cleanup costs on responsible parties. In India, the Supreme Court has firmly embedded the polluter pays principle within environmental jurisprudence, through its decisions in cases such as Indian Council for Enviro-Legal Action v. Union of India (1996) (1996 SCC (3) 212), where polluting industries were held liable for the full cost of remediation, and Vellore Citizens' Welfare Forum v. Union of India (1996) (1996 AIR SCW 3399), which recognized the principle as an essential component of sustainable development. Through these legal developments, the polluter pays principle has become a cornerstone of environmental liability allocation and a key instrument for ensuring environmental justice.

3.2 Precautionary Principle

The precautionary principle operates as an important principle of environmental liability allocation by allowing responsibility to be imposed even in the absence of complete scientific certainty regarding environmental harm. Where an activity poses a serious or irreversible risk to the environment, the principle requires the actor to take preventive measures in advance, and failure to do so may attract liability. A distinctive feature of this principle in the context of liability allocation is the shifting of the burden of proof. Instead of requiring affected communities or regulatory authorities to establish actual environmental damage, the onus is placed on the developer or industry to prove that the proposed activity is environmentally safe. This approach reflects the understanding that waiting for conclusive scientific evidence may result in irreversible harm. The principle originated in the German Vorsorgeprinzip of the 1970s (ERPS, 2015), which emphasized anticipatory action, and gained international recognition through Principle 15 of the Rio Declaration on Environment and Development (1992).

As a principle of environmental liability allocation, the precautionary principle shifts environmental governance from a reactive, damage-based model to a preventive framework that prioritizes risk avoidance. It has been widely incorporated into national and international legal systems, particularly in areas involving environmental and public health risks. In the European Union, it forms a core component of environmental policy and guides regulatory decision-making in fields such as chemical control and food safety (European Commission, 2022). However, its implementation and codification vary among Member States, leading in practice, to differing interpretations and outcomes. For example, Sweden applies a comparatively "strong" version of the precautionary principle. Under Swedish law, the burden of proof rests with the operator, and regulatory action may be triggered by a risk of "damage" as such, rather than being limited to cases involving

a risk of "irreversible damage," which is often the threshold applied elsewhere (Chapter 2, s. 3 p. 2, Swedish Environmental Code). In India, the Supreme Court has expressly adopted the precautionary principle as part of environmental jurisprudence in Vellore Citizens' Welfare Forum v. Union of India (1996) (AIR 1996 SC 2715), where the Court held that the burden of proof lies on the industry to demonstrate environmental safety. This position was reinforced in A.P. Pollution Control Board v. Prof. M.V. Nayudu (1999) (AIR 1999 SC 812), which emphasized preventive action in situations of scientific uncertainty.

3.3 Strict Liability Principle

The principle of strict liability plays a significant role in environmental liability allocation by allowing responsibility to be imposed without the need to prove fault, negligence, or intent. Under this principle, when an inherently dangerous or hazardous activity causes environmental harm, the operator or person in control of the activity is held liable irrespective of the care taken. The rationale behind strict liability is that certain activities, by their very nature, pose a high risk to the environment and public safety, and those who undertake such activities must bear the consequences of any resulting damage. This principle evolved to address the inadequacy of fault-based liability systems in situations where environmental harm occurs despite the absence of negligence.

The origins of strict liability can be traced to English common law, particularly the landmark decision in Rylands v. Fletcher (1868) (LR 3 HL 330), where the House of Lords held that a person who brings onto their land something likely to cause mischief if it escapes must keep it at their peril and is liable for any damage caused by its escape. This marked a decisive shift away from fault-based liability and laid the foundation for holding operators accountable for harm arising from hazardous substances and activities. Internationally, strict liability has been widely incorporated into environmental law. In the United States, statutes such as the CERCLA (1980) impose strict liability on parties responsible for hazardous waste contamination. Similarly, strict liability is reflected in environmental liability regimes and international conventions addressing oil pollution and nuclear damage, including the International Convention on Civil Liability for Oil Pollution Damage (1969). Through these frameworks, strict liability ensures effective compensation and environmental protection by placing responsibility on those best positioned to prevent harm and absorb the costs of environmental damage.

3.4 Absolute Liability Principle

The principle of absolute liability represents a more rigorous and advanced form of environmental liability than strict liability and is a distinctive contribution of Indian environmental jurisprudence. While strict liability may allow certain exceptions or defences, absolute liability permits none and imposes complete responsibility on industries engaged in hazardous or inherently dangerous activities for any harm caused. This principle was evolved by the Supreme Court of India in the landmark case M.C. Mehta v. Union of India (1987 AIR 1086, 1987 SCR (1) 819) (Oleum Gas Leak Case, 1987), where the Court held that such enterprises owe an absolute and non-delegable duty to the community to ensure that no harm results from their operations. Unlike strict liability, which is rooted in common law and is subject to limitations, absolute liability extends the scope of responsibility to cover compensation to victims and also the full cost of environmental damage and remediation, thereby reinforcing a stronger commitment to public safety and environmental protection in the context of modern industrial hazards.

3.5 The Public Trust Doctrine

The Public Trust Doctrine is a significant principle applicable to environmental liability, based on the idea that certain natural resources—such as air, water, forests, rivers, and coastal areas—are held by the State in trust for the benefit of the public. Under this doctrine, the State is not the absolute owner of natural resources but a trustee with a fiduciary duty to protect, preserve, and manage them for present and future generations. Consequently, environmental liability may arise not only from direct harm caused by the State's actions but also from its failure to regulate, supervise, or prevent environmental damage by private actors. When public authorities neglect their statutory or constitutional duties, especially in permitting environmentally harmful activities or failing to enforce environmental laws, the State can be held accountable for breach of its public trust obligations.

The application of the public trust doctrine to environmental liability has been strongly affirmed through judicial decisions, particularly in India. In M.C. Mehta v. Kamal Nath (1997) ((1997) 1 SCC 388), the Supreme Court explicitly recognized the public trust doctrine and held that the government is duty-bound to protect natural resources and cannot permit their use for private or commercial purposes if it results in environmental degradation. The judicial pronouncements, read alongside constitutional mandates such as Article 48A and Article 51A(g), establish that failure of the State to act as a responsible trustee can give rise to environmental liability. Thus, the public trust doctrine serves as a vital mechanism for holding governments accountable and integrating environmental protection into the core functions of governance.

4. PRINCIPLES OF CIVIL LIABILITY ALLOCATION APPLICABLE TO ENVIRONMENTAL LIABILITY

Environmental harm often involves complex factual situations, multiple actors, and overlapping responsibilities, making the allocation of civil liability a crucial aspect of environmental governance. To address these complexities, environmental law draws upon general civil liability allocation principles such as joint and several liability, equitable allocation, proportional liability, etc. These principles provide legal frameworks for determining how responsibility for environmental damage is shared among different actors, ensuring effective compensation, timely remediation, and fairness in burden-sharing.

4.1 Joint, Several and Joint & Several Liability

In the context of environmental liability allocation, the concepts of joint, several, and joint & several liability determine how responsibility for environmental harm is shared among multiple polluters or responsible parties. These doctrines are particularly important where contamination is caused by cumulative or overlapping activities, and where prompt remediation is a regulatory priority. The choice of liability model directly affects enforcement strategies, risk allocation, and post-remediation contribution claims between responsible parties.

Joint liability treats multiple parties as collectively responsible for a single environmental obligation. Each party is legally liable for the full extent of the environmental harm, but the obligation is discharged once remediation or compensation is completed by any one of them. Procedurally, enforcement actions often require that all jointly liable parties be brought before the authority or court together. While this approach reflects the collective nature of environmental harm, it may hinder effective enforcement if one or more responsible parties are insolvent, untraceable, or otherwise unable to participate in proceedings.

Under several liability, environmental responsibility is apportioned among parties according to defined criteria, such as degree of fault, volume of pollutants contributed, or duration of involvement. Each party is liable only for its allocated share of cleanup costs or damages, and compliance by one party has no impact on the obligations of others. This model promotes fairness and proportionality but can create enforcement challenges, particularly where environmental harm is indivisible or where some parties lack the resources to meet their share, potentially resulting in under-remediation.

Joint and several liability represents a hybrid approach and is widely adopted in environmental regulation due to its effectiveness in ensuring remediation. Each responsible party is individually liable for the entire environmental harm, while also being collectively liable with others. Regulators or claimants may pursue any one party, multiple parties, or all parties together for full recovery. This maximizes the likelihood that environmental damage will be promptly addressed, leaving issues of equitable cost-sharing to be resolved through contribution or indemnity claims among the responsible parties.

In environmental law, joint and several liability is often preferred where harm is indivisible, the polluters' contributions are difficult to quantify, or public health and ecological protection demand immediate action. Although it may result in one party bearing a disproportionate initial burden, this approach prioritizes environmental remediation while preserving private rights of recourse between parties to achieve a more equitable final allocation of liability.

4.2 Proportionate and Equitable Liability

Proportionate liability in environmental law is based on allocating responsibility according to a party's actual contribution to the overall environmental harm. Each polluter is assigned a share of liability that reflects factors such as the nature and extent of its activities, the quantity and toxicity of pollutants released, and the duration of its involvement (Gilead et al., 2013). This approach is grounded in fairness, as it avoids imposing the entire burden of remediation on a single party when harm has resulted from multiple sources. Importantly, in a proportionate liability framework, if one responsible party is unable to meet its share due to insolvency or other incapacity, the remaining parties' liabilities may be reassessed and redistributed in proportion to their contribution to the total harm, ensuring that environmental remediation is not stalled.

Equitable liability complements proportionality by allowing courts or regulators to adjust liability allocation to achieve a just outcome in light of the circumstances of each case. While proportional contribution remains the guiding principle, equity permits flexibility where strict apportionment would undermine effective remediation or lead to unjust results. This stands in contrast to several liability, where each party's share is fixed and cannot be increased even if another party defaults (Staab v. Diocese of St. Cloud) (1575 A12 1972 (2013)). Equitable and proportionate allocation, therefore strikes a balance between fairness and effectiveness: it ensures that each party is held responsible for its role in causing environmental damage, while also allowing liability to be redistributed where necessary to secure cleanup and restoration in the public interest.

4.3 Vicarious Liability

Vicarious liability, though applied more selectively than strict or absolute liability, plays an important supporting role in addressing environmental harm. The principle operates where a legally recognised relationship exists—such as employer–employee, principal–agent, or contractor–subcontractor—and the environmentally harmful act occurs in the course of employment or the performance of assigned duties. In such cases, liability is attributed not only to the individual who directly caused the harm but also to the person or entity exercising control or authority over that individual. This reflects the understanding that environmental damage often arises from organised industrial or commercial activities rather than isolated personal conduct.

In environmental contexts, vicarious liability ensures that organisations remain accountable for pollution or environmental damage caused by those acting on their behalf, even where the organisation did not directly engage in the wrongful act. By imposing responsibility at the institutional level, the principle discourages delegation of risky activities without adequate oversight and promotes better training, supervision, and compliance systems. Indian courts have implicitly recognised this approach by holding industries responsible for environmental harm arising from their operations (M.C. Mehta v Union of India ((1987) 1 SCC 395), Indian Council for Enviro-Legal Action v. Union of India, ((1996) 3 SCC 212), Vellore Citizens Welfare Forum v. Union of India, ((1996) 5 SCC 647)) while international regimes, such as under the U.S. Clean Water Act, similarly impose liability for violations committed by employees or contractors under a company's control (USEPA, 2002). Although vicarious liability does not displace strict or ab-

solute liability, it reinforces environmental protection by closing accountability gaps and preventing entities from evading responsibility through organisational structures.

5. ENVIRONMENTAL LIABILITY IN COMMON LAW VS CIVIL LAW SYSTEMS

Environmental liability principles operate differently under the two major legal systems in practice - common law systems and civil law systems. Countries that were once under British rule, such as India, generally follow the common law system, while most European countries adhere to the civil law system. The key distinction between these systems lies in the source and development of law. In common law systems, statutes coexist with judicial decisions, and court rulings themselves constitute a source of law. This enables courts to actively shape environmental liability principles through interpretation and precedent. As a result, principles such as absolute liability, strict liability, and the polluter pays principle have evolved through judicial creativity, allowing the law to adapt to new environmental challenges even in the absence of codified rules. For instance, principles such as the "polluter pays" were part of the law of the land in India through judicial pronouncements even before they were explicitly incorporated into some of the later statutes. This flexibility allows common law systems to respond more rapidly to environmental challenges.

In civil law systems, by contrast, the law is primarily codified, and legal certainty is achieved through comprehensive statutes and codes enacted by the legislature. Environmental liability principles in such systems derive their authority from formal legislative recognition rather than judicial innovation. Courts play a more restrained role, focusing on the application and interpretation of codified provisions. While this may appear less flexible, it ensures clarity, uniformity, and predictability in the enforcement of environmental liability.

6. CONCLUDING REMARKS

The existence of clear rules and guidelines governing environmental liability is essential for any society seeking to effectively address environmental harm and hold polluters accountable. However, the mere availability of laws and guidelines based on these principles is not sufficient; equal importance must be given to the manner in which these laws are implemented and to the institutional mechanisms that support their enforcement. It is often argued that law operates reactively by imposing liability only after environmental damage has occurred, whereas long-term environmental protection requires proactive societal action focused on prevention rather than remediation. While such proactive measures are undeniably crucial, the deterrent effect of legal consequences cannot be overlooked, as the prospect of liability plays a significant role in discouraging environmentally harmful conduct. Well-conceived principles, their effective incorporation into law, proper enforcement, and proactive societal engagement together form the foundation of a robust and effective environmental redress mechanism, ensuring long-term environmental protection.

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