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Ecological Justice-Based Environmental Criminal Law Policy: Balancing The Rights Of Nature And Human Rights From The Perspectives Of Indonesian And Indian Law

Asmariah Asmariah[1*] Universitas Pamulang, Indonesia
Bhanu Prakash Nunna[2] RV University, India

***Corresponding author:**
Asmariah, Pamulang University, Indonesia.
✉ asmariah.nazwa@gmail.comariah,

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Abstract

Background: Environmental degradation caused by pollution, deforestation, and biodiversity loss raises a fundamental question for criminal law: whose interests does environmental criminal law actually protect? This study examines the imbalance between the protection of human rights and the protection of ecological interests in environmental criminal law policy.
Objective: To analyze how environmental criminal law policy protects human rights and ecological interests in Indonesia and India and to compare both legal frameworks in realizing ecological justice.
Methods: The study employs normative juridical research with statutory, conceptual, and comparative approaches, analyzing constitutional provisions, environmental legislation, and landmark judicial decisions in both jurisdictions.
Results: The findings demonstrate that Indonesia relies on a strong legislative foundation through Law No. 32 of 2009, which integrates criminalization, corporate criminal liability, and restoration obligations, whereas India has developed environmental protection primarily through constitutional jurisprudence, including the expansive interpretation of Article 21 of the Constitution of India, the Public Trust Doctrine, and the National Green Tribunal. Both jurisdictions, however, remain predominantly anthropocentric and have not recognized nature as an independent legal subject. The novelty of this study is the proposal of the Ecological Justice-Based Environmental Criminal Law Model, constructed upon four pillars: human environmental rights, ecological interest protection, criminal accountability, and ecological restoration.
Conclusion: This study contributes to legal reform by demonstrating that ecological integrity can be protected as an autonomous legally protected interest without transforming nature into a full legal person. The proposed model offers a framework for advancing ecological justice by integrating human environmental rights, ecological interest protection, criminal accountability, and ecological restoration into environmental criminal law policy.

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INTRODUCTION

The environment constitutes an essential foundation for the continuity of human life and the existence of all living beings. Environmental degradation resulting from pollution, excessive natural-resource exploitation, deforestation, biodiversity loss, and ecosystem disruption has transformed environmental protection from a predominantly administrative concern into a complex legal, social, economic, human-rights, and intergenerational-justice issue. Contemporary environmental crises demonstrate that ecological degradation does not merely affect the quality of human life but may also impair ecosystem functions, diminish biodiversity, and produce environmental consequences extending across generations (Amalia et al., 2026). Accordingly, environmental law is increasingly required to address not only the consequences of environmental harm for human beings but also the integrity and sustainability of ecological systems themselves.

The problem is particularly significant for Indonesia and India because both countries possess extensive natural resources and biodiversity while simultaneously confronting substantial pressures arising from development, industrialization, land-use change, pollution, and exploitation of natural resources. In Indonesia, environmental protection has obtained constitutional recognition through Article 28H paragraph (1) of the 1945 Constitution, which recognizes the right to a good and healthy environment, and Article 33 paragraph (4), which incorporates sustainability and environmental considerations into national economic development (Undang-Undang Dasar Negara Republik Indonesia, 1945). These constitutional foundations are further implemented through Law No. 32 of 2009 concerning Environmental Protection and Management, which regulates environmental principles, rights and obligations, prevention and control mechanisms, criminal offences, corporate responsibility, and environmental restoration (Undang-Undang Republik Indonesia Nomor 32 Tahun 2009, 2009). Nevertheless, the existence of a comprehensive normative framework does not eliminate the continuing challenge of environmental degradation or guarantee that criminal-law enforcement will adequately respond to ecological harm.

India presents a different but equally important development. Environmental protection has evolved through a combination of statutory regulation and progressive constitutional interpretation. Article 21 of the Constitution of India, although formulated as a guarantee of life and personal liberty, has been interpreted by the Supreme Court as encompassing environmental dimensions of the right to life. This framework is complemented by Article 48A concerning the State's responsibility to protect and improve the environment and Article 51A(g) concerning citizens' duty to protect the natural environment. India also possesses extensive environmental legislation and specialized environmental adjudication through the National Green Tribunal. The *India State of Forest Report 2023*, for example, continues to monitor forest and tree cover, mangroves, forest fires, biodiversity-related conditions, and carbon stocks, illustrating the continuing importance of ecological conditions within national environmental governance (Ministry of Environment, Forest and Climate Change, Government of India, 2023). Thus, Indonesia and India provide two significant yet different pathways for examining how environmental law may reconcile human welfare, development, criminal accountability, and ecological protection.

Environmental criminal law becomes particularly important because environmental offences may cause consequences that differ substantially from those associated with conventional crimes. Environmental damage may be geographically extensive, cumulative, scientifically complex, difficult to reverse, and capable of affecting communities and ecosystems over long periods (Porfido, 2024). Moreover, environmentally harmful activities may involve corporations and organized economic activities that generate substantial financial benefits while externalizing ecological costs to communities, future generations, and the environment itself. Consequently, criminal-law policy should not be limited to punishment after environmental damage has occurred. It must also perform preventive, deterrent, accountability, corrective, and restorative functions (Silviana et al., 2025).

The effectiveness of such a framework, however, depends substantially upon the paradigm underlying environmental protection. An anthropocentric orientation tends to assess environmental harm primarily according to its consequences for human interests. Sutoyo explains that environmental degradation is closely associated with perceptions and attitudes that position nature predominantly as an instrument for satisfying human needs. He therefore emphasizes the importance of moving from an exclusively anthropocentric understanding toward biocentric and ecocentric perspectives that recognize human beings as part of a broader ecological system (Sutoyo, 2013). This theoretical shift is particularly relevant to environmental criminal law because damage to forests, rivers, oceans, soil, wildlife, and biodiversity may constitute serious ecological harm even when direct economic or physical injury to particular individuals cannot immediately be demonstrated.

Recent Indonesian scholarship has extended this debate. Setyawan proposes a reconstruction of the environmental-law paradigm by positioning ecology as a legal subject, arguing that conventional anthropocentric legal structures may be inadequate to address contemporary ecological degradation (Setyawan, 2025). Other scholarship similarly explores the possibility of recognizing environmental or ecological interests independently from their immediate utility to human beings. These studies are important because they challenge the traditional distinction between humans as legal subjects and nature merely as a legal object. At the same time, recognition of the *rights of nature* raises complex questions concerning legal representation, standing, responsibility, enforcement, and the remedies available when ecological interests are violated.

The development of environmental jurisprudence in India provides an important comparative perspective on these questions. Indian courts have progressively connected environmental protection with constitutional rights and duties and have developed principles such as sustainable development, the precautionary principle, the polluter pays principle, and the Public Trust Doctrine. In *Subhash Kumar v. State of Bihar*, the Supreme Court connected Article 21 with the enjoyment of pollution-free water and air, while *Vellore Citizens' Welfare Forum v. Union of India* strengthened the normative position of sustainable development, the precautionary principle, and the polluter pays principle (Subhash Kumar v. State of Bihar, 1991). Indian jurisprudence has also generated significant debate regarding the legal status and representation of natural entities. These developments demonstrate that ecological protection may be strengthened not only through legislative reform but also through constitutional interpretation and judicial innovation.

Existing studies have therefore established several important strands of scholarship: the critique of anthropocentrism, the development of biocentric and ecocentric environmental ethics, the recognition of environmental rights as human rights, the emergence of *rights of nature*, and the expansion of environmental principles through legislation and judicial decisions (Kahui et al., 2024). Nevertheless, these strands remain insufficiently integrated within the specific field of environmental criminal-law policy. Much of the existing literature focuses either on environmental philosophy, environmental constitutionalism, environmental governance, legal personality of nature, or individual environmental principles. Comparative analysis specifically examining how Indonesia and India can integrate human environmental rights and autonomous ecological interests into the formulation of criminalization, corporate accountability, prevention, punishment, and ecological restoration remains limited.

This limitation constitutes the research gap addressed by the present study. The central problem is not simply whether nature should be recognized as a legal person or whether human beings possess a constitutional right to a healthy environment. Rather, the unresolved issue concerns how environmental criminal law can simultaneously protect human rights and ecosystem integrity when ecological harm may exist independently of immediately identifiable human injury. Furthermore, there remains a need to explain how criminal liability, preventive principles, corporate accountability, deprivation of unlawful benefits, ecological restoration, and intergenerational justice can operate as interconnected

components of a coherent environmental criminal-law policy. A comparison between Indonesia and India provides an appropriate analytical basis because Indonesia demonstrates a predominantly statutory approach to environmental criminalization and protection, whereas India provides particularly significant experience in constitutional interpretation and environmental jurisprudence.

The urgency of this study arises from the limitations of a predominantly reactive model of environmental criminal law. Waiting until pollution or ecosystem destruction produces measurable human injury may be inconsistent with the characteristics of ecological harm, particularly where environmental consequences are cumulative or irreversible. Environmental criminal-law policy therefore requires a framework capable of preventing serious ecological risks, imposing effective responsibility upon individual and corporate offenders, removing economic benefits obtained from environmental offences, and ensuring restoration of damaged ecological functions. Such an approach is also essential for protecting the environmental interests of future generations.

The novelty of this study lies in the formulation of an Ecological Justice-Based Environmental Criminal Law Model derived from a comparative analysis of Indonesian and Indian law. Unlike approaches that position human rights and the *rights of nature* as competing claims, this study conceptualizes human environmental rights and ecological interests as interconnected legally protected interests. The proposed model integrates five principal orientations: prevention of environmental harm, criminal accountability, protection of ecosystem integrity, environmental restoration, and intergenerational justice. Recognition of ecological interests under this model does not necessarily require every natural entity to be granted legal personality equivalent to that of a human being. Instead, ecological integrity, biodiversity, and ecosystem functions may be recognized as autonomous interests deserving protection within environmental criminal law.

Accordingly, the objective of this study is to analyze how environmental criminal-law policy protects human rights and ecological interests in Indonesia and India, compare the legal approaches employed by the two jurisdictions in realizing ecological justice, and formulate an ecological justice-based environmental criminal-law framework based on the results of that comparison. This study contributes theoretically by integrating ecological justice and *rights of nature* discourse into environmental criminal-law policy; normatively by providing a framework for strengthening prevention, criminal and corporate accountability, and ecological restoration; and practically by providing a policy-oriented analytical model for developing environmental law enforcement that does not measure environmental harm exclusively through immediate human loss. The broader implication is a transition from predominantly anthropocentric and punitive environmental criminal law toward a framework that is preventive, accountable, restorative, and oriented toward long-term ecological sustainability.

Based on the foregoing considerations, this study addresses the following research questions: (1) How does environmental criminal law policy protect human rights and ecological interests in Indonesia and India? and (2) How do the environmental legal frameworks of Indonesia and India compare in realizing ecological justice?

METHOD

Research Design and Type

This study employs normative juridical research (normative legal research) with a doctrinal and comparative orientation. The research examines legal norms, principles, doctrines, statutory provisions, and judicial decisions governing environmental protection, human rights, ecological interests, and environmental criminal law in Indonesia and India. Normative legal research is appropriate because the principal object of analysis is law as a normative system rather than empirical behaviour or perceptions of research participants. Accordingly, this study does not involve respondents, field locations, or empirical research instruments. Instead, the analysis is directed toward identifying, interpreting,

systematizing, comparing, and evaluating legal rules and doctrines relevant to the development of environmental criminal law based on ecological justice.

Research Approaches

Three interrelated approaches are employed. First, the statutory approach examines constitutional provisions and environmental legislation applicable in Indonesia and India. This approach is used to identify the normative foundations of environmental rights, environmental protection, criminalization of environmental harm, individual and corporate liability, preventive obligations, sanctions, and environmental restoration.

Second, the conceptual approach examines legal concepts and theoretical perspectives relevant to ecological justice, including anthropocentrism, biocentrism, ecocentrism, *rights of nature*, the human right to a good and healthy environment, sustainable development, environmental responsibility, ecosystem integrity, and intergenerational justice. This approach provides the conceptual basis for assessing whether environmental criminal law remains predominantly human-centered or has developed toward broader recognition of ecological interests.

Third, the comparative approach systematically compares Indonesian and Indian environmental legal frameworks. The comparison is conducted using predetermined parameters comprising: (1) constitutional recognition of environmental rights and duties; (2) criminalization and the scope of environmental offences; (3) individual and corporate criminal liability; (4) application of preventive principles, particularly the precautionary principle; (5) the polluter pays principle and accountability for environmental harm; (6) mechanisms for environmental and ecosystem restoration; (7) recognition and protection of ecological interests and ecosystem integrity; and (8) intergenerational justice. These parameters are applied consistently to both jurisdictions to identify similarities, differences, strengths, limitations, and potential directions for environmental criminal-law development.

Legal Materials

The legal materials are classified into primary, secondary, and tertiary legal materials. Primary legal materials consist of authoritative legal sources applicable to environmental protection and environmental criminal law in Indonesia and India. For Indonesia, these include the 1945 Constitution of the Republic of Indonesia, particularly Article 28H paragraph (1) and Article 33 paragraph (4); Law No. 32 of 2009 concerning Environmental Protection and Management and its relevant amendments and regulatory developments; Law No. 5 of 1990 concerning Conservation of Biological Resources and Their Ecosystems and subsequent developments in biodiversity conservation regulation; Law No. 41 of 1999 concerning Forestry; Law No. 18 of 2013 concerning Prevention and Eradication of Forest Destruction; Law No. 27 of 2007 in conjunction with Law No. 1 of 2014 concerning Coastal Areas and Small Islands; and other relevant sectoral environmental regulations (Republic of Indonesia, 1990, 1999, 2007, 2009, 2013, 2014).

For India, the primary legal materials include the Constitution of India, particularly Articles 21, 48A, and 51A(g); the Environment (Protection) Act 1986; the Water (Prevention and Control of Pollution) Act 1974; the Air (Prevention and Control of Pollution) Act 1981; the Wild Life (Protection) Act 1972; the Biological Diversity Act 2002 and relevant subsequent developments; and the National Green Tribunal Act 2010 (Government of India, 1972, 1981, 1986, 2002, 2010). Primary legal materials also include relevant judicial decisions, particularly decisions of the Supreme Court of India concerning environmental rights and principles, including *Subhash Kumar v. State of Bihar* and *Vellore Citizens' Welfare Forum v. Union of India*, as well as other decisions relevant to ecological protection and the legal status of natural entities.

Secondary legal materials consist of scholarly materials used to explain, interpret, critique, and contextualize the primary legal materials. These include peer-reviewed journal articles, academic books, book chapters, research reports, and authoritative legal commentaries addressing environmental criminal law, environmental constitutionalism, ecological justice, *rights of nature*, corporate environmental liability, environmental restoration, sustainable development, and comparative environmental law. Particular attention is given to recent scholarship relevant to Indonesia and India in order to position the analysis within contemporary legal debates.

Tertiary legal materials are used to support terminology, concepts, and bibliographic identification where necessary. These include legal dictionaries, legal encyclopedias, indexes, and other authoritative reference materials. Tertiary materials are supplementary and are not used as the principal basis for normative conclusions.

Legal-Material Collection Technique

Legal materials are collected through documentary and library research (document study). The collection process involves identifying and selecting constitutional provisions, statutes, regulations, judicial decisions, academic literature, and official documents relevant to the research questions. Materials are selected on the basis of their legal authority, relevance to environmental criminal law and ecological justice, jurisdictional relevance to Indonesia or India, and contribution to the comparative analysis. Primary legal materials are prioritized to establish the applicable normative framework, while secondary materials are used to interpret legal developments, identify scholarly debates, and evaluate the strengths and limitations of the existing frameworks. The selected materials are subsequently classified according to jurisdiction, legal hierarchy, subject matter, and comparative parameter to ensure a systematic analysis.

Comparative Research Design

The comparative design applies the same analytical parameters to Indonesia and India to avoid an asymmetric comparison. Each jurisdiction is examined in relation to constitutional environmental protection, environmental criminalization, criminal and corporate liability, preventive environmental principles, accountability for environmental harm, ecological restoration, ecosystem integrity, and intergenerational justice. The findings from each jurisdiction are then compared to determine normative convergence and divergence, as well as the respective strengths and limitations of statutory regulation, constitutional interpretation, judicial development, and enforcement mechanisms. The comparison is functional rather than merely descriptive: it seeks to determine how different legal mechanisms perform the common function of protecting human and ecological interests from environmental harm.

Legal Analysis Technique

The collected legal materials are analyzed using qualitative normative legal analysis through several interrelated stages. First, legal interpretation is applied to constitutional provisions, statutory norms, and judicial decisions to determine their meaning, scope, and relationship to environmental protection and criminal liability. The interpretation considers textual, systematic, and purposive dimensions where relevant. Second, legal systematization is employed to identify relationships among constitutional norms, environmental statutes, criminal-law provisions, environmental principles, and judicial doctrines within each jurisdiction.

Third, legal construction is used to connect existing norms and principles where the positive law does not expressly formulate ecological interests as independent objects of criminal-law protection. Fourth, comparative legal analysis is conducted by applying the predetermined parameters consistently to Indonesia and India. Finally, normative evaluation is undertaken to assess the extent to which the two

legal systems reflect anthropocentric, biocentric, or ecocentric orientations and whether their environmental criminal-law frameworks adequately integrate human rights, ecological interests, prevention, accountability, restoration, ecosystem integrity, and intergenerational justice.

The results of these analytical stages are synthesized to formulate an Ecological Justice-Based Environmental Criminal Law Model. The model is derived from the normative and comparative findings rather than treated as a predetermined conclusion and is intended to identify legal-policy orientations capable of strengthening the integration of human environmental rights and ecological interests within environmental criminal law.

RESULTS AND DISCUSSION

Results

Ecological Justice as the Basis of Environmental Criminal Law

Environmental criminal law should not be understood exclusively as a mechanism for imposing punishment after environmental damage has occurred. Ecological justice requires criminal-law policy to perform preventive, accountability, protective, and restorative functions (Saputra et al., 2024). This orientation departs from a conventional anthropocentric model in which environmental harm acquires legal significance primarily because of its consequences for human beings. Instead, ecological justice recognizes that environmental degradation may simultaneously injure human rights, biodiversity, ecosystem functions, and the ecological interests of future generations.

This conceptual shift is particularly relevant to Indonesia and India because both jurisdictions have developed environmental protection through constitutional norms, legislation, criminal and administrative mechanisms, and environmental principles, but through different institutional pathways. Indonesia relies more extensively on statutory regulation, particularly the 1945 Constitution and Law No. 32 of 2009 concerning Environmental Protection and Management. India, by contrast, combines legislation with extensive constitutional interpretation and judicial development under Articles 21, 48A, and 51A(g) of the Constitution of India. The comparison therefore provides an opportunity to assess not merely the existence of environmental norms, but how those norms perform the functions of prevention, accountability, ecological protection, and restoration.

The practical significance of environmental criminal law is demonstrated by Indonesian enforcement experience. Official Ministry of Environment and Forestry data report that since 2014 the Government carried out 1,884 environment- and forestry-related law-enforcement operations, imposed 2,484 administrative sanctions, handled 1,296 criminal cases, 31 civil lawsuits, and 230 out-of-court settlements (Ministry of Environment and Forestry of the Republic of Indonesia, 2023). These figures demonstrate that environmental violations are not merely theoretical concerns and that environmental governance requires interaction among administrative, civil, and criminal enforcement mechanisms.

Comparative Protection of Human Environmental Rights

Indonesia and India both recognize a relationship between environmental quality and human rights, but the constitutional foundations differ. In Indonesia, Article 28H paragraph (1) of the 1945 Constitution expressly recognizes the right to a good and healthy environment. Article 33 paragraph (4) further places sustainability and environmental awareness among the principles underlying the national economy. These provisions establish an explicit constitutional basis for connecting environmental protection with human welfare and sustainable development (Undang-Undang Dasar Negara Republik Indonesia, 1945).

Law No. 32 of 2009 strengthens this constitutional framework. Article 65 recognizes environmental rights, including the right to a good and healthy environment, while Article 67 establishes obligations to preserve environmental functions and control environmental pollution and damage. The combination of rights and obligations is significant from the perspective of ecological justice because environmental

protection is constructed not merely as a governmental responsibility but also as a responsibility shared by individuals and other legal actors.

India reaches a comparable result through a different constitutional pathway. Article 21 of the Constitution does not expressly refer to a healthy environment; nevertheless, the Supreme Court has progressively interpreted the right to life as encompassing environmental conditions necessary for meaningful human existence. In *Subhash Kumar v. State of Bihar*, the Court associated Article 21 with the right to enjoy pollution-free water and air (Subhash Kumar v. State of Bihar, 1991). In *Vellore Citizens' Welfare Forum v. Union of India*, the Court further strengthened environmental protection by recognizing sustainable development and integrating the precautionary and polluter pays principles into Indian environmental jurisprudence (Vellore Citizens' Welfare Forum v. Union of India, 1996).

The comparison reveals an important distinction. Indonesia provides stronger textual constitutional recognition of environmental rights, whereas India demonstrates stronger jurisprudential elaboration of environmental rights. Indonesia's strength therefore lies in explicit normative recognition; India's comparative strength lies in judicial interpretation capable of developing constitutional environmental protection beyond the literal wording of Article 21. This distinction is important because ecological justice requires not only recognition of rights but also institutions capable of translating those rights into enforceable environmental obligations.

Criminalization of Environmental Harm

The criminalization of environmental harm constitutes a second major comparative parameter. Indonesian environmental law provides relatively detailed statutory offences under Law No. 32 of 2009. Articles 98 and 99, for example, distinguish environmental offences involving intentional conduct from those resulting from negligence. Article 116 further provides an important foundation for corporate environmental criminal liability when offences are committed by, for, or on behalf of business entities (Undang-Undang Republik Indonesia Nomor 32 Tahun 2009, 2009).

This statutory design demonstrates that Indonesian environmental criminal law is capable of addressing both individual and organizational responsibility. Its principal strength is normative clarity: prohibited conduct, liability, and sanctions are substantially articulated through legislation. The challenge, however, concerns the translation of statutory provisions into consistent enforcement and effective ecological outcomes. Official Indonesian data illustrate the scale of this enforcement task. KLHK's statistical system records criminal-law enforcement involving illegal logging, forest and land fires, environmental pollution, forest encroachment, illegal wildlife trade, and environmental destruction (Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia, 2023).

India's environmental criminal-law framework is distributed across several statutes rather than concentrated in a single environmental criminal-law instrument. The Environment (Protection) Act 1986 provides broad regulatory powers to the Central Government, while the Water (Prevention and Control of Pollution) Act 1974 and the Air (Prevention and Control of Pollution) Act 1981 regulate major forms of pollution. The Wild Life (Protection) Act 1972 and other sectoral legislation provide additional protection for biodiversity and natural resources. The National Green Tribunal Act 2010 complements this structure by providing specialized environmental adjudication and expressly incorporating sustainable development, the precautionary principle, and the polluter pays principle.

The principal comparative difference is therefore structural. Indonesia develops environmental criminal liability predominantly through codified statutory offences within its environmental protection framework, whereas India combines sectoral statutory regulation with a stronger jurisprudential and specialized-adjudicatory dimension. Neither approach is inherently superior. Indonesia offers greater statutory visibility of criminal liability, while India demonstrates how judicial doctrine and specialized environmental adjudication may reinforce environmental principles.

Corporate Environmental Liability and Accountability

Corporate accountability is essential because environmental harm frequently arises from industrial, extractive, or other organized economic activities. Such activities may involve complex corporate structures, substantial financial incentives, and environmental consequences extending beyond the actions of individual employees. A criminal-law framework based solely upon individual liability may therefore be inadequate.

Indonesia expressly recognizes corporate environmental criminal liability through Articles 116–119 of Law No. 32 of 2009. The statutory framework permits responsibility to extend to business entities and persons who order or lead environmental offences. The importance of this framework lies in its capacity to prevent corporations from externalizing environmental costs while retaining the economic benefits of environmentally harmful activities.

Recent Indonesian conservation reform further illustrates movement toward stronger corporate accountability. Law No. 32 of 2024, amending Law No. 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems, strengthens enforcement powers and criminal sanctions, including aggravated sanctions for corporations and additional sanctions involving compensation and ecosystem-recovery costs (Undang-Undang Republik Indonesia Nomor 32 Tahun 2024, 2024).

India also recognizes corporate and organizational accountability through environmental legislation, although the regulatory structure differs across statutes. From the perspective of ecological justice, the central issue is not simply whether corporations may formally be prosecuted, but whether legal mechanisms can ensure that the economic advantages generated through environmental harm do not exceed the legal and financial consequences imposed upon offenders.

The comparative analysis therefore indicates that effective corporate environmental accountability should integrate criminal liability, removal of unlawful economic benefits, compensation for ecological loss, and restoration obligations. This combination is necessary because punishment alone may fail to internalize the full ecological costs of corporate environmental offences.

Prevention and the Precautionary Principle

Environmental criminal law faces a distinctive challenge: ecological damage may become irreversible before conventional criminal-law mechanisms are activated. The precautionary principle therefore performs an important role in shifting environmental law from a reactive to a preventive orientation.

Indonesia incorporates precaution within the principles governing environmental protection and management under Law No. 32 of 2009. The normative implication is that scientific uncertainty should not automatically justify postponing measures necessary to prevent serious environmental harm. India has developed this principle more extensively through judicial interpretation, particularly in *Vellore Citizens' Welfare Forum v. Union of India* (Vellore Citizens' Welfare Forum v. Union of India, 1996).

The comparison demonstrates that the precautionary principle should not remain isolated within administrative environmental regulation. Its underlying logic is relevant to environmental criminal policy because criminalization can serve a preventive function where conduct creates serious and legally unacceptable ecological risks. Nevertheless, precaution must be applied consistently with legality and legal certainty. Criminal liability cannot be imposed merely because environmental harm is theoretically possible; prohibited conduct and the conditions of liability must remain sufficiently defined.

Polluter Pays, Restoration, and Ecological Loss

The polluter pays principle provides an important bridge between environmental accountability and ecological restoration. Its ecological-justice significance lies in preventing the costs of environmental degradation from being transferred to affected communities, the State, or future generations (Dhar & Gupta, 2024).

India's Supreme Court gave substantial normative force to the polluter pays principle through *Indian Council for Enviro-Legal Action v. Union of India* and *Vellore Citizens' Welfare Forum v. Union of India*, establishing that those responsible for environmental harm should bear the costs associated with remediation and environmental restoration (Indian Council for Enviro-Legal Action v. Union of India, 1996; Vellore Citizens' Welfare Forum v. Union of India, 1996). The National Green Tribunal Act subsequently provided an institutional basis for applying these principles within specialized environmental adjudication.

However, ecological justice requires a distinction between punishment and restoration. Imprisonment or monetary fines may express societal condemnation but do not necessarily restore damaged forests, rivers, biodiversity, soil functions, or ecological services. Environmental sanctions should therefore operate through complementary mechanisms:

(1) Punishment and deterrence;
(2) Recovery of unlawful economic benefits;
(3) Compensation for environmental and community losses; and
(4) Restoration of damaged ecosystem functions.

This distinction is critical because ecological loss may persist even after an offender has completed a conventional criminal sentence.

Rights of Nature and Ecosystem Integrity

Neither Indonesia nor India can accurately be described as having adopted a comprehensive national *rights of nature* regime. Indonesia protects environmental and ecological interests through constitutional rights, environmental statutes, biodiversity and forestry regulation, and criminal provisions, but nature has not generally been granted autonomous legal personality at the national level.

India has produced more visible judicial experimentation. In *Animal Welfare Board of India v. A. Nagaraja*, the Supreme Court articulated an ecocentric approach that extends legal concern beyond exclusively human interests and recognizes the intrinsic value and welfare of non-human life (Animal Welfare Board of India v. A. Nagaraja & Others, 2014). Decisions concerning natural entities, including the Uttarakhand litigation involving the Ganga and Yamuna, further demonstrate attempts to move beyond conventional treatment of nature merely as property or a resource (Mohd. Salim v. State of Uttarakhand & Others, 2017). Nevertheless, the legal recognition of natural entities raises difficult questions concerning guardianship, representation, liability, institutional competence, and implementation. Recent comparative *rights of nature* scholarship similarly indicates that formal recognition alone does not guarantee effective protection; institutional design and enforceable representation remain decisive (Kahui et al., 2024; Upadhyaya & Nayak, 2024). Comparative developments outside Indonesia and India further illustrate more explicit forms of legal recognition of nature. Ecuador's 2008 Constitution expressly recognizes the rights of nature (*Pachamama*), including the right to exist, persist, maintain, and regenerate its vital cycles, as well as the right to restoration (Constitution of the Republic of Ecuador, 2008). Bolivia has similarly developed a statutory rights-of-nature framework through Law No. 071 of 2010 on the Rights of Mother Earth, which recognizes Mother Earth as a collective subject of public interest and identifies specific ecological rights (Bolivia, 2010). In New Zealand, the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 recognizes Te Awa Tupua as a legal person with corresponding rights, powers, duties, and liabilities (Robson, 2017). These comparative developments demonstrate that rights-of-nature frameworks can take different

constitutional and statutory forms and provide useful reference points for evaluating whether ecological interests require legal personality or can instead be protected as autonomous interests within environmental criminal law.

The relevant lesson for environmental criminal law is therefore more nuanced than simply advocating legal personality for nature. Ecological justice can develop by recognizing ecosystem integrity, biodiversity, ecological functions, and continuity of natural systems as autonomous legally protected interests, even where a legal system does not formally classify every natural entity as a legal person.

Comparative Findings: Indonesia and India

Table 1

Comparative legal frameworks for ecological justice in indonesia and india

Comparative parameter	Indonesia	India	Analytical finding
Constitutional environmental rights	Explicit right to a good and healthy environment under Article 28H(1)	Environmental right developed primarily through interpretation of Article 21	Indonesia stronger textually; India stronger jurisprudentially
Constitutional ecological obligations	Article 33(4) incorporates sustainability/environmental awareness	Articles 48A and 51A(g) impose State/citizen environmental duties	Both connect rights with environmental responsibility
Environmental criminalization	Relatively concentrated under Law No. 32/2009 and sectoral statutes	Distributed across EPA, Water Act, Air Act, Wildlife Act and related laws	Indonesia offers clearer general statutory structure; India is more sectoral
Corporate accountability	Expressly regulated, including Articles 116–119 Law No. 32/2009	Recognized through environmental statutes and regulatory mechanisms	Both recognize organizational responsibility, but mechanisms differ
Precautionary principle	Statutorily embedded in environmental governance	Strongly developed through Supreme Court jurisprudence and NGT framework	India shows stronger judicial operationalization
Polluter pays principle	Recognized within environmental responsibility/restoration framework	Strong jurisprudential and NGT recognition	India provides stronger doctrinal articulation

Comparative parameter	Indonesia	India	Analytical finding
Ecological restoration	Articles 53–54 and related environmental mechanisms	Developed through polluter pays, compensation and environmental adjudication	Both support restoration, but institutional routes differ
Rights of nature/ecological interests	No comprehensive national legal-personhood regime	Important judicial experimentation but no stable comprehensive national regime	Neither has fully institutionalized Rights of Nature
Intergenerational justice	Reflected through sustainability and environmental protection	Developed through sustainable-development jurisprudence	Present in both, but needs stronger criminal-law integration

From Comparative Findings to the Ecological Justice-Based Environmental Criminal Law Model

The comparative findings demonstrate that neither jurisdiction alone provides a complete model of ecological justice-based environmental criminal law. Indonesia contributes explicit constitutional environmental rights, comparatively detailed statutory criminalization, corporate criminal liability, and restoration obligations. India contributes strong constitutional environmental jurisprudence, judicial operationalization of precaution and polluter pays principles, the development of the Public Trust Doctrine through *M.C. Mehta v. Kamal Nath*, and specialized adjudication through the National Green Tribunal (M.C. Mehta v. Kamal Nath, 1997).

The model is derived from the comparative findings rather than from a simple classification of environmental ethics. It translates the identified legal strengths and gaps into five connected policy pillars: human environmental rights; protection of ecological interests; preventive criminalization; individual and corporate accountability; and ecological restoration with intergenerational justice.

The first pillar, human environmental rights, requires environmental criminal law to protect the conditions necessary for life, health, dignity, and environmental security. Indonesia provides explicit constitutional grounding through Article 28H paragraph (1), whereas India demonstrates how Article 21 may be interpreted dynamically to encompass environmental quality.

The second pillar, ecological interest protection, recognizes ecosystem integrity, biodiversity, ecological functions, and continuity of natural systems as legally protected interests independently of whether immediate human injury can be demonstrated. This does not require universal legal personhood for nature but does require criminal law to recognize serious ecological degradation as legally significant in itself (Kahui et al., 2024).

The third pillar, preventive criminalization, integrates legality with ecological precaution. Criminal law should identify serious conduct that creates unacceptable risks of environmental destruction before irreversible damage occurs. This pillar translates the precautionary principle from a general environmental principle into a criminal-policy orientation while retaining legal certainty.

The fourth pillar, individual and corporate accountability, addresses the organizational and economic characteristics of environmental crime. Accountability should encompass individual perpetrators, corporate entities, responsible decision-makers, removal of unlawful benefits, compensation for ecological loss, and responsibility for environmental restoration.

The fifth pillar, ecological restoration and intergenerational justice, recognizes that environmental punishment is incomplete if damaged ecological functions remain unrecovered. Restoration therefore becomes an integral objective of environmental criminal policy rather than an incidental consequence of enforcement. The intergenerational dimension further requires present criminal-law policy to protect ecological conditions necessary for future generations.

These five pillars distinguish the proposed model from a conventional anthropocentric criminal-law framework. The contribution of the model lies not in granting nature the same legal status as human beings, but in restructuring environmental criminal law so that human environmental rights and autonomous ecological interests are protected simultaneously through prevention, accountability, and restoration.

Implications and Limits of the Comparative Findings

The comparative findings have three principal implications. First, environmental criminal-law reform should integrate criminal sanctions with administrative prevention and ecological restoration rather than treating these mechanisms as separate policy domains. Second, corporate environmental liability should be designed to remove economic incentives for environmental offences and internalize restoration costs. Third, ecological interests should receive independent normative recognition even where formal *rights of nature* or legal personhood is not adopted.

The comparison also reveals limitations. The existence of legislation or progressive judicial doctrine does not itself establish enforcement effectiveness. Indonesia's substantial statutory framework coexists with continuing environmental enforcement demands, while India's progressive jurisprudence depends upon institutional capacity, judicial implementation, and regulatory compliance. Accordingly, the comparative findings support normative and doctrinal conclusions, but they should not be interpreted as demonstrating that one jurisdiction empirically enforces environmental law more effectively than the other. Such a conclusion would require systematic empirical enforcement and outcome data beyond the doctrinal design of this study.

Discussion

The comparative findings suggest that the central distinction between Indonesia and India is not whether either jurisdiction protects the environment, but how each legal system converts environmental values into legal duties and remedies. Indonesia’s framework is comparatively explicit at the constitutional and statutory levels: Article 28H(1) of the 1945 Constitution recognizes the right to a good and healthy environment, while Law No. 32 of 2009 sets out environmental offences, corporate responsibility, preventive principles, and restoration mechanisms. India’s framework is more visibly shaped by constitutional interpretation and judicially developed principles. Article 21 has been interpreted to include environmental conditions necessary for life, while the precautionary principle and polluter-pays principle have gained force through decisions such as Vellore Citizens’ Welfare Forum v. Union of India. The comparison therefore points to complementary legal pathways, rather than a simple ranking of one system over the other.

This finding is consistent with the broader critique of anthropocentrism advanced by Sutoyo (2013), who argues that environmental degradation is reinforced when nature is treated primarily as an instrument for human needs. It also develops the argument raised in more recent Indonesian scholarship that ecological interests require a more central position in legal reasoning (Setyawan, 2025). The present analysis adds a criminal-law dimension to these discussions. The key question is not only whether environmental rights or ecological values are acknowledged in constitutional and environmental law, but whether those values inform the definition of prohibited conduct, the attribution of responsibility, the selection of sanctions, and the restoration of damaged ecosystems. This shift makes ecological justice an operational legal-policy concern rather than solely an ethical or philosophical position.

The comparison of criminalization and corporate accountability illustrates why statutory recognition must be considered alongside the design of remedies. Indonesia's Law No. 32 of 2009 provides relatively visible provisions for environmental offences and corporate liability, including Articles 98–99 and 116–119. Such provisions can help clarify who may be held responsible and what conduct attracts criminal consequences. India's regulation is distributed across environmental statutes, including the Environment (Protection) Act 1986, the Water Act 1974, and the Air Act 1981, with environmental adjudication supported by the National Green Tribunal Act 2010. This difference in legal architecture does not itself establish which system deters offending more effectively. Rather, it highlights two policy needs: Indonesia must ensure that detailed statutory provisions translate into consistent enforcement and ecological outcomes, while India must ensure that sectoral regulation and judicial principles connect effectively with criminal accountability. As the study is doctrinal, claims about comparative enforcement performance would require separate empirical evidence.

The role of prevention is another important point of convergence. Environmental harm can be cumulative and difficult to reverse; in some cases, the ecological consequences become evident only after the relevant activity has continued for a considerable period. The precautionary principle is therefore relevant to the timing of legal intervention, especially where credible risks of serious or irreversible damage exist despite scientific uncertainty. Dhar and Gupta (2024) discuss the significance of prevention, precaution, and polluter-pays principles in Indian environmental law. Read alongside Indonesia's statutory environmental principles, this literature supports a policy approach in which criminal law is not treated as a substitute for licensing, monitoring, and administrative supervision, but as part of a graduated response to serious violations. Any move toward preventive criminalization must nevertheless respect legality and legal certainty: offences should be defined clearly, and criminal liability should not rest on vague ecological concerns alone.

The polluter-pays principle also helps explain why punishment and restoration should not be treated as interchangeable. A fine or custodial sentence may express condemnation and deter future violations, but it does not necessarily repair contaminated water, restore forest functions, or recover biodiversity. The approach reflected in Indian environmental jurisprudence, including Vellore Citizens' Welfare Forum v. Union of India and Indian Council for Enviro-Legal Action v. Union of India, underscores the importance of making responsible actors bear the costs associated with environmental harm. Indonesia's restoration provisions similarly provide a normative basis for requiring recovery measures. The analytical implication is that sanctions should be assessed in relation to both culpability and the ecological

consequences of the offence. Restoration obligations, compensation, and removal of unlawful gains should complement—not automatically replace—criminal punishment where the statutory requirements for an offence are met.

The discussion of rights of nature requires a careful distinction between recognizing ecological interests and conferring legal personality on natural entities. Neither Indonesia nor India has established a comprehensive national regime that grants legal personhood to nature across the board. India has, however, seen judicial experimentation and ecocentric reasoning, including in Animal Welfare Board of India v. A. Nagaraja, while scholarship on rights-of-nature arrangements shows that such frameworks differ considerably in legal design and representation (Kahui et al., 2024; Upadhyaya & Nayak, 2024). These developments caution against assuming that legal personality is the only route to stronger ecological protection. For environmental criminal law, a more immediate and administrable step is to treat ecosystem integrity, biodiversity, and ecological functions as legally relevant interests when assessing the gravity and consequences of environmental harm. This approach preserves the distinction between a legal person and an interest protected by law, while leaving open the possibility of more specific rights-of-nature reforms.

On this basis, the proposed five-pillar model is intended as a synthesis of the comparative analysis, not as a claim that the two countries already apply an identical framework. The first pillar preserves human environmental rights as a constitutional and legal foundation. The second recognizes serious injury to ecological systems as relevant even where immediate human injury cannot be quantified. The third links prevention and precaution to clearly defined offences and proportionate intervention. The fourth requires responsibility to reach both individual actors and business entities where the applicable law permits, while addressing unlawful economic benefits. The fifth connects sanctions with ecological restoration and the interests of future generations. Together, these pillars respond to the gap identified in the literature: the need to connect environmental constitutionalism and ecological ethics with the concrete operation of criminal-law policy (Saputra et al., 2024; Silviana et al., 2025).

The model should nevertheless be understood as a normative proposal with practical conditions, not as a ready-made enforcement formula. Implementation would require reliable ecological assessment, clear standards for measuring harm and restoration, coordination among criminal investigators and environmental regulators, access to scientific expertise, and monitoring of restoration orders. It would also require safeguards against inconsistent application, including transparent evidentiary standards and proportionality in sentencing. These institutional questions are especially important where harm is cumulative, crosses administrative boundaries, or results from complex corporate activity. The comparative analysis identifies legal tools that could support reform, but it does not establish that either jurisdiction has already achieved the proposed outcomes. Further empirical research on prosecution decisions, sentencing, corporate cases, compliance, and completed restoration would be needed to assess implementation.

Overall, the discussion advances a limited but important claim: ecological justice in environmental criminal law depends on how legal systems connect recognition, prevention, responsibility, and repair. Indonesia's explicit constitutional and statutory framework and India's developed environmental jurisprudence offer different resources for this task. Neither approach, on the doctrinal materials examined here, can be treated as sufficient on its own. A

more integrated framework would draw on statutory clarity, principled judicial interpretation, specialized environmental expertise, meaningful corporate accountability, and restoration directed toward ecological function. This conclusion remains consistent with the comparative method of the study and avoids inferring enforcement superiority from legal texts alone.

CONCLUSION

This study finds that environmental criminal law in Indonesia and India is gradually shifting from an anthropocentric approach toward one that recognizes both human environmental rights and autonomous ecological interests. Indonesia relies more heavily on explicit constitutional and statutory provisions, including environmental offences, corporate liability, preventive obligations, and ecological restoration. India, meanwhile, demonstrates stronger jurisprudential development through constitutional interpretation, environmental principles, judicial decisions, and specialized environmental adjudication. Although both jurisdictions share commitments to environmental protection, sustainable development, and intergenerational justice, their complementary strengths provide a foundation for a more integrated environmental criminal-law framework. The findings address both research questions by demonstrating that ecological justice requires legal protection extending beyond human health and welfare to encompass biodiversity, ecosystem integrity, and ecological sustainability.

The principal contribution of this study is the proposed Ecological Justice-Based Environmental Criminal Law Model, which integrates five orientations: human environmental rights, autonomous ecological interests, preventive criminalization, individual and corporate accountability, and ecological restoration linked to intergenerational justice. This model positions environmental criminal law not merely as an instrument of punishment but also as a mechanism for preventing ecological harm, ensuring accountability, and restoring damaged ecosystems. Nevertheless, as a normative comparative study, this research does not empirically assess enforcement effectiveness and is limited to Indonesia and India. Future research should examine prosecution patterns, corporate liability, judicial outcomes, sanctions, and restoration measures, while expanding comparisons to jurisdictions recognizing rights of nature, such as Ecuador, Bolivia, and New Zealand, to empirically evaluate and refine the proposed model.

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AUTHOR CONTRIBUTION STATEMENT

Author 1 contributed to the conceptualization, research design, legal-material collection, normative and comparative analysis, and preparation of the original manuscript. Author 2 contributed to the literature review, validation of legal materials, comparative analysis, critical review, and manuscript revision. Both authors contributed to the development of the Ecological Justice-Based Environmental Criminal Law Model, reviewed the final manuscript, and approved the version submitted for publication.

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