

Strengthening Indian Environmental Law: Addressing Transboundary Challenges

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ABSTRACT

Today's environmental challenges, including cross-border pollution, deforestation, climate change, and the unsustainable exploitation of shared natural resources, present significant hurdles for national legal frameworks. These frameworks often find it difficult to address the complex nature of environmental degradation that ignores national boundaries. This discussion shines a light on India, emphasizing its battle with ecological problems that transcend its geographical limits. This includes the protection of migratory species, the management of shared waterways, the mitigation of pollution impacting adjacent areas, and the conservation of biodiversity that spans several countries. "Shared natural resources" encompasses rivers, forests, and fauna that exist across borders. While India boasts an extensive array of environmental regulations, it faces challenges in enforcing these laws and ensuring adherence, particularly to international environmental treaties. This discrepancy between India's global commitments and their domestic execution undermines its capacity to confront cross-border environmental issues, possibly leading to conflicts with neighboring countries and damaging ecosystems that are vital to multiple nations.

India has significantly advanced in creating a robust legal structure to tackle domestic environmental challenges. However, there is a pressing need to enhance its legal approaches for addressing environmental issues that extend beyond its borders. Given India's geographical position, which entails sharing key natural resources such as rivers, forests, and air with its neighbors, this need becomes even more critical. The effectiveness of managing these cross-border environmental concerns is hampered by several factors. These include the absence of specific legal provisions tailored to these issues, a lack of effective cooperation frameworks, inadequate initiatives for technology transfer and adaptation, non-compliance with international environmental norms, weak enforcement of existing mechanisms, minimal regional cooperation, no established methods for resolving disputes, poor integration of these

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efforts at the local level, and a deficit in cross-border monitoring, evaluation, and reporting mechanisms.

The paper underscores the need to strengthen national legal systems and increase international collaboration to secure India's pivotal role in managing environmental challenges that extend beyond its own territory. It contends that resolving these issues is vital for the equitable management of cross-border natural resources and for advancing environmental justice outside of India. This approach is seen as a pathway to developing a more effective and cooperative global environmental legal structure.

Key words: Environment, Transboundary, Challenges, Framework, Cooperation, Degradation, Law.

INTRODUCTION

The urgency to regulate activities impacting the environment has led to considerable evolution in environmental law over recent years. Initially, environmental legislation targeted specific areas such as air quality, conservation of wildlife, and the control of water pollution. Yet, the global environmental challenges of the late 20th century, such as deforestation, the loss of biodiversity, and climate change, highlighted the need for a broader legal approach.

Key international efforts, marked by the 1992 Rio Earth Summit³⁵ and the 1972 United Nations Conference on the Human Environment (Stockholm Conference)³⁶, have introduced pivotal concepts like the precautionary principles, sustainable development, and the notion of common but differentiated responsibilities. These efforts underline the collective responsibility towards environmental protection, emphasizing that developed nations should accept a larger portion of accountability due to their capabilities and historical activities. These initiatives have been crucial in encouraging the worldwide adoption of national environmental laws and in ensuring domestic policies are in line with international commitments.³⁷

As environmental challenges know no borders, environmental law plays a critical role in managing issues that cross national boundaries, such as air and water pollution, conservation

³⁵ United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, June, 1992.

³⁶ United Nations Conference on the Human Environment, Stockholm, Sweden, June 1972.

³⁷ Robert V. Percival, *Environmental Law in the Twenty-First Century*, 25 VA. ENVTL. L.J. 1 (2007).

of wildlife, and climate change, alongside domestic concerns like pollution from industries, waste management, and urban planning.³⁸ Enhancing India's environmental legal framework to address international issues is not just key for promoting global cooperation but also reflects India's increasing role in shaping global environmental policies. This is fundamental for the sustainable management of ecosystems shared across nations.³⁹

Transboundary environmental issues are problems with the environment that cross national boundaries, affect multiple nations, and call for coordinated international action to solve. These issues arise when natural resources, ecosystems, or public health in neighboring countries are negatively impacted by environmental degradation in one country. Notable examples include industrial emissions and discharges that cross national borders, pollution that crosses borders via air and water, overuse of common natural resources like rivers, forests, or subterranean water systems, and biodiversity declines as a result of habitat destruction or overexploitation.⁴⁰ Climate change is another important transboundary issue, with consequences that transcend national borders, including rising sea levels, altered weather patterns, and disruptions to ecosystems.⁴¹

Because there are many parties involved, different legal frameworks apply, and different nations have different levels of environmental and economic development, transboundary environmental issues are complex. In order to address these issues, comprehensive legal frameworks that encourage global cooperation, harmonious policies, and potent cross-border enforcement mechanisms are required.⁴² These difficulties highlight the limitations of national environmental laws, which are essentially territorial in nature. Therefore, in order to address the transnational aspects of environmental damage more successfully and achieve a more resilient and cooperative management of shared natural assets & ecosystems, it is imperative that domestic legal frameworks be improved.⁴³

Specifically, in India's context, given its long borders and shared environmental assets, transboundary environmental concerns are notably pressing. Enhancing India's legal

³⁸ Hilary F. French, *Strengthening International Environmental Governance*, 3 J. ENV'T & DEV. 59 (1994).

³⁹ *Id.*

⁴⁰ Daniel Bodansky, *The Legitimacy of International Governance: A Coming Challenge for International Environmental Law?*, 93 AM. J. INT'L L. 596 (1999).

⁴¹ Robert V. Percival, *supra* note 4.

⁴² *Id.*

⁴³ Furqan Ahmad, *Origin and Growth of Environmental Law in India*, 43 J. INDIAN L. INST. 358 (2001).

infrastructure to manage these issues not only aids in achieving sustainable development but also in fostering regional ecological balance and promoting environmental justice beyond its borders.⁴⁴

India has made great progress in developing an all-encompassing legal structure to address its internal environmental issues. However, the nation's legal framework for handling transboundary environmental issues has significant flaws. This issue is exacerbated by India's geographical location, which necessitates the sharing of essential natural resources like rivers, forests, and air with neighboring nations.⁴⁵ The absence of specific legal measures, inadequate collaborative frameworks, insufficient technology transfers and adaptation initiatives, poor compliance with global environmental standards, ineffective enforcement mechanisms, limited regional collaboration, lack of dispute resolution mechanisms, inadequate integration at the local level, and insufficient cross-border monitoring, assessment, and reporting capabilities are the main flaws in India's current legal framework that impede the effective management of transboundary environmental issues.⁴⁶

This paper aims to pinpoint & evaluate the serious shortcomings in India's environmental laws, particularly with regard to handling transboundary environmental issues. Moreover, it puts forth a thorough framework for institutional and legal changes aimed at strengthening India's capacity to mitigate & successfully settle conflicts pertaining to transboundary ecological issues. This paper aims to investigate and evaluate the deficiencies⁴⁷ in the existing environmental laws in India concerning transboundary environmental issues like shared natural resource management, cross-border pollution, and cross-border biodiversity conservation. It aims to evaluate how environmental justice principles are applied in transboundary situations and to suggest ways to make sure that communities at risk of environmental harm across borders are adequately protected by stronger legal frameworks. Additionally, it suggests ways to strengthen India's institutional capacities for better enforcing and putting laws governing transboundary ecological issues into practice. One such strategy is the establishment of specialized bodies or mechanisms tasked with handling transboundary environmental disputes.⁴⁸

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ K. Sivaramakrishnan, *Environment, Law, and Democracy in India*, 70 J. ASIAN STUD. 905 (2011).

⁴⁸ *Id.*

ANALYSIS

Examining India's environmental legislation system reveals a notable need to address transnational environmental issues, but it effectively addresses local ones. This critical analysis uses particular case studies to illustrate the advantages and disadvantages of the current legal framework as it examines how well India's national legal framework handles environmental issues that impact several nations.

The existing Indian environmental legislation, such as the Water,⁴⁹ Air,⁵⁰ and Environment Protection⁵¹ Acts, primarily concentrates on domestic environmental issues. These laws do not adequately address cross-border pollution or environmental degradation. While they effectively manage pollution within India, there is a pressing need to extend their scope to include international environmental concerns, like shared rivers and transboundary air pollution.⁵²

The need for conformity between international environmental accords and India's domestic environmental laws further complicates matters. India has ratified many international treaties, such as the Convention on Biological Diversity⁵³ and the Paris Agreement.⁵⁴ Still, its domestic legislation frequently needs to incorporate these international agreements' responsibilities & guiding principles. India's capacity to effectively communicate with its neighbors on transboundary environmental issues is compromised by this disconnect.⁵⁵

The Ganga Water Agreement⁵⁶ stands out as a positive example of cross-border environmental cooperation, promoting fair water sharing and sustainable management between India & Bangladesh, and enhancing diplomatic relations. However, its effectiveness in tackling the issue of transboundary water pollution could be improved.⁵⁷

⁴⁹ The Water (Prevention And Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974.

⁵⁰ The Air (Prevention And Control of Pollution) Act, 1981, No. 14, Acts of Parliament, 1981.

⁵¹ The Environment (Protection) Act, 1986, No. 29, Acts of Parliament, 1986.

⁵² K.I. Vibhute, *Environment, Development and the Law: The Indian Perspective*, 7 J. ENVTL. L. 137 (1995).

⁵³ The Cartagena Protocol on Biosafety to the Convention on Biological Diversity, January, 2000.

⁵⁴ United Nations Climate Change Conference, Paris, December, 2015.

⁵⁵ Goutham Shivshankar, *Environmental Law in India: The Task Ahead*, 50 ECON. & POL. WKLY. 38 (2015).

⁵⁶ Ganges Water Sharing Treaty, Indo-Bangladesh Cooperation, 1996.

⁵⁷ Furqan Ahmad, *supra* note 43.

In contrast, air pollution between India & Pakistan showcases a significant shortfall in cross-border environmental governance. Northern India's industrial & agricultural activities lead to smog & haze that severely affect Pakistan, especially during the winter months.⁵⁸ The lack of a formal agreement or legal framework to address this issue highlights the shortcomings of India's laws aimed at controlling domestic air pollution without considering the impacts on neighboring countries.⁵⁹

Water pollution in the Sutlej & Ravi rivers, which flow from India into Pakistan, is another example of how environmental laws fail. These rivers have been severely contaminated by industrial and agricultural pollutants from upstream Indian sources, which impacts Pakistan's public health and water quality downstream.⁶⁰ The problem is made worse by the two nations' lack of a formal framework for cooperation on transboundary water pollution. This instance highlights the need for more robust bilateral agreements and comprehensive legislation to control transboundary water pollution.⁶¹

Environmental laws are formulated, implemented, and enforced by the Indian government. Elaborating on ecological policies and collaborating with foreign agencies are the responsibilities of several ministries at the national level, including the Ministry of Environment, Forests, and Climate Change ("MoEFCC").⁶² However, effective cross-border environmental management is hampered by inadequate enforcement mechanisms and a shortage of more particular legal provisions addressing transboundary issues in India. Enhancing collaboration among federal, state, and local government tiers is vital to guarantee that environmental transboundary problems are suitably tackled.⁶³

States in India that share borders with other countries are crucial for the management of shared environmental resources. State-level legislation occasionally lacks the comprehensive framework necessary to address cross-border issues, particularly when natural resources like rivers or forests are at risk. Effective cooperation between state and federal administrations, as

⁵⁸ Akhileshwar Pathak, *State, Environment and Law*, 29 ECON. & POL. WKLY. 3138 (1994).

⁵⁹ *Id.*

⁶⁰ K.I. Vibhute, *supra* note 52.

⁶¹ Akhileshwar Pathak, *supra* note 58.

⁶² *Id.*

⁶³ Goutham Shivshankar, *supra* note 55.

well as neighboring nations, is necessary to coordinate transboundary environmental protection initiatives.⁶⁴

United Nations Environment Programme (“UNEP”) is the premier global environmental organization that promotes international cooperation. UNEP facilitates legal frameworks for managing transboundary ecological concerns through its agreements, such as the Basel Convention on Hazardous Wastes⁶⁵. However, as mentioned in Strengthening Indian Environmental Governance through Two-Phased Reform of UNEP, there are differences in how UNEP’s reforms affect nations such as India, especially when harmonizing domestic and international legislation.⁶⁶ These groups can improve India’s ability to handle cross-border problems by offering financial support, forums for cooperation, and technological know-how.⁶⁷

Organizations that support transboundary environmental projects, such as pollution control methods and sustainable resource management, include the World Bank and other Multilateral Development Banks.⁶⁸ They play an essential role in providing rules for sustainable development, guaranteeing that infrastructure development does not result in cross-border environmental degradation.

NGOs frequently play the role of watchdogs, keeping an eye on business and governmental actions that can endanger the environment. NGOs can campaign for more vital environmental rules, draw attention to cross-border ecological infractions, and hold corporations and governments accountable regarding transboundary issues.⁶⁹ To ensure that local perspectives are heard during decision-making, they can also help communities impacted by transboundary environmental challenges cooperate.⁷⁰

NGOs have played a significant role in India's public interest lawsuits, which force the government to act on environmental issues. Public Interest Litigations (“PILs”) could be extended to address transboundary environmental challenges and large-scale environmental

⁶⁴ K.I. Vibhute, *supra* note 52.

⁶⁵ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, Switzerland, March, 1989.

⁶⁶ Goutham Shivshankar, *supra* note 55.

⁶⁷ Furqan Ahmad, *supra* note 43.

⁶⁸ K.I. Vibhute, *supra* note 52.

⁶⁹ Akhileshwar Pathak, *supra* note 58.

⁷⁰ Goutham Shivshankar, *supra* note 55.

problems like pollution management.⁷¹ NGOs advocate for court interventions that guarantee environmental protection across national boundaries by filing PILs.

Addressing transboundary concerns requires regional cooperation through bilateral treaties or multilateral agreements, especially when shared resources like rivers, forests, and wildlife are at risk. The Indus Water Treaty⁷² and other agreements between India and its neighbors on joint river management show how bilateral cooperation can address transboundary issues.⁷³ These agreements must be amended to address more environmental concerns, such as preserving biodiversity and air pollution.

CASE LAWS

A notable illustration of how the judiciary might shape environmental law in the absence of broad legislative measures is the *Vellore Citizens' Welfare Forum v. Union of India & Ors.*⁷⁴ case. The judiciary's expansive interpretation of constitutional rights and enforcement of international environmental norms made more robust legal frameworks possible. In this decision, the Supreme Court stressed the value of sustainable development, striking a balance between the demands of environmental preservation and economic expansion. The formal introduction and application of the polluter pay, as well as precautionary principles to Indian environmental jurisprudence, was one of the most significant contributions of this ruling.

The Court recognized the critical importance of preventing environmental damage before it occurs, especially in cases where there is insufficient scientific evidence to support concerns. This is particularly crucial in transboundary situations, where environmental harm in one country can affect neighboring nations, necessitating precautionary measures (precautionary principle)⁷⁵ to prevent cross-border deterioration. The Court ruled that those responsible for pollution should bear the cost of repairing the damage. By establishing a framework for holding polluters accountable (polluter pays principle)⁷⁶ for cross-border harm, this principle is essential for addressing transboundary environmental issues and ensuring that environmental degradation is not overlooked due to jurisdictional constraints. The case exemplifies the

⁷¹ K.I. Vibhute, *supra* note 52.

⁷² The Indus Waters Treaty, India-Pakistan, Karachi, 1960.

⁷³ Akhileshwar Pathak, *supra* note 58.

⁷⁴ *Vellore Citizens' Welfare Forum v. Union of India & Ors.*, 1996 (5) SCC 647.

⁷⁵ *Vellore Citizens' Welfare Forum v. Union of India & Ors.*, 1996 (5) SCC 647.

⁷⁶ *Vellore Citizens' Welfare Forum v. Union of India & Ors.*, 1996 (5) SCC 647.

judiciary's proactive role in bridging gaps resulting from executive and legislative actions. The Indian Supreme Court strengthened the judiciary's role in protecting environmental rights by expanding the scope of Article 21⁷⁷ (Right to Life) to include the right to a healthy environment. This was achieved through judicial activism. The Court asserted that environmental degradation is a public issue requiring judicial intervention, citing this fundamental right, even when caused by private entities.

This legal strategy becomes extremely important when it comes to transboundary environmental issues. Addressing cross-border ecological harm can be based on the Court's understanding of environmental protection as a fundamental right, especially in cases where legal frameworks are insufficient or adjacent countries may be impacted by environmental damage that originates in India.⁷⁸

Secondly, the judgment given in the case of the *Indian Council for Enviro-Legal Action v. Union of India & Ors.*⁷⁹ in Indian environmental jurisprudence showcased the judiciary's proactive role in enforcing ecological accountability and addressing large-scale pollution. In this case, the Supreme Court adopted a firm stance on environmental protection, affirming that polluting industries must be held strictly liable for the environmental damage they cause. This led to applying the absolute liability principle,⁸⁰ which holds that industries engaged in hazardous activities are strictly liable for any harm caused by their actions, regardless of intent or negligence. This principle has far-reaching implications for both domestic & transboundary environmental governance.

In contrast to the conventional ideas of negligence-based liability, the principle of absolute liability guarantees that companies causing environmental damage cannot avoid accountability by arguing that they did not intend to take necessary safeguards. This is especially important when dealing with transboundary environmental issues because pollution from one nation can disastrously impact other countries. Strict liability for polluters is essential to guarantee accountability for environmental damage caused across international borders.⁸¹ The theory of

⁷⁷ INDIA CONST. Art. 14.

⁷⁸ Geetanjoy Sahu, *Why the Underdogs Came Out Ahead: An Analysis of the Supreme Court's Environmental Judgments, 1980–2010*, 49 ECON. & POL. WKLY. 52 (2014).

⁷⁹ *Indian Council for Enviro-Legal Action v. Union of India & Ors.*, 1996 SCC (3) 212.

⁸⁰ *Id.*

⁸¹ *Id.*

polluter paying was upheld by the court, which held that the parties responsible for the pollution must pay for all remediation expenses. In a transboundary setting, this concept can serve as a cornerstone for cross-border environmental governance, ensuring that polluters bear the financial consequences of their actions for the harm they inflict to neighboring countries' ecosystems and that the costs incurred in recovering shared environmental resources are covered.

In this case, the Supreme Court's verdict shows the ability of judicial activism to resolve environmental challenges where legislative & executive frameworks are missing or inadequate. The Court broadened the meaning of constitutional provisions to encompass the right to a clean environment by invoking Articles 21⁸² (Right to Life), 47⁸³ (Public Health), and 48A⁸⁴ (Environmental Protection) of the Indian Constitution. The judiciary could directly interfere with environmental concerns due to its expanded scope, especially when government control was insufficient. The judiciary's proactive approach becomes even more critical in the context of transboundary environmental challenges. Transboundary pollution and environmental degradation often occur due to loopholes in legal frameworks that oversee cross-border ecological impact.⁸⁵

In such situations, judicial activism highlights the judiciary's responsibility for upholding environmental protection laws and making up for any inaction or delay on the part of the legislature.⁸⁶ Although the *Indian Council for Enviro-Legal Action* case focused on pollution inside India's boundaries, its legal ideas can benefit significantly from transboundary environmental issues. The polluter pays principle emphasizes the judiciary's critical role in ensuring that polluters cannot evade responsibility, even when environmental damage crosses borders and other vital aspects of the ruling offer insights for strengthening India's environmental law to manage cross-border environmental issues more effectively.⁸⁷

⁸² INDIA CONST. art. 21.

⁸³ INDIA CONST. art. 47.

⁸⁴ INDIA CONST. art. 48A.

⁸⁵ Erin Daly, *Constitutional Protection for Environmental Rights: The Benefits of Environmental Process*, 17 INT'L J. PEACE STUD. 71 (2012).

⁸⁶ Geetanjoy Sahu, *supra* note 78.

⁸⁷ Robin Kundis Craig, *Constitutional Environmental Law, or, the Constitutional Consequences of Insisting That the Environment is Everybody's Business*, 49 ENV'T L. 703 (2019).

In addition, the Court's involvement in this case established a standard for proactive environmental management. Even without comprehensive law, courts can enforce international environmental norms and require governments to take corrective action when transboundary environmental harm occurs. Ultimately, although judicial activism has played a vital role in addressing deficiencies in environmental governance, the Court's involvement in such instances highlights the constraints associated with depending exclusively on legal recourse. Enhancing environmental laws to address transboundary issues would lessen the need for judicial activism and offer more extensive, legally binding procedures for averting and resolving international environmental disputes.⁸⁸ Examples of these mechanisms include creating frameworks for resource sharing, international cooperation, and cross-border pollution control.

One of the biggest environmental and development-related legal cases in Indian history was heard by the Supreme Court of India in *Narmada Bachao Andolan v. Union of India & Ors.*⁸⁹ The majority ruling maintained the dam's construction, arguing that the project's advantages exceeded its adverse environmental effects, especially regarding managing water resources and producing energy. The Court emphasized the need to balance the demands of national growth with the significance of environmental issues. Even though the Court approved the project, it established a precedent for how significant projects with substantial environmental effects should be managed by strictly adhering to environmental safeguards like Environmental Impact Assessments ("EIAs") and rehabilitation & resettlement plans.⁹⁰ This demonstrates how the enforcement of procedural environmental protections by the judiciary can guarantee that development projects adhere to environmental legislation. This essay emphasizes how important it is that India's environmental laws comply with international environmental agreements, particularly when working on projects involving shared natural resources. Legal frameworks must be established in order to ensure that transboundary environmental concerns are adequately taken into account during project design and execution.

The case also highlights the importance of comprehensive EIAs for large-scale projects. EIAs should mainly contain procedures for examining cross-border environmental consequences for transboundary projects to ensure that environmental harm stays inside national borders.

⁸⁸ Geetanjoy Sahu, *supra* note 78.

⁸⁹ *Narmada Bachao Andolan v. Union of India & Ors.*, 2000 (10) SCC 664.

⁹⁰ *Id.*

Furthermore, although the judiciary can set limitations and safeguards, its function is limited to post-event enforcement.⁹¹ Instead of relying solely on judicial intervention, environmental rules should be reinforced to prevent transboundary harm before it occurs and promote sustainable global development. Judicial activism emphasizes the judiciary's limits in addressing complex, global environmental issues, though it is crucial for guaranteeing that environmental regulations are enforced.⁹²

The *Research Foundation for Science, Technology and Natural Resource Policy v. Union of India & Ors.*⁹³ is a landmark case that highlights the proactive role of the Indian judiciary in addressing environmental challenges posed by the transboundary movement of hazardous waste. The critical issue, in this case, was the import of dangerous waste, which not only violated India's domestic environmental laws but also breached international agreements, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal,⁹⁴ to which India is a signatory.⁹⁵ When it comes to ensuring environmentally sound hazardous waste management, and to reduce the movement of hazardous waste between nations, particularly from developed to developing countries, the Basel Convention comes into aid.

Through this decision, the judiciary demanded that India fulfill its international duties under the Basel Convention, broadening the scope of already-existing environmental regulations.⁹⁶ This improved domestic environmental governance and established a standard for handling transboundary environmental problems with hazardous waste. The Court used the precautionary principle,⁹⁷ which requires that, even in situations where there is a lack of scientific confidence, preventative action be taken where there is a danger of environmental harm.⁹⁸ This idea is essential for dealing with transboundary environmental issues when the

⁹¹ Lord Justice Carnwath, *Judicial Protection of the Environment: At Home and Abroad*, 16 J. ENVTL. L. 315 (2004).

⁹² Geetanjoy Sahu, *supra* note 78.

⁹³ *Research Foundation for Science, Technology and Natural Resource Policy v. Union of India & Ors.*, 2007 AIR SCW 5851.

⁹⁴ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, Switzerland, March, 1989.

⁹⁵ *Research Foundation for Science, Technology and Natural Resource Policy v. Union of India & Ors.*, 2007 AIR SCW 5851.

⁹⁶ Robert V. Percival, *supra* note 37.

⁹⁷ *Vellore Citizens' Welfare Forum v. Union of India & Ors.*, 1996 (5) SCC 647.

⁹⁸ *Research Foundation for Science, Technology and Natural Resource Policy v. Union of India & Ors.*, 2007 AIR SCW 5851.

possibility of harm extending beyond national boundaries calls for preventive actions to avert permanent, long-term harm.

The polluter pays principle was upheld by the Supreme Court, which declared that anybody who pollutes the environment, including importers of hazardous material, is liable for cleanup expenses.⁹⁹ This idea is essential to handle transboundary environmental challenges—i.e., pollution from one nation that extends beyond its borders. The Court's decision underscored the need for robust legal frameworks and harsh accountability for violators to reduce transboundary environmental impact.

RECOMMENDATIONS

Comprehensive policy change and new legal frameworks are required to overcome the shortcomings in India's present environmental legislation about transboundary problems. The main goals of these changes must be to improve how proposed legislation is carried out, strengthen international collaboration, and improve India's capacity to handle environmental challenges that span national borders.¹⁰⁰

There are no specific provisions in the current Indian environmental legislation that deal with transboundary concerns. Including explicit provisions in legislation, such as the Environment (Protection) Act of 1986,¹⁰¹ that outline India's responsibilities regarding transboundary pollution, shared resources, and biodiversity would significantly improve. This might entail taking up tenets from global environmental treaties, such as the UNEP's recommendations for cross-border environmental matters.

India ought to establish an official organization tasked with overseeing cross-border environmental issues. This jurisdiction might supervise the execution of bilateral or multilateral agreements, make coordinating with neighboring nations to share natural resources easier and guarantee that transboundary environmental problems are considered when making rational decisions.¹⁰² It is necessary to form new agreements, especially with neighboring nations, to handle shared environmental issues. These include cross-border wildlife protection, air quality

⁹⁹ Vellore Citizens' Welfare Forum v. Union of India & Ors., 1996 (5) SCC 647.

¹⁰⁰ Goutham Shivshankar, *supra* note 55.

¹⁰¹ The Environment (Protection) Act, 1986, No. 29, Acts of Parliament, 1986.

¹⁰² Goutham Shivshankar, *supra* note 55.

monitoring, and cooperative management of river basins (such as the Ganges and Brahmaputra).¹⁰³ Legally binding clauses that hold nations responsible for resource management and cross-border contamination should be included in the agreements.

Strict enforcement is necessary for environmental laws to be implemented effectively. India should make investments to increase the ability of state and federal pollution control boards and other regulatory organizations to oversee and enforce cross-border environmental laws.¹⁰⁴ Within these institutions, specialized departments with technical know-how on cross-border matters had to be established. Environmental factors ought to be incorporated by the government into its framework for foreign policy.¹⁰⁵ India can more effectively handle common environmental concerns and advance regional stability by prioritizing transboundary environmental issues in diplomatic ties with neighboring nations. Engaging the public is necessary to strengthen environmental legislation. Public engagement in decision-making and awareness efforts are essential for transboundary environmental legislation to be implemented successfully.¹⁰⁶ PILs can also dramatically elevate transboundary environmental challenges to the court front.

India has to take a proactive role in international environmental governance systems since transboundary environmental concerns are fundamentally global. This entails fortifying its adherence to international accords like the Paris Climate Change Agreement¹⁰⁷ and the Basel Convention on Hazardous Wastes.¹⁰⁸ India can guarantee that its transboundary concerns are sufficiently handled and that global environmental rules are influenced by taking a more active role. When creating regional forums devoted to transboundary environmental governance, India needs to take the lead. These forums may be used as discussion boards, information exchanges, and capacity development exercises for cross-border pollution, shared water

¹⁰³ Furqan Ahmad, *supra* note 47.

¹⁰⁴ Shivshankar, Goutham, *Environmental Law in India: The Task Ahead*, 50 ECONOMIC AND POLITICAL WEEKLY 39-40 (2015),

¹⁰⁵ Hilary F. French, *supra* note 38.

¹⁰⁶ Goutham Shivshankar, *supra* note 55.

¹⁰⁷ United Nations Climate Change Conference, Paris, December, 2015.

¹⁰⁸ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, Switzerland, March, 1989.

management, and climate change adaptation.¹⁰⁹ For example, a Transboundary Environmental Cooperation Council for South Asia may offer a formal framework for cooperation.¹¹⁰

Technology-based solutions, such as data exchange platforms, sophisticated monitoring systems, and pollution control technologies, are frequently needed for transboundary environmental management. India ought to work with foreign organizations to get financing for these technologies and make it easier for adjacent nations to acquire them. Mechanisms for international climate funding, such as the Green Climate Fund, may be able to assist this collaboration.¹¹¹

India should fortify its diplomatic connections with adjacent nations using bilateral environmental accords. Common concerns, including preventing water pollution, preserving forests, and safeguarding migratory species, ought to be the main topics of these agreements.¹¹² These agreements would be more successful if they included collaborative environmental studies, frequent consultations, and conflict resolution procedures. When managing shared resources, environmental disputes between nations are unavoidable. India should support & participate in international dispute settlement processes that address environmental disputes, including those administered by the Permanent Court of Arbitration or the International Court of Justice. These procedures can offer a third-party forum for settling disputes involving cross-border environmental damage.

CONCLUSION

The evolution of Indian environmental jurisprudence has been pivotal in shaping the legal landscape for environmental governance. Beginning with the introduction of key legislations like the Water (Prevention and Control of Pollution) Act, 1974,¹¹³ and the Environment (Protection) Act, 1986,¹¹⁴ India has established a robust legal framework aimed at addressing domestic environmental concerns. However, as environmental crises have grown more

¹⁰⁹ Simon H. Olsen & Mark Elder, *Strengthening International Environmental Governance by Two-Phased Reform of UNEP: Analysis of Benefits and Drawbacks*, INST. FOR GLOB. ENV'T STRATEGIES (2011).

¹¹⁰ *Climate Diplomacy in South Asia: Transboundary Challenges, Collective Solutions*, THE STIMSON CENTER (May 2024).

¹¹¹ Joëlle de Sépibus, *Green Climate Fund: How Attractive Is It to Donor Countries?*, 9 CARBON & CLIMATE L. REV. 298 (2015).

¹¹² Goutham Shivshankar, *supra* note 55.

¹¹³ The Water (Prevention And Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974.

¹¹⁴ The Environment (Protection) Act, 1986, No. 29, Acts of Parliament, 1986.

complex and cross-border in nature, this framework has revealed significant inadequacies in managing transboundary environmental challenges.

Judicial activism has played a crucial role in the development of Indian environmental law, with the judiciary expanding constitutional provisions, particularly under Article 21 (Right to Life),¹¹⁵ to encompass the right to a clean and healthy environment. Through landmark rulings, the courts have advanced critical environmental principles like the “precautionary principle” and the “polluter pays principle.”¹¹⁶ However, while judicial interventions have been instrumental in advancing environmental justice domestically, there remains a need for more robust legal frameworks specifically addressing transboundary issues.¹¹⁷

In light of transboundary issues, this paper has identified a number of crucial reforms that India's environmental law needs to strengthen. These include drafting institutional structures to handle cross-border environmental issues, negotiating bilateral and multilateral environmental agreements with surrounding nations, and incorporating transboundary provisions into domestic laws.¹¹⁸ Strategies for effective implementation, such as enhancing enforcement mechanisms, integrating environmental governance into foreign policy, and fostering public participation, are also critical to ensuring the success of these reforms.

The resolution of transboundary environmental issues requires international collaboration. India will be able to successfully address cross-border ecological concerns through its active involvement in global environmental governance, the creation of regional environmental forums, and its engagement with international dispute resolution systems. Increased cooperation with neighboring nations will further support these initiatives through technology transfer, capacity building, and cooperative environmental assessments.

To sum up, strengthening India's environmental laws to address cross-border issues will require a multimodal approach involving judicial oversight, international collaboration, and legislative modifications. Through the implementation of these measures, India can safeguard its environment, foster ecological stability, and advance sustainable development, all while

¹¹⁵ INDIA CONST. art. 21.

¹¹⁶ *Vellore Citizens' Welfare Forum v. Union of India & Ors.*, 1996 (5) SCC 647.

¹¹⁷ Geetanjoy Sahu, *supra* note 78.

¹¹⁸ Robert V. Percival, *supra* note 37.

ensuring that environmental justice transcends national boundaries. This approach will be crucial for managing the complexity of transboundary environmental regulation in the complex world we live in today.

