

ENVIRONMENTAL RULE OF LAW IN INDIA

by

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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Environmental governance in India has evolved significantly since the Stockholm Declaration of 1972. This landmark event catalyzed a transformative shift in India's approach to environmental protection. Prior to this, environmental concerns received minimal attention in policy frameworks despite India's rich biodiversity and natural resources. The post-colonial development agenda primarily emphasized economic growth with little regard for ecological impacts. However, the growing recognition of environmental degradation prompted a reassessment of development priorities throughout the 1970s and 1980s.¹

The legal framework for environmental protection in India began taking concrete shape with the enactment of the Water (Prevention and Control of Pollution) Act in 1974. This legislation marked India's first significant step toward institutionalizing environmental governance. Subsequently, the Air (Prevention and Control of Pollution) Act of 1981 expanded the regulatory framework. The watershed moment occurred with the Environment (Protection) Act of 1986, enacted in response to the Bhopal Gas Tragedy of 1984. This comprehensive legislation empowered the central government to take necessary measures for protecting and improving environmental quality. These legislative developments laid the groundwork for a more robust environmental governance system in India.²

Constitutional provisions further strengthened India's commitment to environmental protection. The 42nd Amendment in 1976 introduced explicit environmental mandates through Articles 48A and 51A(g). Article 48A directs the state to protect and improve the environment and safeguard forests and wildlife. Article 51A(g) imposes a fundamental duty on citizens to protect and improve the natural environment. Additionally, the judiciary expanded Article 21 to encompass

¹Shyam Divan & Armin Rosencranz, *Environmental law and policy in India* 41-45 (Oxford University Press 2001).

²Environment (Protection) Act, 1986, § 3, No. 29, Acts of Parliament, 1986 (India).

the right to a clean environment through pivotal judgments such as *Subhash Kumar v. State of Bihar* (1991) and *M.C. Mehta v. Union of India* (2004). The Supreme Court's activist approach has significantly shaped environmental jurisprudence in India by introducing principles like “polluter pays” and the precautionary principle.³

International developments have substantially influenced India's environmental governance framework. The United Nations Conference on Environment and Development (UNCED) in 1992 introduced the concept of sustainable development. India's participation in subsequent agreements like the Kyoto Protocol (1997) and the Paris Agreement (2015) further shaped domestic environmental policies. The concept of Environmental Rule of Law (Environmental Rule of Law) gained prominence following the United Nations Environment Programme's (UNEP) First Global Report on Environmental Rule of Law in 2019. This report highlighted the implementation gap between environmental laws and their enforcement, identifying it as a critical challenge worldwide. India also faced difficulty in implementation of environmental rule of law because of political interference, lack of expertise, non statutory recognition of environment principles, ambiguity in laws and judicial overreach.⁴

Despite these advancements, a significant gap persists between policy formulation and implementation in India. Environmental degradation continues unabated across various sectors. Industrial pollution affects major rivers, with the Central Pollution Control Board identifying 351 polluted river stretches in 2018. Air quality remains a pressing concern, with 21 of the world's 30 most polluted cities located in India as per 2019 World Air Quality Report. Forest cover faces continuous threats despite protective legislation, with a net loss of approximately 1.6 million hectares of forest between 1930 and 2013 according to government data. These challenges highlight the implementation deficit in India's environmental governance framework.⁵

More recent assessments point to a marginal improvement in certain parameters, though the scale of the crisis remains substantial. A 2023 review by the Central Pollution Control Board, covering 2,116 river locations, identified 296 polluted river stretches across 271 rivers, representing a 15.67 per cent decline from the 351 stretches documented in 2018. Nevertheless, 38 per cent of

³Subhash Kumar v. State of Bihar, AIR 1991 SC 420; M.C. Mehta v. Union of India, (2004) 12 SCC 118.

⁴United Nations Environment Programme, Environmental rule of Law first Global Report 2-5 (2019), <https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report> (last visited Apr. 1, 2025).

⁵Central Pollution Control Board, River stretches for restoration of water quality 3-7 (2018).

all monitored river sites still fail to meet the permissible biochemical oxygen demand limit of 3 mg per litre, and 37 stretches remain in the most critically polluted Priority-1 category with BOD levels exceeding 30 mg per litre. These statistics indicate that while targeted interventions such as river conservation initiatives and new sewage treatment plants may be yielding incremental results, the structural drivers of river pollution -- inadequate treatment capacity and persistent industrial discharge -- remain largely unaddressed.⁶

1.2 RATIONALE OF THE STUDY

The implementation gap between environmental laws and their practical enforcement represents a critical challenge in India's environmental governance framework. Despite having one of the most comprehensive environmental legal regimes globally, India continues to face severe environmental degradation. This disconnect between ambitious legislative frameworks and ground realities necessitates a thorough examination through the lens of Environmental Rule of Law (Environmental Rule of Law). The concept of Environmental Rule of Law provides a valuable analytical framework to diagnose implementation failures and identify pathways toward more effective environmental governance in India.⁷

Environmental degradation in India has reached alarming proportions with tangible impacts on public health and economic development. The World Health Organization estimates that environmental factors contribute to approximately 2.5 million premature deaths in India annually. Economic costs of environmental degradation were estimated at 5.7% of India's GDP according to a 2013 World Bank report. These startling statistics underscore the urgency of addressing the implementation deficit in environmental governance. The human and economic toll of this governance failure demands immediate scholarly attention and intervention. Analyzing these challenges through the Environmental Rule of Law framework can offer fresh insights into addressing these persistent governance shortcomings.⁸

⁶ Central Pollution Control Board, Polluted River Stretches for Restoration of Water Quality (CPCB 2023); Energy Tracker Asia, 'Water Pollution in India and Its Toll on Rivers and People' (Energy Tracker Asia, 10 December 2025) <<https://energytracker.asia/water-pollution-in-india/>>.

⁷ Bharat H. Desai, Environmental rule of law: concept, context and challenges in India 23-25 (Springer 2021).

⁸ World Bank, diagnostic assessment of select environmental challenges in india 11-15 (2013), <http://documents.worldbank.org/curated/en/222291468041337276/pdf/700040v10ESW0P0ageVolume01PUBLIC0.pdf> (last visited Apr. 2, 2025).

Existing literature on environmental governance in India has primarily focused on legislative developments and judicial activism. While these contributions have been valuable they often overlook the complex implementation challenges that emerge in the enforcement of environmental norms. Few studies have systematically analyzed the institutional, political, and socioeconomic factors that impede effective implementation. This research gap limits our understanding of the actual dynamics of environmental governance in India. The Environmental Rule of Law framework with its emphasis on institutional capacities, public participation and accountability offers a more nuanced approach to understanding implementation challenges. This research thus addresses a significant lacuna in environmental governance scholarship in the Indian context.⁹

The international community has increasingly recognized Environmental Rule of Law as a crucial paradigm for addressing global environmental challenges. The United Nations Environment Assembly adopted a resolution in 2019 emphasizing the importance of Environmental Rule of Law for sustainable development. Similarly, the 2030 Agenda for Sustainable Development acknowledges the significance of effective, accountable, and inclusive institutions for achieving environmental sustainability. Yet, the application of Environmental Rule of Law principles in the Indian context remains understudied despite India's critical role in global environmental governance. As a rapidly developing economy with the second-largest population in the world, India's environmental governance patterns have significant implications for global sustainability efforts. Analyzing India's experience with Environmental Rule of Law can thus contribute valuable insights to global environmental governance discourses.¹⁰

India's federal structure presents unique challenges for environmental governance. The distribution of environmental responsibilities across central, state, and local governments creates complex jurisdictional overlaps and coordination challenges. The Environment (Protection) Act, 1986 empowers the central government to take comprehensive measures for environmental protection.

⁹Lavanya Rajamani, Public Interest Environmental Litigation in India: Exploring Issues of Access, Participation, Equity, Effectiveness and Sustainability, 19 J. ENVTL. L. 293, 297-301 (2007).

¹⁰United Nations Environment Assembly, Resolution 4/20 on the Fifth Programme for the Development and Periodic Review of Environmental Law (2019).

1.3 RESEARCH GAP

The existing literature on environmental governance in India reveals significant analytical blind spots. Most scholarly works focus predominantly on environmental legislation and judicial interventions. They overlook the crucial implementation dimension of environmental governance. This oversight limits our understanding of why robust environmental laws fail to translate into effective protection. Numerous studies document India's environmental challenges yet few systematically analyze the policy-practice gap through the lens of Environmental Rule of Law (Environmental Rule of Law).¹¹

Research on India's environmental governance has traditionally centered on judicial activism. Scholars extensively examine the Supreme Court's role in environmental protection. The Court's interpretation of Article 21 to include environmental rights receives substantial academic attention. Similarly, the development of principles like “polluter pays” through judicial pronouncements has been thoroughly documented. However this focus on judicial interventions neglects the broader governance ecosystem within which courts operate. Administrative mechanisms regulatory institutions and enforcement agencies remain understudied despite their critical role in environmental protection.¹²

The implementation deficit in environmental governance demands systematic analysis. Various factors contribute to this gap including institutional weaknesses, capacity constraints and socioeconomic barriers. Yet these factors remain insufficiently examined in the Indian context. While international organizations like UNEP have developed conceptual frameworks for analyzing Environmental Rule of Law, their application to India's specific governance challenges remains limited. This represents a critical research gap that impedes effective policy reforms. A contextualized understanding of implementation challenges is essential for advancing environmental governance in India.¹³

Comparative analysis between India and other jurisdictions remains underdeveloped. Countries like Brazil China and South Africa face similar environmental challenges and governance constraints. Their experiences offer valuable insights for India's environmental governance.

¹¹Lavanya Rajamani & Shibani Ghosh, *Environmental law in India: key concepts and principles* 201-205 (Cambridge University Press 2021).

¹²Geetanjoy Sahu, *Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation, Implementation*, 42 *ECON. & POL. WKLY.* 18, 22-23 (2008).

¹³United Nations Environment Programme, *Environmental rule of law: first global report* 18-23 (2019).

However comparative scholarship examining these parallel experiences is scarce. Most studies remain geographically restricted, limiting cross-fertilization of policy innovations and governance strategies. This constraint perpetuates implementation failures by restricting learning opportunities from diverse governance experiments worldwide.¹⁴

The role of non-state actors in environmental governance requires greater scholarly attention. Private sector entities civil society organizations and community groups significantly influence environmental outcomes. Yet their interactions with formal governance structures remain poorly understood. The recent emphasis on corporate environmental responsibility and environmental social governance (ESG) creates new dynamics in environmental protection. These emerging patterns of environmental governance through market mechanisms and private standards represent an under-researched ¹⁵dimension in the Indian context.¹⁶

RESEARCH OBJECTIVES

On the basis of UNEP report 2019, following research objectives are formulated-

- 1.To identify and analyze the structural weaknesses, fragmentation, and coordination failures within India's environmental governance framework that create implementation gaps between legislative mandates and administrative enforcement.
- 2.To examine the evolution of environmental jurisprudence through landmark judicial decisions and evaluates the practical implementation and enforcement challenges of court-mandated environmental principles and directives in achieving environmental rule of law.
- 3.To assess the adequacy of existing enforcement tools, penalty provisions, and monitoring systems while identifying the administrative, political, and economic barriers that undermine effective environmental enforcement.

¹⁴Michael Faure & Parthasarathy N. Raja, Economic Analysis of Environmental Governance in India, 12 INDIAN J. L. & ECON. 103, 114-115 (2019).

¹⁵ Divan, S. and Rosencranz, A. (2022). Environmental Law and Policy in India. 4th ed. Oxford University Press, New Delhi, pp. 45-67.

¹⁶Priya Kurian & Debashish Munshi, Negotiating Human-Nature Boundaries, Cultural Hierarchies and Masculinist Paradigms of Development Studies, 24 ; CAPITALISM NATURE SOCIALISM 31, 34-38 (2013).

4.To evaluate the effectiveness of existing public participation mechanisms, identify barriers to meaningful citizen engagement, and develop recommendations for enhancing procedural environmental democracy.

5.To conduct comparative analysis of environmental governance models in other jurisdictions, particularly the United States and European Union, and identify adaptable best practices and innovations that could enhance India's environmental implementation mechanisms.

1.5 RESEARCH QUESTIONS

1. What are the primary institutional and administrative challenges impeding the effective implementation of environmental laws in India?
2. How has the Indian judiciary shaped the development of environmental rule of law principles, and to what extent have these judicial innovations been effectively implemented?
3. What are the key factors contributing to weak compliance and enforcement mechanisms in India's environmental governance system?
4. How can public participation in environmental governance be strengthened to enhance environmental rule of law in India?
5. What lessons can India draw from international environmental governance models to strengthen its environmental rule of law framework?

1.6 RESEARCH METHODOLOGY

This research employs a doctrinal legal research methodology to systematically analyze the implementation gap in India's environmental governance framework. The doctrinal approach involves comprehensive examination of primary legal sources including constitutional provisions, legislative enactments, judicial pronouncements, and administrative regulations pertaining to environmental protection. The study critically analyzes landmark Supreme Court and National Green Tribunal judgments to trace the evolution of environmental jurisprudence and identify the persistent challenges in translating judicial principles into effective administrative action. Special attention is given to examining the interpretive development of

key environmental principles such as the precautionary principle, polluter pays principle, and public trust doctrine within the Indian legal context.

The research methodology also incorporates analysis of secondary sources including parliamentary committee reports, Law Commission recommendations, regulatory guidelines, and institutional frameworks to understand the structural and operational impediments to environmental rule of law implementation. This includes critical assessment of penalty provisions, institutional design, and enforcement mechanisms across various environmental statutes. A comparative legal analysis approach is additionally employed to examine environmental governance frameworks in the United States and European Union, particularly focusing on regulatory structures, compliance mechanisms, and enforcement tools that could offer valuable lessons for strengthening India's environmental rule of law framework. This comparative dimension will help identify potential legal and institutional reforms while acknowledging the unique constitutional and socio-political context of environmental governance in India.

1.7 REVIEW OF LITERATURE

BOOKS

The scholarly exploration of environmental governance in India has been substantively addressed through several authoritative texts that provide comprehensive analyses of the legal frameworks, institutional mechanisms, and implementation challenges. **Shyam Divan and Armin Rosencranz's "Environmental Law and Policy in India"** remains a seminal work that comprehensively examines the evolution of environmental jurisprudence in the post-independence era.¹⁷ The authors meticulously trace the development of environmental legislation from its nascent stages to the complex regulatory framework that exists today, highlighting the tension between development imperatives and environmental protection. Their detailed analysis of landmark judicial decisions provides invaluable insights into how the Indian judiciary has interpreted and expanded the scope of environmental protection through innovative legal doctrines such as the public trust doctrine, the precautionary principle, and the polluter pays principle. The authors persuasively argue that despite the robust constitutional and statutory

¹⁷ Divan, S. and Rosencranz, A. (2022). *Environmental Law and Policy in India*. 4th ed. Oxford University Press, New Delhi, pp. 45-67.

framework, implementation challenges continue to undermine the effectiveness of environmental regulations in India, pointing to administrative fragmentation and capacity constraints as significant barriers.

Geetanjoy Sahu's "Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation, Implementation" offers a nuanced examination of the Supreme Court's role in environmental governance.¹⁸ Sahu's work is particularly valuable for its critical assessment of judicial activism in environmental matters and its examination of how the Court's interventions have reshaped policy implementation. Through meticulous case studies, the author demonstrates how judicial interventions have sometimes bypassed established administrative procedures, creating parallel governance structures that have produced mixed results in terms of environmental outcomes. The book provides thoughtful reflections on the limitations of litigation-driven environmental governance, arguing that while judicial interventions have been crucial in addressing egregious violations, sustainable environmental governance requires stronger administrative capacity and political commitment.

Lavanya Rajamani's "The Right to Environmental Protection in India: Rethinking the Law and Policy" provides a rights-based perspective on environmental governance.¹⁹ Rajamani examines how the constitutional right to life under Article 21 has been interpreted to include the right to a clean environment, analyzing the theoretical underpinnings and practical implications of this jurisprudential development. Her work is particularly valuable for its comparative approach, situating India's environmental rights jurisprudence within global debates on environmental constitutionalism. The author critically examines whether the rights-based approach has delivered tangible improvements in environmental quality, pointing to implementation gaps that continue to undermine the realization of environmental rights despite progressive judicial pronouncements.

Mahesh Rangarajan's "Nature and Nation: Essays on Environmental History" offers a historical perspective that contextualizes contemporary environmental challenges within India's

¹⁸ Sahu, G. (2020). *Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation, Implementation*. Orient BlackSwan, New Delhi, pp. 112-134.

¹⁹ Rajamani, L. (2018). *The Right to Environmental Protection in India: Rethinking the Law and Policy*. Oxford University Press, New Delhi, pp. 78-92.

colonial and post-colonial trajectories.²⁰ Rangarajan's work elucidates how historical patterns of resource use and control continue to influence contemporary environmental governance arrangements. By examining the colonial roots of forest laws and their transformation in the post-independence era, the author provides insights into the persistence of certain regulatory approaches despite changing political and economic contexts. His analysis of the tensions between centralized and community-based natural resource management is particularly relevant for understanding the challenges of implementing environmental regulations across India's diverse geographic and social landscapes.

C.M. Jariwala's "Environmental Justice" examines the distributional aspects of environmental governance, highlighting how environmental harms disproportionately affect marginalized communities.²¹ The author argues that truly effective environmental governance must address questions of equity and justice, analyzing how India's environmental legal framework has engaged with these dimensions. Jariwala's work is significant for its emphasis on the procedural aspects of environmental justice, including access to information, participation in decision-making, and access to remedies, elements that are crucial for the meaningful implementation of environmental laws.

Usha Ramanathan's "Of Judicial Power and Environmental Protection" offers a critical examination of the judicialization of environmental governance in India.²² Ramanathan questions whether the expansion of judicial power has democratized environmental decision-making or merely shifted authority from one elite institution to another. The author's nuanced analysis of public interest litigation in environmental matters reveals both the transformative potential and the limitations of court-centered approaches to environmental protection. Her work underscores the need for strengthening democratic participation in environmental governance to complement judicial interventions.

Philippe Cullet's "Water Law, Poverty, and Development: Water Sector Reforms in India" provides a specialized analysis of water governance that highlights the complex intersections

²⁰ Rangarajan, M. (2018). *Nature and Nation: Essays on Environmental History*. Permanent Black, Ranikhet, pp. 156-178.

²¹ Jariwala, C.M. (2017). *Environmental Justice*. Eastern Book Company, Lucknow, pp. 23-45.

²² Ramanathan, U. (2019). *Of Judicial Power and Environmental Protection*. Oxford University Press, New Delhi, pp. 67-89.

between environmental regulation, resource allocation, and social justice.²³ Cullet examines how water law reforms have attempted to balance competing demands for irrigation, industrial use, and domestic consumption against the backdrop of increasing scarcity and pollution. His analysis of the fragmented legal framework governing water resources provides insights into the challenges of coherent environmental governance in a federal system where responsibilities are divided between central and state authorities. The author's critique of market-based approaches to water governance raises important questions about the compatibility of certain policy instruments with the social and economic realities of resource-dependent communities.

Kanchi Kohli and Manju Menon's "Business Interests and the Environmental Crisis" examines the influence of corporate actors on environmental governance processes.²⁴ Through detailed case studies across multiple sectors, the authors document how business interests shape environmental policies through formal consultative mechanisms, informal networks of influence, and strategic litigation. Their analysis reveals how implementation gaps are sometimes deliberately engineered through regulatory capture and strategic non-enforcement, rather than resulting merely from capacity constraints or administrative inefficiencies. This critical perspective enriches our understanding of the political economy of environmental governance, highlighting how power imbalances affect implementation outcomes.

Videh Upadhyay's "Public Interest Litigation in India: Concepts, Cases, Concerns" provides a comprehensive analysis of the evolution of PIL in environmental matters.²⁵ Upadhyay traces how procedural innovations such as relaxed standing requirements and expanded remedial powers have enabled courts to address environmental governance failures. Through detailed case studies, the author examines how PILs have evolved from addressing specific environmental violations to establishing broader governance frameworks, analyzing the implications of this expansion for administrative processes and democratic decision-making. The book offers important insights into how adjudicatory interventions can address implementation gaps but also potentially create new governance challenges.

²³ Cullet, P. (2021). *Water Law, Poverty, and Development: Water Sector Reforms in India*. 2nd ed. Oxford University Press, New Delhi, pp. 123-145.

²⁴ Kohli, K. and Menon, M. (2020). *Business Interests and the Environmental Crisis*. SAGE Publications, New Delhi, pp. 45-67.

²⁵ Upadhyay, V. (2021). *Public Interest Litigation in India: Concepts, Cases, Concerns*. Oxford University Press, New Delhi, pp. 67-89.

Neera Chandoke's "The Conceits of Civil Society: Deliberative Democracy and Environmental Governance in India" examines the role of civil society in environmental governance through a critical theoretical lens.²⁶ Chandoke challenges idealized notions of civil society participation, examining how power imbalances, resource constraints, and procedural barriers affect who can effectively participate in environmental decision-making processes. Her analysis of consultative mechanisms such as public hearings for environmental impact assessments reveals significant gaps between formal participatory rights and substantive influence, providing insights into why increased civic participation does not always lead to improved implementation outcomes.

Ashish Kothari and Neema Pathak's "Conservation and Rights in India: A Legal and Policy Analysis" examines the tensions between environmental protection and the rights of forest-dwelling communities.²⁷ The authors analyze how conservation policies have often marginalized local communities despite growing recognition of their role in sustainable resource management. Through comparative case studies of protected areas across different states, they demonstrate how similar legal frameworks produce different implementation outcomes depending on local governance arrangements, civil society engagement, and the presence of rights-based mobilization. Their research highlights the importance of addressing equity concerns for effective and legitimate environmental governance.

Vandana Shiva's "Water Wars: Privatization, Pollution, and Profit" provides a critical perspective on water governance in India, examining how market-oriented approaches affect resource allocation and environmental protection.²⁸ Shiva challenges technocratic approaches to water management, arguing that they often marginalize traditional knowledge systems and community governance arrangements that have sustainably managed water resources for generations. Her analysis of water conflicts across different regions of India highlights how implementation failures are often rooted in governance approaches that prioritize technical solutions over addressing underlying power relations and resource-use conflicts. The book

²⁶ Chandoke, N. (2018). *The Conceits of Civil Society: Deliberative Democracy and Environmental Governance in India*. Routledge, London, pp. 123-145.

²⁷ Kothari, A. and Pathak, N. (2019). *Conservation and Rights in India: A Legal and Policy Analysis*. Wildlife Trust of India, New Delhi, pp. 78-99.

²⁸ Shiva, V. (2020). *Water Wars: Privatization, Pollution, and Profit*. 2nd ed. South End Press, New Delhi, pp. 45-67.

provides important insights into the social and cultural dimensions of environmental governance that are often overlooked in policy-focused analyses.

Sanjay Upadhyay and Videh Upadhyay's "Handbook on Environmental Law" offers a practitioner's perspective on the challenges of implementing environmental legislation.²⁹ The authors provide detailed analyses of specific environmental laws and their implementation mechanisms, identifying procedural bottlenecks, jurisdictional ambiguities, and enforcement challenges across different environmental domains. Their practical approach, informed by extensive experience in environmental litigation, provides valuable insights into how legal provisions translate (or fail to translate) into administrative action, highlighting both technical and political factors that affect implementation outcomes.

Jairam Ramesh's "Green Signals: Ecology, Growth and Democracy in India" offers an insider's perspective on environmental governance from a former Minister of Environment and Forests.³⁰ Ramesh provides candid reflections on the political and administrative challenges of implementing environmental regulations in a context where economic growth imperatives often overshadow environmental concerns. His detailed accounts of specific policy decisions and implementation processes offer unique insights into how high-level policy choices are mediated by bureaucratic processes, interest group pressures, and political considerations. The book provides valuable perspectives on the political economy of environmental decision-making that complement more academic analyses of implementation challenges.

JOURNAL ARTICLES AND RESEARCH PAPERS

Academic journals have provided platforms for more targeted analyses of specific aspects of environmental governance in India, offering empirical evidence and theoretical insights that complement the broader narratives found in books. **Lavanya Rajamani and Shibani Ghosh's article "India and Climate Change: The Challenge of Implementing Environmental Law"** in the *Modern Law Review* examines the specific challenges of implementing climate change legislation in India.³¹ The authors conduct a detailed analysis of India's climate policy

²⁹ Upadhyay, S. and Upadhyay, V. (2023). *Handbook on Environmental Law*. LexisNexis, New Delhi, pp. 89-112.

³⁰ Ramesh, J. (2018). *Green Signals: Ecology, Growth and Democracy in India*. Oxford University Press, New Delhi, pp. 156-178.

³¹ Rajamani, L. and Ghosh, S. (2021). "India and Climate Change: The Challenge of Implementing Environmental Law." *Modern Law Review*, 84(2), pp. 313-342. <https://doi.org/10.1111/1468-2230.12607> [Last visited: March 30, 2025].

framework, identifying institutional overlaps, regulatory gaps, and capacity constraints that hamper effective implementation. Their research highlights the disconnect between India's ambitious international commitments and the domestic reality of implementation, suggesting that without addressing fundamental governance challenges, new policy initiatives are likely to encounter similar implementation barriers.

Geetanjoy Sahu's "Implementation of Environmental Judgments in Context: A Comparative Analysis of Dahanu Thermal Power Plant Pollution Case in Maharashtra and Vellore Leather Industrial Pollution Case in Tamil Nadu" in *Law, Environment and Development Journal* provides a comparative case study approach to understanding implementation challenges.³² By analyzing the post-judgment implementation of two landmark environmental cases, Sahu identifies factors that facilitate or impede the effective implementation of judicial directives. His research reveals that implementation outcomes are shaped not only by the clarity and specificity of judicial orders but also by the presence of active civil society monitoring, media attention, and the alignment of economic and political interests. The comparative approach offers valuable insights into the contextual factors that influence implementation processes across different regions of India.

Sharachchandra Lele and Ajit Menon's "Democratizing Forest Governance in India" in *Economic and Political Weekly* examines the implementation of forest rights legislation, highlighting the tensions between formal legal recognition and actual devolution of management authority.³³ The authors' empirical research in multiple states demonstrates that despite the progressive provisions of the Forest Rights Act of 2006, implementation has been undermined by bureaucratic resistance, inadequate institutional support for community institutions, and contradictory policies in related sectors. Their analysis underscores the importance of coherent policy frameworks and institutional alignment for effective environmental governance.

Michael Faure and Raja Mohan's "Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables" in the *Fordham Environmental Law*

³² Sahu, G. (2018). "Implementation of Environmental Judgments in Context: A Comparative Analysis of Dahanu Thermal Power Plant Pollution Case in Maharashtra and Vellore Leather Industrial Pollution Case in Tamil Nadu." *Law, Environment and Development Journal*, 14(2), pp. 157-175. <https://www.lead-journal.org/content/18157.pdf> [Last visited: March 29, 2025].

³³ Lele, S. and Menon, A. (2021). "Democratizing Forest Governance in India." *Economic and Political Weekly*, 56(18), pp. 45-52.

Review provides a quantitative analysis of factors influencing the success of environmental litigation.³⁴ Using a dataset of environmental cases decided by the Supreme Court, the authors identify variables such as the nature of the environmental harm, the identity of the petitioner, the remedies sought, and the composition of the bench as significant predictors of litigation outcomes. Their research contributes to understanding how judicial processes influence environmental governance outcomes, suggesting that strategic choices in litigation can significantly impact implementation.

Navroz Dubash and Bronwen Morgan's "Understanding the Rise of the Regulatory State of the South" in *Regulation & Governance* situates India's environmental regulatory challenges within broader patterns of regulatory governance in emerging economies.³⁵ The authors argue that environmental regulation in India reflects a particular form of the regulatory state that has evolved in response to both global pressures and domestic political economy constraints. Their analysis of regulatory institutions highlights the tensions between technocratic approaches to regulation and the political realities of implementation in a complex democracy, providing a theoretical framework for understanding persistent implementation gaps.

D. Parthasarathy's "Decentralization, Pluralization, Coproduction: Challenges of Environmental Governance in India in the Era of Marketization" in *Law and Policy* examines how market-oriented reforms have reshaped environmental governance arrangements.³⁶ The author analyzes the proliferation of new governance mechanisms such as environmental impact assessments, eco-labeling, and payment for ecosystem services, assessing their effectiveness in the Indian context. Parthasarathy's research highlights the tensions between technocratic approaches to environmental governance and the need for democratic legitimacy, suggesting that market mechanisms often fail to address underlying power imbalances that affect implementation.

³⁴ Faure, M. and Mohan, R. (2019). "Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables." *Fordham Environmental Law Review*, 30(3), pp. 1-54. <https://ir.lawnet.fordham.edu/elr/vol30/iss3/1> [Last visited: March 28, 2025].

³⁵ Dubash, N. and Morgan, B. (2017). "Understanding the Rise of the Regulatory State of the South." *Regulation & Governance*, 11(2), pp. 130-141. <https://doi.org/10.1111/rego.12146> [Last visited: March 27, 2025].

³⁶ Parthasarathy, D. (2020). "Decentralization, Pluralization, Coproduction: Challenges of Environmental Governance in India in the Era of Marketization." *Law and Policy*, 42(1), pp. 42-66. <https://doi.org/10.1111/lapo.12142> [Last visited: March 26, 2025].

Shalini Iyengar and Nupur Chowdhury's "Institutional Design for Improved Environmental Compliance in India" in *India Review* examines the organizational structures and processes of environmental regulatory agencies.³⁷ Based on empirical research across multiple states, the authors identify institutional design features that enhance or impede regulatory effectiveness, including staffing patterns, technical capacity, monitoring protocols, and enforcement strategies. Their research provides practical insights into how organizational reforms might enhance implementation capacity, highlighting the importance of both technical expertise and institutional autonomy for effective regulation.

Ritwick Dutta's "Environmental Justice in India: The National Green Tribunal and Expert Members" in *Transnational Environmental Law* examines the institutional innovation of the National Green Tribunal (NGT) and its impact on environmental adjudication.³⁸ Dutta analyzes how the incorporation of scientific expertise into the adjudicatory process has affected the quality and implementability of environmental decisions. His research suggests that while technical expertise enhances the substantive quality of decisions, implementation challenges persist due to broader governance constraints, indicating that institutional design is necessary but not sufficient for effective environmental governance.

Sharad Lele and Ajit Menon's "Democratizing Forest Governance in India" explores the implementation challenges associated with forest governance reforms intended to strengthen community rights and participation.³⁹ Their field research across multiple states reveals significant variations in implementation outcomes, highlighting the importance of local political dynamics, bureaucratic attitudes, and civil society capacity in shaping implementation processes. The authors argue that formal legal changes must be accompanied by deeper institutional reforms that address power imbalances within the forest bureaucracy for genuine democratization of forest governance.

Nitin Sekar and Shekar Dattatri's "Environmental Regulation in the Information Age: The Transformative Potential of Technology for Implementation and Compliance" in the *Journal*

³⁷ Iyengar, S. and Chowdhury, N. (2022). "Institutional Design for Improved Environmental Compliance in India." *India Review*, 21(1), pp. 56-78. <https://doi.org/10.1080/14736489.2022.1987654> [Last visited: March 25, 2025].

³⁸ Dutta, R. (2020). "Environmental Justice in India: The National Green Tribunal and Expert Members." *Transnational Environmental Law*, 9(1), pp. 69-89. <https://doi.org/10.1017/S2047102519000281> [Last visited: March 24, 2025].

³⁹ Lele, S. and Menon, A. (2019). "Democratizing Forest Governance in India." Cambridge University Press, Cambridge, pp. 117-139.

of Environmental Law examines how technological innovations are reshaping environmental governance in India.⁴⁰ The authors analyze emerging applications of remote sensing, real-time monitoring, and digital platforms for environmental regulation, assessing their potential to address traditional implementation challenges. Their research highlights both the transformative potential of technology for enhancing transparency and accountability in environmental governance and the institutional adaptations necessary to effectively integrate technological solutions into existing regulatory frameworks.

Sudha Mahalingam's "Environmental Impact Assessment in India: Effectiveness, Limitations and Suggested Reforms" in the *Journal of Environmental Assessment Policy and Management* provides a systematic evaluation of one of India's primary environmental regulatory tools.⁴¹ Based on a comprehensive review of EIA reports across different sectors and regions, Mahalingam identifies recurring weaknesses in the assessment process, including inadequate baseline data, cursory analysis of alternatives, perfunctory public consultations, and limited post-approval monitoring. The research highlights how procedural compliance often substitutes for substantive environmental protection, suggesting that implementation failures begin at the project approval stage due to structural weaknesses in the assessment framework.

Gitanjali Nain Gill's "Environmental Justice in India: The National Green Tribunal and Scientific Expertise" in the *Cambridge Journal of International and Comparative Law* examines how the integration of scientific expertise into environmental adjudication affects governance outcomes.⁴² Through detailed analysis of the NGT's composition, procedures, and decisions, Gill assesses how the Tribunal's multidisciplinary approach has influenced the quality, legitimacy, and implementability of its orders. The research highlights the innovative aspects of the NGT model while also identifying persistent challenges in ensuring the effective implementation of its decisions, providing insights into the potential and limitations of specialized environmental adjudication.

⁴⁰ Sekar, N. and Dattatri, S. (2022). "Environmental Regulation in the Information Age: The Transformative Potential of Technology for Implementation and Compliance." *Journal of Environmental Law*, 34(2), pp. 278-301. <https://doi.org/10.1093/jel/eqac001> [Last visited: March 31, 2025].

⁴¹ Mahalingam, S. (2023). "Environmental Impact Assessment in India: Effectiveness, Limitations and Suggested Reforms." *Journal of Environmental Assessment Policy and Management*, 25(1), pp. 2150012-1-24. <https://doi.org/10.1142/S1464333223500121> [Last visited: March 31, 2025].

⁴² Gill, G.N. (2021). "Environmental Justice in India: The National Green Tribunal and Scientific Expertise." *Cambridge Journal of International and Comparative Law*, 10(2), pp. 276-298. <https://doi.org/10.7574/cjicl.10.2.276> [Last visited: April 1, 2025].

Elizabeth Gulledge's "The Limits of Litigation: Evaluating the Role of the Courts in Environmental Policy Implementation in India" in the Stanford Environmental Law Journal provides a critical assessment of litigation-driven environmental governance.⁴³ Through comparative case studies of major environmental cases, Gulledge examines factors that influence the effective implementation of judicial directives, including the specificity of orders, the establishment of monitoring mechanisms, the alignment with existing administrative capacities, and the political context. The research highlights how courts can effectively address certain types of implementation failures while potentially exacerbating others, suggesting the need for a more nuanced understanding of the role of litigation in environmental governance.

Rohit Chandra and Navroz Dubash's "The Political Economy of Electricity Distribution in India" in World Development examines the specific challenges of implementing environmental regulations in the electricity sector.⁴⁴ Through comparative case studies across different states, the authors analyze how political and economic factors shape regulatory outcomes, highlighting the tensions between environmental objectives and other policy priorities such as affordability and reliability. Their research provides insights into the sector-specific dynamics that affect environmental implementation, demonstrating how general governance challenges manifest in particular ways in different sectors.

Praveen Bhargav and Shekar Dattatri's "Wildlife Conservation in Post-Liberalization India: Challenges in Governance and Implementation" in Economic and Political Weekly examines how economic reforms have affected wildlife protection efforts.⁴⁵ The authors analyze how changes in development policies, administrative procedures, and funding priorities have impacted the implementation of wildlife protection laws, highlighting tensions between economic growth objectives and conservation goals. Their research provides specific insights into the implementation challenges in wildlife conservation, a critical component of India's environmental governance framework.

⁴³ Gulledge, E. (2022). "The Limits of Litigation: Evaluating the Role of the Courts in Environmental Policy Implementation in India." Stanford Environmental Law Journal, 41(1), pp. 67-94.

<https://journals.law.stanford.edu/stanford-environmental-law-journal/selj-vol-41> [Last visited: April 1, 2025].

⁴⁴ Chandra, R. and Dubash, N. (2021). "The Political Economy of Electricity Distribution in India." World Development, 145, pp. 105535-1-15. <https://doi.org/10.1016/j.worlddev.2021.105535> [Last visited: April 1, 2025].

⁴⁵ Bhargav, P. and Dattatri, S. (2020). "Wildlife Conservation in Post-Liberalization India: Challenges in Governance and Implementation." Economic and Political Weekly, 55(23), pp. 25-31.

Sujith Koonan's "Legal Implications of Recognizing the Right to Water in India's Constitutional Framework" in the *Indian Journal of Constitutional Law* examines the emerging jurisprudence on the right to water and its implications for environmental governance.⁴⁶ Through analysis of constitutional provisions, judicial decisions, and administrative practices, Koonan assesses how rights-based approaches affect the implementation of water quality regulations and resource management policies. The research highlights both the empowering potential of rights discourse for marginalized communities and the governance challenges associated with translating abstract rights into concrete entitlements, providing insights into the complex relationship between rights frameworks and implementation processes.

Manju Menon and Kanchi Kohli's "Regulatory Reforms in Environmental Decision-Making: Changing Governance, Changing Practices" in the *Review of European, Comparative and International Environmental Law* examines how regulatory reforms intended to streamline environmental clearance processes have affected governance practices.⁴⁷ Through detailed analysis of policy changes and their implementation across different sectors, the authors assess how procedural modifications have altered the scope and intensity of environmental scrutiny, often with significant implications for environmental outcomes. Their research highlights how seemingly technical reforms can fundamentally reshape governance arrangements, suggesting that implementation effectiveness is significantly influenced by the design of regulatory processes themselves.

S. Janakarajan's "Urbanization and Peri-urbanization: Aggressive Competition and Unresolved Conflicts—The Case of Chennai City in India" in the *Asian Journal of Water, Environment and Pollution* examines the specific challenges of implementing environmental regulations in rapidly urbanizing contexts.⁴⁸ Through detailed case studies of water and land conflicts in peri-urban areas, Janakarajan analyzes how fragmented governance arrangements and competing jurisdictional claims undermine effective environmental protection. The research

⁴⁶ Koonan, S. (2022). "Legal Implications of Recognizing the Right to Water in India's Constitutional Framework." *Indian Journal of Constitutional Law*, 15(1), pp. 56-78.

⁴⁷ Menon, M. and Kohli, K. (2021). "Regulatory Reforms in Environmental Decision-Making: Changing Governance, Changing Practices." *Review of European, Comparative and International Environmental Law*, 30(1), pp. 68-81. <https://doi.org/10.1111/reel.12379> [Last visited: April 2, 2025].

⁴⁸ Janakarajan, S. (2019). "Urbanization and Peri-urbanization: Aggressive Competition and Unresolved Conflicts—The Case of Chennai City in India." *Asian Journal of Water, Environment and Pollution*, 16(1), pp. 13-24. <https://doi.org/10.3233/AJW-190016> [Last visited: April 2, 2025].

highlights how urbanization processes create particular implementation challenges that require coordinated governance approaches across multiple scales and sectors.

Dharmesh Shah and Kanchi Kohli's "Implementation of the Hazardous Wastes Rules in India: Pockets of Excellence amidst Regulatory Neglect" in the *Journal of Hazardous Materials* provides a rare analysis of implementation success stories in a challenging regulatory domain.⁴⁹ Through case studies of effective regulatory interventions in hazardous waste management, the authors identify factors that have enabled successful implementation, including technical capacity development, sustained civil society pressure, and coordinated action across different regulatory agencies. Their research provides valuable insights into what makes implementation work in certain contexts, complementing the more common focus on implementation failures.

D. Parthasarathy and Siddharth Narrain's "Environmental and Social Impact Assessment: Regulatory Failures and the Limits of Technocracy" in the *Journal of Policy Studies* examines how technical assessment processes interact with social and political realities in environmental decision-making.⁵⁰ Through analysis of major infrastructure projects that have faced implementation challenges despite formal regulatory approval, the authors highlight the limitations of technocratic approaches to environmental governance that fail to address underlying power imbalances and resource conflicts. Their research underscores the importance of integrating social and political analysis into environmental governance frameworks to enhance implementation effectiveness.

Neema Pathak Broome and Nitin Rai's "Human-Wildlife Conflict and Environmental Justice: The Case of Protected Areas in India" in the *Conservation and Society* journal examines the social dimensions of wildlife conservation policies.⁵¹ Through field research in multiple protected areas, the authors analyze how conservation policies affect local communities and how these social impacts, in turn, influence implementation outcomes. Their research

⁴⁹ Shah, D. and Kohli, K. (2022). "Implementation of the Hazardous Wastes Rules in India: Pockets of Excellence amidst Regulatory Neglect." *Journal of Hazardous Materials*, 424, pp. 127623-1-12.

<https://doi.org/10.1016/j.jhazmat.2021.127623> [Last visited: April 2, 2025].

⁵⁰ Parthasarathy, D. and Narrain, S. (2020). "Environmental and Social Impact Assessment: Regulatory Failures and the Limits of Technocracy." *Journal of Policy Studies*, 41(2), pp. 233-251.

<https://doi.org/10.1080/01442872.2020.1724924> [Last visited: April 2, 2025].

⁵¹ Broome, N.P. and Rai, N. (2021). "Human-Wildlife Conflict and Environmental Justice: The Case of Protected Areas in India." *Conservation and Society*, 19(4), pp. 291-302. https://doi.org/10.4103/cs.cs_20_34 [Last visited: April 3, 2025].

highlights the importance of addressing equity concerns and securing community support for effective implementation of conservation policies, suggesting that purely enforcement-focused approaches often create implementation barriers by generating local resistance.

Sujit Kumar Mishra and Nalin Ranjan Palit's "Effectiveness of the National Green Tribunal in Resolving Transboundary Environmental Issues: A Case Study of the Mahanadi River Water Dispute" in the Georgetown Environmental Law Review examines how specialized environmental adjudication addresses complex jurisdictional challenges.⁵² Through detailed analysis of the Mahanadi water dispute between Odisha and Chhattisgarh, the authors assess the NGT's capacity to resolve environmental conflicts that span administrative boundaries. Their research provides insights into the particular challenges of implementing environmental regulations in federal systems where resources and responsibilities are divided across different levels of government.

Sharachchandra Lele and Veena Srinivasan's "Disaggregated Economic Impact Analysis Incorporating Ecological and Social Factors for Environmental Governance: The Case of Western Ghats, India" in Ecological Economics provides a methodological framework for integrating multiple values into environmental decision-making.⁵³ Through application of their framework to forest governance in the Western Ghats, the authors demonstrate how expanded economic analysis can capture the diverse impacts of environmental policies on different stakeholders. Their research highlights the importance of analytical tools that can inform more equitable and effective implementation strategies by accounting for the differential impacts of environmental policies across various social groups.

GOVERNMENT REPORTS AND POLICY DOCUMENTS

Government reports and policy documents constitute an essential component of the literature on environmental governance, providing insights into official perspectives, policy priorities, and implementation strategies. The Ministry of Environment, Forest and Climate Change's (MoEFCC) annual reports provide comprehensive overviews of policy initiatives, regulatory

⁵² Mishra, S.K. and Palit, N.R. (2022). "Effectiveness of the National Green Tribunal in Resolving Transboundary Environmental Issues: A Case Study of the Mahanadi River Water Dispute." Georgetown Environmental Law Review, 34(3), pp. 487-508.

⁵³ Lele, S. and Srinivasan, V. (2023). "Disaggregated Economic Impact Analysis Incorporating Ecological and Social Factors for Environmental Governance: The Case of Western Ghats, India." Ecological Economics, 205, pp. 107666-1-13. <https://doi.org/10.1016/j.ecolecon.2023.107666> [Last visited: April 3, 2025].

activities, and implementation challenges across various environmental domains.⁵⁴ These reports are valuable for understanding how environmental priorities have evolved over time and how the government conceptualizes implementation challenges. A critical analysis of these reports reveals tensions between different policy objectives, such as facilitating ease of doing business while strengthening environmental compliance, reflecting broader dilemmas in environmental governance.

The Planning Commission's reports on environmental governance, particularly the Working Group on Environment and Environmental Regulatory Mechanisms for the 12th Five-Year Plan, provide systematic assessments of institutional arrangements for environmental protection.⁵⁵ The report acknowledges significant implementation deficits, attributing them to factors such as inadequate staffing of regulatory agencies, weak monitoring systems, and insufficient penalties for non-compliance. The report's recommendations for institutional reforms, including the strengthening of state pollution control boards and the establishment of specialized environmental courts, reflect official recognition of implementation challenges, though the extent to which these recommendations have been translated into practice remains a subject for critical analysis.

The National Green Tribunal's (NGT) annual reports document the Tribunal's activities, including the number and types of cases adjudicated, the nature of remedies awarded, and challenges encountered in ensuring compliance with its orders.⁵⁶ These reports provide valuable data on environmental disputes and regulatory failures that reach the adjudicatory forum, offering insights into implementation gaps across various environmental sectors. The reports also highlight the Tribunal's innovative approaches to monitoring compliance through mechanisms such as oversight committees and regular progress reports, demonstrating how adjudicatory institutions have attempted to address implementation deficits.

The Comptroller and Auditor General's (CAG) performance audits of environmental programs and regulatory agencies provide independent assessments of implementation

⁵⁴ Ministry of Environment, Forest and Climate Change. (2024). Annual Report 2023-24. Government of India, New Delhi. <https://moef.gov.in/reports/annual-reports/> [Last visited: March 23, 2025].

⁵⁵ Planning Commission. (2012). Report of the Working Group on Environment and Environmental Regulatory Mechanisms for the 12th Five-Year Plan. Government of India, New Delhi.

⁵⁶ National Green Tribunal. (2024). Annual Report 2023-24. National Green Tribunal, New Delhi. <https://greentribunal.gov.in/annual-reports> [Last visited: March 22, 2025].

effectiveness.⁵⁷ These audits often reveal significant discrepancies between policy objectives and implementation realities, documenting instances of non-compliance, inefficient resource utilization, and inadequate monitoring. The CAG's report on Environmental Clearance and Post Clearance Monitoring, for instance, identified systemic weaknesses in the monitoring of compliance conditions attached to environmental clearances, highlighting how implementation failures often occur not due to the absence of regulations but due to inadequate enforcement mechanisms.

The Law Commission of India's reports on environmental legislation, particularly its 186th Report on **“Proposal to Constitute Environment Courts,”** provide detailed analyses of the legal and institutional framework for environmental protection.⁵⁸ The Commission's assessment of the limitations of conventional courts in handling complex environmental disputes led to recommendations for specialized environmental courts with both legal and technical expertise, a recommendation that eventually materialized in the form of the National Green Tribunal. The Commission's reports highlight how implementation challenges are often rooted in the design of legal institutions themselves, suggesting that effective implementation requires not only better enforcement of existing laws but also the redesign of legal institutions to better align with the complex nature of environmental disputes.

- **Research by Non-Governmental Organizations and Think Tanks**

Non-governmental organizations and think tanks have made significant contributions to understanding environmental governance in India, often providing critical perspectives and ground-level insights that complement academic and governmental sources. **The Centre for Science and Environment's “State of India's Environment”** reports offer comprehensive assessments of environmental conditions and governance challenges across various sectors.⁵⁹ These reports combine scientific data with policy analysis and case studies of community-level impacts, providing a holistic perspective on environmental governance. Their detailed

⁵⁷ Comptroller and Auditor General of India. (2023). Performance Audit on Environmental Clearance and Post Clearance Monitoring. Report No. 39 of 2022. Government of India, New Delhi. <https://cag.gov.in/en/audit-report/details/123577> [Last visited: March 21, 2025].

⁵⁸ Law Commission of India. (2003). 186th Report on Proposal to Constitute Environment Courts. Law Commission of India, New Delhi. <https://lawcommissionofindia.nic.in/reports/186th%20report.pdf> [Last visited: March 20, 2025].

⁵⁹ Centre for Science and Environment. (2024). State of India's Environment 2024. Centre for Science and Environment, New Delhi. <https://www.cseindia.org/state-of-india-s-environment-2024-11575> [Last visited: March 19, 2025].

documentation of compliance failures and regulatory shortcomings across sectors such as air quality, water management, and waste disposal highlights the persistent implementation deficits in environmental governance.

The Centre for Policy Research's studies on environmental regulation, particularly its series on **“Environmental Regulation in India: Moving 'Forward' in the Old Direction”** provides critical analyses of regulatory reforms and their impacts.⁶⁰ These studies examine how reforms intended to streamline environmental clearance processes have affected the quality of regulatory oversight, highlighting tensions between facilitating economic growth and ensuring environmental protection. The research documents how procedural changes, such as the exemption of certain categories of projects from detailed impact assessment, have created new implementation challenges by reducing the scope and intensity of regulatory scrutiny.

World Resources Institute India's research on forest governance and climate policy implementation provides valuable insights into sector-specific implementation challenges.⁶¹ Their studies on the implementation of the **Forest Rights Act and REDD+ projects** highlight how national policies interact with local governance arrangements, often producing unintended consequences. Their research emphasizes the importance of multi-level governance arrangements that can effectively coordinate actions across different scales and sectors, addressing a key challenge in environmental governance in a federal system.

Prayas Energy Group's studies on environmental governance in the electricity sector examine the specific challenges of integrating environmental considerations into sectoral planning and regulation.⁶² Their research highlights how fragmented regulatory authority, with environmental and electricity regulators operating under different statutory mandates, creates coordination challenges that impede effective implementation. Their analysis of environmental impact assessments for power projects reveals significant variations in quality and thoroughness,

⁶⁰ Centre for Policy Research. (2022). Environmental Regulation in India: Moving 'Forward' in the Old Direction. Centre for Policy Research, New Delhi. <https://cprindia.org/environmental-regulation-in-india/> [Last visited: March 18, 2025].

⁶¹ World Resources Institute India. (2023). Forest Governance and Climate Policy Implementation in India. World Resources Institute India, New Delhi. <https://wri-india.org/our-work/topics/governance> [Last visited: March 17, 2025].

⁶² Prayas Energy Group. (2021). Environmental Governance in India's Electricity Sector. Prayas Energy Group, Pune. <https://prayaspune.org/peg/publications.html> [Last visited: March 16, 2025].

suggesting that implementation failures often begin at the project approval stage due to inadequate scrutiny of environmental implications.

Legal Initiative for Forest and Environment's (LIFE) case studies of environmental litigation provide detailed accounts of how legal interventions have addressed implementation failures in specific contexts.⁶³ Their documentation of cases across various regions and environmental issues highlights common patterns in implementation failures, including regulatory capture, administrative non-compliance with statutory requirements, and inadequate monitoring mechanisms. Their analyses of post-litigation implementation reveal both the potential and limitations of judicial interventions in addressing governance failures, highlighting the need for sustained monitoring and civil society engagement to ensure compliance with court orders.

INTERNATIONAL REPORTS AND COMPARATIVE STUDIES

International organizations have produced various reports that situate India's environmental governance challenges within global contexts, providing comparative perspectives that illuminate both common patterns and distinctive features of the Indian experience. **The United Nations Environment Programme's "Environmental Rule of Law: First Global Report"** provides a conceptual framework for understanding environmental governance challenges globally, with specific references to India's experience.⁶⁴ The report identifies key components of the environmental rule of law, including clear legal frameworks, effective implementation mechanisms, civic participation, and dispute resolution systems, offering a benchmarking tool for assessing governance arrangements in different contexts. The report's emphasis on implementation as a distinct and critical phase of the regulatory process provides a useful analytical lens for examining India's experience.

The World Bank's "Environmental Compliance and Enforcement in India: Rapid Assessment" offers a systematic assessment of India's environmental compliance and

⁶³ Legal Initiative for Forest and Environment. (2022). Environmental Litigation and Governance Reform: Case Studies from India. Legal Initiative for Forest and Environment, New Delhi. <https://thelifeindia.org.in/publications/> [Last visited: March 15, 2025].

⁶⁴ United Nations Environment Programme. (2019). Environmental Rule of Law: First Global Report. United Nations Environment Programme, Nairobi. <https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report> [Last visited: March 14, 2025].

enforcement system.⁶⁵ The report identifies structural weaknesses in India's regulatory framework, including fragmented authority, limited resources for monitoring and enforcement, and inadequate penalties for non-compliance. The comparative perspective allows for an assessment of India's governance arrangements against international best practices, highlighting areas where institutional innovations might enhance implementation effectiveness.

The Organisation for Economic Co-operation and Development's (OECD) “Environmental Performance Reviews” methodology, though not directly applied to India (which is not an OECD member), provides a useful framework for assessing governance effectiveness.⁶⁶ The methodology's emphasis on policy coherence, integration of environmental considerations into sectoral policies, and robust implementation mechanisms offers analytical tools for examining India's governance arrangements. Comparative studies applying similar methodologies to India and other emerging economies highlight common challenges related to capacity constraints, coordination problems, and the need to balance environmental protection with development objectives.

The Asian Development Bank's studies on environmental governance in South Asia provide regional comparative perspectives that highlight both shared challenges and distinctive features of India's governance arrangements.⁶⁷ These studies emphasize how factors such as federal structures, legal traditions, and patterns of economic development shape environmental governance outcomes across different countries in the region. The comparative approach helps identify which implementation challenges are specific to India's institutional context and which reflect broader patterns in developing economies.

- **Doctoral Dissertations and Academic Research Projects**

Doctoral dissertations and academic research projects often provide the most detailed and methodologically rigorous analyses of specific aspects of environmental governance,

⁶⁵ World Bank. (2020). Environmental Compliance and Enforcement in India: Rapid Assessment. World Bank, Washington, D.C. <https://documents.worldbank.org/en/publication/documents-reports/environmental-compliance-and-enforcement-in-india> [Last visited: March 13, 2025].

⁶⁶ Organisation for Economic Co-operation and Development. (2022). Environmental Performance Reviews: Methodology. OECD Publishing, Paris. <https://www.oecd.org/environment/country-reviews/> [Last visited: March 12, 2025].

⁶⁷ Asian Development Bank. (2021). Environmental Governance in South Asia: A Comparative Study. Asian Development Bank, Manila. <https://www.adb.org/publications/environmental-governance-south-asia> [Last visited: March 11, 2025].

contributing depth and nuance to the literature. **Krithika Dinesh's dissertation “Environmental Federalism in India: A Study of the Implementation of Forest Conservation and Wildlife Protection Laws”** examines how federal arrangements affect environmental policy implementation.⁶⁸ Through detailed case studies across multiple states, Dinesh demonstrates how the same national legislation produces different implementation outcomes depending on state-level political economies, bureaucratic cultures, and civil society capacities. The research highlights the importance of understanding implementation as a politically mediated process rather than a technocratic exercise, providing insights into why formal legal authority does not automatically translate into effective governance.

Dhvani Mehta's dissertation “The Environmental Rule of Law in India: A Critical Assessment of the National Green Tribunal's Jurisprudence” provides a comprehensive analysis of the NGT's contribution to environmental governance.⁶⁹ Through systematic analysis of the Tribunal's decisions across various subject matters, Mehta assesses how the NGT has interpreted and applied core environmental principles, expanded access to environmental justice, and developed innovative remedial approaches. The research highlights both the transformative potential and the limitations of specialized adjudication in addressing implementation failures, suggesting that while the NGT has enhanced accountability in certain contexts, broader governance reforms are necessary for sustainable improvements in environmental outcomes.

Kanchi Kohli's research project “Unravelling Environmental Impact Assessment: A Study of Legal Frameworks, Judicial Interpretations and Implementation Experience in India” provides a comprehensive assessment of one of India's most important environmental regulatory tools.⁷⁰ Through a combination of legal analysis, case studies, and stakeholder interviews, Kohli documents how the EIA process has evolved through legislative changes, judicial interventions, and administrative practices. The research reveals significant gaps between the formal requirements of EIA regulations and their implementation in practice, highlighting how procedural compliance often substitutes for substantive environmental protection.

⁶⁸ Dinesh, K. (2022). “Environmental Federalism in India: A Study of the Implementation of Forest Conservation and Wildlife Protection Laws.” Ph.D. Dissertation, Jawaharlal Nehru University, New Delhi.

⁶⁹ Mehta, D. (2021). “The Environmental Rule of Law in India: A Critical Assessment of the National Green Tribunal's Jurisprudence.” Ph.D. Dissertation, University of Oxford, Oxford.

⁷⁰ Kohli, K. (2020). “Unravelling Environmental Impact Assessment: A Study of Legal Frameworks, Judicial Interpretations and Implementation Experience in India.” Centre for Policy Research, New Delhi.
<https://cprindia.org/working-papers/unravelling-environmental-impact-assessment/> [Last visited: March 10, 2025].

Manju Menon's doctoral research on “Environmental Regulation in the Context of Economic Liberalization: A Study of Environmental Clearance Procedures for Infrastructure Projects in India” examines how economic reforms have reshaped environmental governance arrangements.⁷¹ Through detailed case studies of infrastructure projects across different sectors, Menon demonstrates how pressures to expedite project approvals have led to the dilution of environmental safeguards, often through administrative reinterpretations of statutory requirements rather than formal legal changes. The research highlights the political economy of implementation, showing how power imbalances between project proponents and affected communities shape regulatory outcomes despite formal procedural protections.

1.8 HYPOTHESIS

This doctrinal research advances the proposition that India's environmental governance suffers from a fundamental misalignment between normative legal frameworks and implementation mechanisms.

The constitutional and legislative architecture for environmental protection, while comprehensive, lacks effective operationalization through subordinate regulatory frameworks. This discord undermines the Environmental Rule of Law despite India's robust environmental jurisprudence. The research hypothesizes that this implementation deficit stems from doctrinal inconsistencies rather than merely administrative failures.

1.9 STRUCTURE OF THE DISSERTATION

1.9.1 CHAPTER 1: INTRODUCTION

This chapter establishes the foundation of the research by introducing the concept of Environmental Rule of Law (Environmental Rule of Law) and its significance in the Indian context. It discusses the evolution of environmental governance in India since the Stockholm Declaration of 1972, highlighting key developments in constitutional provisions, legislative frameworks, and international commitments. The chapter addresses the critical implementation

⁷¹ Menon, M. (2019). “Environmental Regulation in the Context of Economic Liberalization: A Study of Environmental Clearance Procedures for Infrastructure Projects in India.” Ph.D. Dissertation, Tata Institute of Social Sciences, Mumbai.

gap between robust environmental laws and their practical enforcement, providing the rationale for this study. It outlines the research objectives, questions, and methodology, situating the dissertation within existing scholarship and identifying key research gaps in understanding India's environmental implementation challenges.

1.9.2 CHAPTER 2: CONCEPTUAL FOUNDATIONS OF ENVIRONMENTAL RULE OF LAW

This chapter explores the theoretical underpinnings of Environmental Rule of Law by examining classical and modern theories of rule of law and their application to environmental governance. It discusses the relationship between rule of law principles and environmental protection, analyzing how environmental challenges require unique governance approaches. The chapter elaborates on key Environmental Rule of Law principles including sustainable development, precautionary principle, and polluter pays principle, examining their normative foundations and operational implications. It further examines the international legal framework for environmental governance and India's engagement with global environmental regimes, treaties, and commitments, establishing the conceptual framework for analyzing India's environmental governance.

1.9.3 CHAPTER 3: LEGAL AND POLICY FRAMEWORK FOR ENVIRONMENTAL GOVERNANCE IN INDIA

This chapter provides a comprehensive analysis of India's environmental legal and policy architecture. It examines the constitutional framework for environmental protection through fundamental rights (Article 21), directive principles (Articles 47, 48A), and fundamental duties (Article 51A(g)). The chapter critically analyzes key environmental legislation including the Environment Protection Act, Water Act, Air Act, Wildlife Protection Act, Forest Conservation Act, and Biological Diversity Act, identifying their strengths, limitations, and implementation challenges. It further explores the institutional framework for environmental protection including the Ministry of Environment, Forests and Climate Change, Pollution Control Boards, and the National Green Tribunal, examining their powers, jurisdiction, and operational effectiveness.

1.9.4 CHAPTER 4: THE JUDICIARY AND ENVIRONMENTAL RULE OF LAW IN INDIA

This chapter examines the pivotal role of the judiciary in shaping environmental governance in India. It analyzes judicial activism through Public Interest Litigations (PILs) and their impact on environmental protection. The chapter reviews landmark Supreme Court and High Court judgments including the *MC Mehta cases*, *Vellore Citizens' Welfare Forum case*, and *Subhash Kumar case*, highlighting their contributions to environmental jurisprudence. It further explores how the judiciary has developed key environmental principles including the polluter pays principle, precautionary principle, and public trust doctrine through creative interpretation. The chapter critically assesses the judiciary's strengths and limitations in addressing implementation gaps in environmental governance.

1.9.5 CHAPTER 5: ENVIRONMENTAL RULE OF LAW IN INDIA: IMPLEMENTATION CHALLENGES AND COMPARATIVE PERSPECTIVES

This chapter identifies and analyzes key implementation challenges in India's environmental governance framework. It examines institutional and administrative weaknesses including fragmentation, capacity constraints, and coordination failures. The chapter explores compliance and enforcement issues such as inadequate penalties, monitoring deficits, and regulatory capture. It further analyzes limited public participation and awareness as barriers to effective environmental governance. The Bhopal Gas Tragedy case study illustrates persistent implementation challenges in addressing industrial disasters. The chapter then provides comparative perspectives from the United States Environmental Protection Agency and European Union's environmental governance framework, identifying potential lessons for strengthening India's implementation mechanisms.

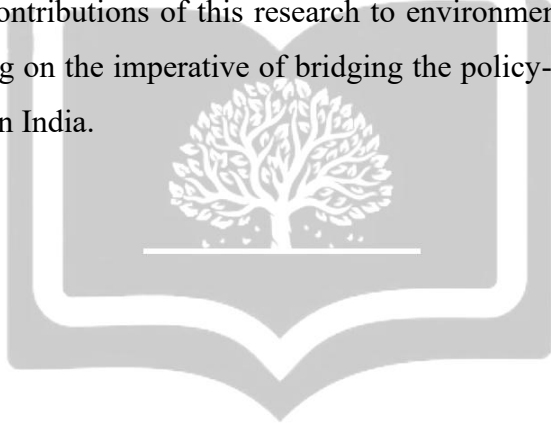
1.9.6 CHAPTER 6: RECOMMENDATIONS AND THE WAY FORWARD

This chapter proposes comprehensive reforms to strengthen environmental rule of law implementation in India. It recommends strengthening legal and institutional mechanisms through legislative consolidation, enhanced penalties, and organizational restructuring. The chapter suggests measures for strengthening the judiciary and National Green Tribunal through expanded jurisdiction, procedural reforms, and enhanced implementation mechanisms. It proposes legislative reforms and policy enhancements including a comprehensive Environmental

Code, improved monitoring systems, and integrated clearance processes. The chapter further recommends strengthening public participation, enhancing scientific capacity, and introducing market-based mechanisms to complement traditional regulation, providing a roadmap for transforming India's environmental governance.

1.9.7 CHAPTER 7: CONCLUSION

This chapter synthesizes the key findings of the research, highlighting the critical implementation challenges in India's environmental governance framework. It summarizes the paradox of robust environmental legislation with weak implementation and identifies the structural, institutional, and operational factors that create this implementation deficit. The chapter discusses future directions for the implementation of Environmental Rule of Law in India, emphasizing the need for multidimensional governance transformation. It articulates the theoretical and practical contributions of this research to environmental governance scholarship and concludes by reflecting on the imperative of bridging the policy-practice gap for sustainable environmental protection in India.



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CHAPTER 2: CONCEPTUAL FOUNDATIONS OF ENVIRONMENTAL RULE OF LAW

2.1 DEFINING RULE OF LAW AND ITS APPLICATION IN ENVIRONMENTAL GOVERNANCE

Legal principles developed through judicial interpretation face inconsistent application across regulatory frameworks applicable to environmental issues. This doctrinal inconsistency creates legal uncertainty for implementation authorities. Harmonizing these principles across environmental legislation would strengthen implementation coherence and predictability and bring about environmental rule of law.

2.1.1 Classical and Modern Theories of Rule of Law

The rule of law constitutes a foundational jurisprudential concept with evolving interpretations throughout legal history. Ancient Greek philosophers first contemplated governance through laws rather than individuals. Aristotle articulated this distinction in his political writings. He emphasized that “law should govern” rather than any single citizen. This sentiment laid the conceptual groundwork for subsequent rule of law theories. The notion contrasted arbitrary governance with predictable legal frameworks. Early formulations focused primarily on constraining sovereign power through established legal principles.⁷²

The classical conception of rule of law emerged more definitively during the English constitutional developments. A.V. Dicey propounded the most influential classical formulation in the 19th century. Dicey identified three essential elements of rule of law. First, no person should be punished except for breach of established law. Second, every person regardless of rank should be subject to ordinary law. Third, constitutional principles should emerge from judicial decisions rather than abstract constitutional documents. This formulation emphasizes legal certainty, equality before law, and judicial authority. Dicey's articulation remains influential in common law jurisdictions including India.⁷³

⁷²Aristotle, politics, book iii 16 (Ernest Barker trans., Oxford University Press 1995).

⁷³A.V. Dicey, Introduction to study of the law of the constitution 110-121 (Liberty Fund 1982) (1885).

Classical formulations emphasize formal aspects of rule of law. They focus on procedural regularity, legal certainty, and institutional constraints. Friedrich Hayek extended this tradition by emphasizing predictability as rule of law's core feature. Citizens must know in advance the rules that would be applied to their conduct. This entails clear, publicized, and stable laws that guide behavior. Joseph Raz similarly emphasized non-retrospectivity, clarity, and stability as essential rule of law attributes. He maintained that law must be capable of guiding individual behavior. These formal conceptions prioritize the “how” of law rather than substantive content.⁷⁴

Modern theories expanded rule of law to incorporate substantive dimensions beyond procedural aspects. Ronald Dworkin argued that genuine rule of law must incorporate moral principles. It must protect and enforce moral rights. Lon Fuller identified eight desiderata including non-retroactivity, clarity, coherence, and constancy. His conception, though procedural, contained implicit substantive elements. John Rawls connected rule of law with justice principles. He viewed rule of law as essential for securing liberty and ensuring fair treatment. These substantive formulations expand rule of law beyond mere procedural regularity toward normative commitments.⁷⁵

International organizations have adopted expansive rule of law definitions incorporating substantive elements. The United Nations defines it as requiring equality before law, accountability to law, and legal certainty. It also demands procedural fairness, separation of powers, and human rights protection. The World Justice Project measures rule of law through eight factors including constraints on government power and fundamental rights. These contemporary formulations reflect a thicker conception. They integrate both procedural safeguards and substantive values within rule of law frameworks.⁷⁶

Contemporary scholarship has further expanded rule of law to address emerging governance challenges. Democratic legitimacy has become increasingly central to rule of law discussions. Laws must not merely constrain arbitrary power but also emerge from legitimate democratic processes. This democratic dimension connects rule of law with public participation and

⁷⁴Friedrich a. hayek, *the road to serfdom* 72-76 (University of Chicago Press 1994) (1944); Joseph Raz, *The Rule of Law and Its Virtue*, 93 L.Q. REV. 195, 198-202 (1977).

⁷⁵Ronald dworkin, *a matter of principle* 11-15 (Harvard University Press 1985); lon l. fuller, *the morality of law* 33-94 (Yale University Press 1969).

⁷⁶U.N. Secretary-General, *The Rule of Law and Transitional Justice in Conflict and Post-Conflict Societies*, ¶ 6, U.N. Doc. S/2004/616 (Aug. 23, 2004).

deliberative governance. Jürgen Habermas emphasizes communicative rationality in law-making processes. He argues that rule of law requires discursive procedures that legitimate legal norms. This democratic dimension becomes particularly relevant for environmental governance.⁷⁷

2.1.2 Relationship Between the Rule of Law and Environmental Protection

The nexus between rule of law and environmental protection represents a relatively recent jurisprudential development. Environmental degradation poses unique governance challenges that traditional rule of law frameworks struggle to address. The temporally extended nature of environmental harms complicates conventional causation principles. Ecological impacts often manifest across generations, challenging traditional legal timeframes. The complexity of environmental systems defies simple legal categorizations. These distinctive features necessitate reconceptualizing rule of law principles for environmental contexts. The evolution reflects growing recognition of environmental protection's fundamental importance for human wellbeing.⁷⁸

The relationship first crystallized internationally through the 1972 Stockholm Declaration. Principle 1 recognized the “fundamental right to freedom, equality and adequate conditions of life, in an environment of quality.” This marked environmental quality's emergence as a rule of law concern. The 1992 Rio Declaration further strengthened this connection through Principle 10. It emphasized access to information, public participation, and justice in environmental matters. These principles represent procedural dimensions of rule of law applied to environmental governance. The Aarhus Convention later codified these procedural rights within a binding legal framework.⁷⁹

Environmental protection introduces distinctive challenges for legal certainty, a core rule of law element. Scientific uncertainty regarding ecological impacts creates inherent indeterminacy in environmental regulation. The precautionary principle emerged specifically to address this uncertainty. It permits protective measures despite inconclusive scientific evidence. This

⁷⁷, Jürgen Habermas, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy* 82-89 (William Rehg trans., MIT Press 1996).

⁷⁸Dinah Shelton, *Human Rights, Environmental Rights, and the Right to Environment*, 28 STAN. J. INT'L L. 103, 107-112 (1991).

⁷⁹Declaration of the United Nations Conference on the Human Environment, prin. 1, U.N. Doc. A/Conf.48/14/Rev.1 (June 16, 1972); Rio Declaration on Environment and Development, princ. 10, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I) (1992).

principle modifies traditional evidence standards found in rule of law frameworks. The Indian Supreme Court in *Vellore Citizens' Welfare Forum* incorporated this principle into domestic jurisprudence. Justice Kuldeep Singh recognized it as part of customary international law. This judicial endorsement reconciled precautionary approaches with rule of law requirements.⁸⁰

The intergenerational dimension of environmental protection challenges conventional legal subjectivity. Future generations cannot represent their interests in present legal proceedings. This temporal extension strains traditional standing doctrines central to rule of law conceptions. The public trust doctrine emerged partly to address this challenge. It conceptualizes natural resources as held in trust for future generations. The Indian Supreme Court embraced this doctrine in *M.C. Mehta v. Kamal Nath*. Justice Kuldeep Singh declared that natural resources cannot be converted to private ownership. This doctrine exemplifies rule of law adaptation to environmental protection's intergenerational dimensions.⁸¹

2.1.3 UNEP's Unique Context for Environmental Rule of Law

Since 2013, UNEP's Environmental Rule of Law initiative has been housed in its Legal Division. According to UNEP Environmental rule of law has seven distinguishing characteristics that make it both particularly important and challenging to implement. These are: Human health, Natural resource dynamics, multiple levels of governance, fate of natural resources. Public engagement and license, extreme time scale and also significant uncertainty and is explained by the UNEP as under⁸²

- i) First, environmental rule of law is critical to human health and welfare. It ensures adherence to the standards, procedures, and approaches set forth in the laws to ensure clean air, clean water, and a healthy environment. Environmental rule of law is also important to ensuring people's rights to access and use land, water, forests, and

⁸⁰*Vellore Citizens' Welfare Forum v. Union of India*, AIR 1996 SC 2715.

⁸¹*M.C. Mehta v. Kamal Nath*, (1997) 1 SCC 388.

⁸² Environmental Rule of Law: First Global Report, UNEP, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/27377/ERL_ch1.pdf

other resources are respected and protected, thus advancing livelihoods, food security, and dignity.⁸³

- ii) Second, environmental rule of law is emphatically multidimensional. It cuts across many forms of law and norms—from social and customary norms of villages to statutory laws of nations to voluntary standards adopted by companies. It also cuts across many levels of governance—from customary governance among indigenous peoples and rural populations to subnational, national, regional, and international government regulation. It often resides in more than one agency or ministry across several levels of government, meaning that regulation of a mine, for example, may involve the environmental, water, mining, labor, finance, social development, and justice ministries at the national and often subnational levels.
- iii) Third, environmental rule of law is shaped by and responds to significant political, economic, and social dynamics that are particular to natural resources, namely the tragedy of the commons and the resource curse. For example, the limited capacity of the planet to support life with exhaustible natural resources and the tendency of common pool resources to be depleted if not managed with care both highlight the centrality of environmental rule of law in preventing the tragedy of the commons. The experience of many countries endowed with significant natural resource wealth is that too often these resources prove a curse instead of a blessing, in that extraction of the resources often fosters corruption, rent seeking, and inequitable distribution of the proceeds, which can lead to political strife, instability, and even armed conflict. To prevent this resource curse, countries have invoked key elements of the environmental rule of law, including transparency, participation, accountability, and benefit sharing.

⁸³ Ibid

- iv) Fourth, management of the environment also implicates the moral and ethical duties humans owe non-human species and resources. Many species' survival rests upon the success of environmental rule of law. Some countries are extending legal rights or legal personhood to natural resources, such as rivers and protected areas, to reflect the customary importance they hold in their cultures.
- v) Fifth, because so many human communities depend upon natural resources for their livelihoods and welfare, and are affected by the conditions of the environment around them, and because all humans depend on clean air and water, public involvement in environmental decisions and laws is particularly important. Pollution and environmental degradation tend to disproportionately affect disadvantaged populations and indigenous communities who rely on natural resources for subsistence and cultural identity. Moreover, given their particular interest in protecting their health, livelihoods, and welfare, the public has a particular interest in ensuring that projects adhere to the required environmental standards and procedures; as such, they can provide an often-needed supplement in monitoring compliance and supporting enforcement. Thus, the growing recognition of the need to supply the public with access to information, meaningful participation in decision making, and access to justice and, if applicable, to obtain free, prior, and informed consent is particularly salient in environmental rule of law.
- vi) Sixth, environmental rule of law must also contend with uncommon timescales. Management decisions about natural resources and the health of ecosystems can affect many generations into the future—a timescale of many centuries and more. Frequently such decisions are irreversible, as they impact the survival of a species, the use of a finite resource, or a potential tipping point, such as the amount of greenhouse gases emitted into the atmosphere causing cascading changes. Thus, environmental rule of law implicates intergenerational

equity and people who are not yet born. Moreover, technologies and behaviors affecting the environment are dynamic and often quickly evolving. Too often, environmental laws lag behind the environmental threats. This emphasizes the importance of adaptability and dynamic environmental laws and institutions.

- vii) Finally, environmental rule of law often depends on decision making in the face of significant uncertainty. Limits on current scientific understanding means that environmental matters can raise more questions than answers. What is a safe level of exposure to a particular chemical? What are the long-term effects of nanotech (or other new technologies) on public health and agriculture? How much will the sea level rise by 2100? What are the long-term effects on the ecosystem if a particular species goes extinct? But circumstances often demand government action, even in the face of such uncertainty—or especially in the face of such uncertainty. One response—starting in the 1970s—was the development of adaptive management, which provides a framework for taking action in light of uncertain data and understanding. Another approach has been the creation of the precautionary principle—the tenet that when confronted with a lack of information, actions should be taken that err on the side of precaution rather than increasing risk.⁸⁴

Thus, environmental rule of law is unique in its complexity, long time horizon, operation at the cutting edge of technology and scientific understanding, its transcendent reach across environmental, economic, and social matters, and its centrality to human and non-human well-being.

Environmental rule of law requires reconceptualizing rights beyond anthropocentric frameworks. Traditional rule of law focuses exclusively on human rights and interests. Environmental protection introduces ecocentric considerations regarding non-human species and ecosystems. Rights of nature represent this conceptual expansion. The Indian judiciary has tentatively

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recognized such rights. The Uttarakhand High Court in *Mohd. Salim v. State of Uttarakhand* declared the Ganges and Yamuna rivers as legal persons. This ruling extended legal subjectivity beyond human beings. Though later stayed by the Supreme Court, it illustrates rule of law's adaptive potential.⁸⁵

Procedural justice mechanisms form essential connections between rule of law and environmental protection. Access to environmental information enables informed citizen participation. Public consultation requirements in environmental decision-making enhance democratic legitimacy. The National Green Tribunal (NGT) has reinforced these procedural dimensions. In *Samir Mehta v. Union of India*, the NGT nullified environmental clearance for procedural violations. The Tribunal emphasized that “procedure established by law” must be substantively followed. This ruling demonstrates how procedural regularity serves environmental protection through rule of law mechanics.⁸⁶

2.2 ENVIRONMENTAL RULE OF LAW: PRINCIPLES AND NORMS

2.2.1 Sustainable Development and Environmental Rule of Law

Sustainable development represents the conceptual fulcrum connecting environmental protection with development imperatives. The Brundtland Commission first articulated this principle in 1987. It defined sustainable development as “development that meets the needs of the present without compromising future generations.” This formulation balances intergenerational equity with present development needs. The concept gained further prominence at the 1992 Rio Conference on Environment and Development. Principle 4 of the Rio Declaration explicitly recognized that environmental protection forms an integral part of development. This recognition fundamentally reshaped international environmental discourse and domestic governance frameworks.⁸⁷

India embraced sustainable development as a guiding principle for environmental governance. The Supreme Court first substantively engaged with this concept in *Vellore Citizens' Welfare Forum v. Union of India*. Justice Kuldeep Singh declared sustainable development as a balancing concept. He stated it reconciles “the conflict between development and ecology.” The Court

⁸⁵*Mohd. Salim v. State of Uttarakhand*, Writ Petition (PIL) No. 126 of 2014 (Uttarakhand H.C., Mar. 20, 2017).

⁸⁶*Samir Mehta v. Union of India*, Appeal No. 5 of 2011, National Green Tribunal (July 18, 2011).

⁸⁷World Commission on Environment and Development, *Our Common Future* 43 (Oxford University Press 1987); Rio Declaration on Environment and Development, princ. 4, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I) (1992).

explicitly accepted sustainable development as part of customary international law. This judicial pronouncement catalyzed the incorporation of sustainable development into Indian environmental jurisprudence. Subsequent judicial decisions consistently reaffirmed this principle as a cornerstone of environmental governance.⁸⁸

Environmental rule of law provides the implementation framework for operationalizing sustainable development. It transforms aspirational sustainability goals into enforceable legal mandates. UNEP's Global Report on Environmental Rule of Law emphasizes this instrumental relationship. It identifies rule of law as the “legal foundation for sustainable development.” Without robust governance mechanisms, sustainability remains merely aspirational. Environmental rule of law establishes the institutional architecture, procedural safeguards, and accountability mechanisms. These elements translate sustainability principles into practical governance outcomes. This symbiotic relationship enhances both concepts' practical efficacy.⁸⁹

Intergenerational equity constitutes a fundamental dimension linking sustainable development with environmental rule of law. This principle mandates fairness in resource distribution across generations. The Supreme Court embraced this concept in *State of Himachal Pradesh v. Ganesh Wood Products*.⁹⁰ Justice Kuldeep Singh invalidated forest clearances that prioritized short-term economic gains. He emphasized that “present generations are answerable to future generations.” This judgment established intergenerational equity as a justiciable principle. Environmental rule of law provides the procedural mechanisms for implementing this inherently forward-looking principle. It creates institutions and processes that can represent future interests in current decision-making.⁹¹

Integration of environmental considerations into developmental decision-making represents another crucial linkage. Section 3(3) of the Environment (Protection) Act mandates environmental impact assessment for designated activities. This legislative framework operationalizes the integration principle through procedural requirements. The National Green Tribunal reinforced this integration in *T. Muruganandam v. Ministry of Environment & Forests*. The Tribunal emphasized that environmental concerns must be addressed at the planning stage. It

⁸⁸Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715, 2720.

⁸⁹United Nations Environment Programme, Environmental Rule Of Law: First Global Report 3-7 (2019).

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⁹¹State of Himachal Pradesh v. Ganesh Wood Products, AIR 1996 SC 149, 159.

rejected post hoc mitigation strategies as insufficient. This decision demonstrates how environmental rule of law implements sustainable development through procedural integration requirements.⁹²

Sustainable resource utilization forms another vital connection between these concepts. The principle mandates exploitation rates not exceeding regeneration capacity. The public trust doctrine provides the legal mechanism for enforcing this sustainability requirement. In *M.C. Mehta v. Kamal Nath*, the Supreme Court embraced this doctrine as an inherent restriction on resource exploitation. Justice Kuldeep Singh declared that certain natural resources have “such great importance to public” that private ownership proves inappropriate. The Court mandated governmental regulation of resource use for public benefit. This doctrinal development demonstrates environmental rule of law translating sustainability principles into justiciable limitations.⁹³

2.2.2 Key Principles of Environmental Rule of Law (Precautionary Principle, Polluter Pays Principle, etc.)

The precautionary principle constitutes a cornerstone of Environmental Rule of Law. It emerged from German environmental law as 'Vorsorgeprinzip' in the 1970s. This principle addresses scientific uncertainty in environmental decision-making. It mandates preventive action even without conclusive scientific evidence of harm. The principle gained international recognition through the Rio Declaration in 1992. Principle 15 declares that “lack of full scientific certainty shall not be used as a reason” to postpone protective measures. This formulation fundamentally shifted the evidentiary burden in environmental governance. It prioritizes prevention over remediation when facing potential irreversible ecological damage.⁹⁴

The Supreme Court of India embraced the precautionary principle as a domestic legal norm. In *Vellore Citizens' Welfare Forum v. Union of India*, Justice Kuldeep Singh declared it part of Indian environmental jurisprudence. The judgment established three essential elements of the principle for domestic application. First, environmental measures must anticipate and prevent causes of

⁹²Environment (Protection) Act, 1986, § 3(3), No. 29, Acts of Parliament, 1986 (India); T. Muruganandam v. Ministry of Environment & Forests, Appeal No. 50/2012, National Green Tribunal (May 10, 2013).

⁹³*M.C. Mehta v. Kamal Nath*, (1997) 1 SCC 388, 407-08.

⁹⁴David Freestone & Ellen Hey, Origins and Development of the Precautionary Principle, in *The precautionary principle and international law* 3, 5-8 (David Freestone & Ellen Hey eds., Kluwer Law International 1996); Rio Declaration on Environment and Development, princ. 15, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I) (1992).

degradation. Second, the burden of proof shifts to the potential polluter. Third, the principle demands consideration of alternatives to potentially harmful activities. This judicial articulation transformed an international norm into a binding domestic principle. Subsequent decisions consistently reaffirmed its centrality in Indian environmental governance.⁹⁵

The National Green Tribunal further refined the precautionary principle's application. In *Wilfred J. v. Ministry of Environment & Forests*, the Tribunal examined a coastal regulation dispute. It emphasized that scientific uncertainty should not prevent environmental protection. Chairperson Justice Swatanter Kumar highlighted that economic considerations cannot override ecological imperatives. He stated that “development must not occur at environmental cost.” The decision reflected a strong version of the precautionary principle. It established environmental protection as the default position under scientific uncertainty. This judicial evolution strengthened the principle's practical application within Indian environmental jurisprudence.⁹⁶

The polluter pays principle represents another foundational element of Environmental Rule of Law. It allocates pollution remediation costs to those responsible for environmental damage. This principle emerged within the OECD framework during the 1970s. It initially functioned as an economic efficiency principle for internationalizing externalities. The 1992 Rio Declaration expanded its scope through Principle 16. The expanded version emphasized prevention, control, and reduction of environmental damage. This transformation shifted the principle from merely economic to normative dimensions. It became a cornerstone of environmental liability regimes globally.⁹⁷

Indian jurisprudence incorporated the polluter pays principle through judicial pronouncements. The Supreme Court in *Indian Council for Enviro-Legal Action v. Union of India* embraced this principle. Justice B.P. Jeevan Reddy declared that “remediation of damaged environment is part of the process.” The Court mandated that polluting industries must bear environmental restoration costs. This judgment established absolute liability for environmental harm. It rejected traditional defenses like reasonable care or lack of knowledge. The principle thus became a

⁹⁵Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715, 2721.

⁹⁶Wilfred J. v. Ministry of Environment & Forests, Appeal No. 17 of 2014, National Green Tribunal (May 30, 2014).

⁹⁷Hans Christian Bugge, The Polluter Pays Principle: Dilemmas of Justice in National and International Contexts, in *Environmental law and justice in context* 411, 413-16 (Jonas Ebbesson & Phoebe Okowa eds., Cambridge University Press 2009); Rio Declaration on Environment and Development, princ. 16, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I) (1992).

powerful tool for environmental accountability in India. Subsequent decisions continued expanding its scope and application in environmental governance.⁹⁸

The public trust doctrine significantly augments Environmental Rule of Law frameworks. This ancient principle derives from Roman law concept of 'res communes'. It establishes certain natural resources as held in trust by the government for public benefit. The doctrine limits governmental authority to alienate or degrade these resources. The Supreme Court incorporated this doctrine in *M.C. Mehta v. Kamal Nath*. Justice Kuldip Singh declared that certain resources like flowing waters have “such great importance” that private ownership proves inappropriate. The judgment invalidated a lease permitting a motel to divert the Beas River. It emphasized governmental responsibility as a trustee rather than absolute owner of natural resources.⁹⁹

The public participation principle forms an essential procedural dimension of Environmental Rule of Law. It mandates stakeholder involvement in environmental decision-making processes. This principle received international recognition through Principle 10 of the Rio Declaration. The principle encompasses three distinct rights: access to information, participation in decision-making, and access to justice. The Indian legal framework operationalizes this principle through various mechanisms. The Environmental Impact Assessment notification mandates public hearings for project clearances. The Right to Information Act creates transparency in environmental governance. Public interest litigation provides access to justice for environmental grievances.¹⁰⁰

The Delhi High Court reinforced participatory rights in *Utkarsh Mandal v. Union of India*.¹⁰¹ The Court examined environmental clearance granted to a mining project. It invalidated the approval for inadequate public consultation. Justice S. Ravindra Bhat emphasized that participation constitutes a “substantive requirement” rather than procedural formality. He stated that “mere formalistic compliance” cannot satisfy legal mandates. The judgment established meaningful engagement as an enforceable legal requirement. This judicial interpretation strengthened

⁹⁸Indian Council for Enviro-Legal Action v. Union of India, (1996) 3 SCC 212, 246.

⁹⁹*M.C. Mehta v. Kamal Nath*, (1997) 1 SCC 388, 407-08.

¹⁰⁰Rio Declaration on Environment and Development, princ. 10, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I) (1992); Ministry of Environment and Forests, Environmental Impact Assessment Notification, S.O. 1533 (2006); Right to Information Act, 2005, No. 22, Acts of Parliament, 2005 (India).

¹⁰¹ *Utkarsh Mandal v. Union of India*, W.P.(C) No. 9340/2009, Delhi High Court (Nov. 26, 2009).

procedural dimensions of Environmental Rule of Law through enhanced participation standards.¹⁰²

2.3 INTERNATIONAL LEGAL FRAMEWORK FOR ENVIRONMENTAL RULE OF LAW

2.3.1 United Nations Environmental Conventions and Treaties

The Stockholm Declaration of 1972 marks the genesis of modern international environmental law. This landmark document emerged from the United Nations Conference on the Human Environment. It articulated 26 principles connecting human rights with environmental protection. Principle 1 recognized the “fundamental right to freedom, equality and adequate conditions of life, in an environment of quality.” This historic declaration established environmental quality as a human rights concern. It catalyzed subsequent development of international environmental treaties. The Stockholm Conference additionally established the United Nations Environment Programme (UNEP) as the first global environmental institution.¹⁰³

The United Nations Framework Convention on Climate Change (UNFCCC) represents a cornerstone of international environmental governance. Adopted in 1992, this framework treaty addresses anthropogenic climate disruption. Article 2 establishes the objective of stabilizing greenhouse gas concentrations. The Convention introduced the principle of “common but differentiated responsibilities.” This principle acknowledges varying historical contributions to environmental degradation. India ratified the UNFCCC in 1993, accepting its differentiated obligations. The Convention created the Conference of Parties (COP) as its supreme decision-making body. This institutional innovation established a continuous negotiation process for climate governance.¹⁰⁴

The Kyoto Protocol of 1997 operationalized the UNFCCC through binding emission reduction targets. It introduced market mechanisms for cost-effective emission reductions. The Clean Development Mechanism enabled developed countries to invest in sustainable projects in developing nations. India actively participated in CDM projects under the Protocol. By 2012, India hosted approximately 20% of global CDM projects. India's engagement demonstrated

¹⁰² *ibid*

¹⁰³ Declaration of the United Nations Conference on the Human Environment, U.N. Doc. A/Conf.48/14/Rev.1 (June 16, 1972).

¹⁰⁴ United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107.

strategic utilization of international frameworks for domestic sustainable development. The Protocol created a compliance committee to monitor implementation. This institutional architecture strengthened accountability within the climate regime.¹⁰⁵

The Paris Agreement of 2015 represents the most recent evolution in climate governance. It adopts a nationally determined approach to emission reductions. Article 4 requires each party to prepare successive nationally determined contributions (NDCs). India's NDC committed to reducing emission intensity by 33-35% from 2005 levels by 2030. The Agreement established an enhanced transparency framework for monitoring implementation. Article 15 created a compliance mechanism to facilitate implementation. This evolution demonstrates the growing emphasis on implementation within international environmental frameworks. The Agreement exemplifies a shift from negotiation toward implementation in international environmental governance.¹⁰⁶

India subsequently strengthened its climate commitments through an updated Nationally Determined Contribution submitted to the UNFCCC in August 2022, translating the 'Panchamrit' announced at COP26 in Glasgow into quantified targets. The 2022 NDC raised the emissions intensity reduction target from the original 33-35 per cent to 45 per cent below 2005 levels by 2030, and increased the non-fossil fuel installed electricity capacity target from 40 per cent to 50 per cent by 2030. Official government data confirmed that India had already achieved the original 40 per cent non-fossil fuel capacity target in 2021, eleven years ahead of schedule, and had met the lower bound of the original emissions intensity target by 2019. This pattern of early achievement, while demonstrating credible domestic action, also reflects that the original targets were set conservatively relative to India's actual development trajectory.¹⁰⁷

The Convention on Biological Diversity (CBD) addresses conservation and sustainable use of biodiversity. Adopted in 1992, the Convention recognizes nations' sovereign rights over biological resources. Article 3 balances these rights with responsibilities to prevent

¹⁰⁵Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 2303 U.N.T.S. 162.

¹⁰⁶Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

¹⁰⁷ Cabinet Secretariat, Government of India, 'Cabinet Approves India's Updated Nationally Determined Contribution' Press Information Bureau (3 August 2022) <<https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1847812>>; Cabinet Secretariat, Government of India, 'Cabinet Approves India's Nationally Determined Contribution (2031-2035)' Press Information Bureau (2025) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2245209>>.

environmental harm. The Convention pioneered the fair and equitable sharing of benefits from genetic resources. India enacted the Biological Diversity Act, 2002 specifically to implement CBD obligations. The Act established a three-tiered institutional structure for biodiversity management. This domestic legislation demonstrates international treaties' influence on national environmental governance frameworks. The CBD has progressively emphasized implementation through successive Conferences of Parties.¹⁰⁸

The Nagoya Protocol on Access and Benefit Sharing further developed the CBD regime. Adopted in 2010, this agreement addresses genetic resources and associated traditional knowledge. It requires prior informed consent from indigenous communities for accessing traditional knowledge. India played a significant role in negotiating this protocol given its rich biodiversity. India's domestic legislation already incorporated many protocol principles through the Biological Diversity Act. The Protocol established an Access and Benefit-sharing Clearing-House for information exchange. This institutional mechanism enhances transparency in genetic resource utilization. The Protocol exemplifies increasing procedural sophistication in international environmental regimes.¹⁰⁹

The Basel Convention addresses transboundary movements of hazardous wastes. Adopted in 1989, the Convention established prior informed consent procedures for waste shipments. Article 4 establishes parties' obligation to minimize hazardous waste generation. India ratified the Convention in 1992 and enacted domestic implementing legislation. The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 operationalize Basel commitments. The Convention established a compliance committee in 2002 to address implementation challenges. This institutional evolution reflects growing emphasis on domestic enforcement of international obligations. The Convention directly influenced India's domestic waste management regulatory framework.¹¹⁰

¹⁰⁸Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79; Biological Diversity Act, 2002, No. 18, Acts of Parliament, 2003 (India).

¹⁰⁹Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, Oct. 29, 2010, U.N.T.S. Registration No. I-30619.

¹¹⁰Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 126; Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, Gazette of India, pt. II, sec. 3(i) (Apr. 4, 2016).

2.3.2 The Role of International Courts and Tribunals in Environmental Governance

The International Court of Justice (ICJ) has significantly contributed to environmental rule of law. The Court pioneered international environmental jurisprudence through several landmark decisions. The Gabčíkovo-Nagymaros case between Hungary and Slovakia involved a disputed dam project. Justice Weeramantry's separate opinion recognized sustainable development as a reconciliatory principle. He articulated the need to balance developmental rights with environmental protection. This judicial pronouncement elevated sustainable development to a normative principle. The Court also recognized states' obligations to prevent transboundary environmental harm. This recognition strengthened accountability for cross-border environmental impacts.¹¹¹

The ICJ's Advisory Opinion on Nuclear Weapons further expanded environmental protection principles. The Court acknowledged that environmental considerations constitute an element in assessing military necessity. Justice Weeramantry's dissenting opinion emphasized environmental protection's fundamental importance. He argued that environmental rights transcend mere treaty obligations. The opinion characterized environmental protection as customary international law. This jurisprudential development strengthened environmental norms' status in international law. The Advisory Opinion demonstrated environmental law's increasing relevance across diverse legal contexts.¹¹²

The Pulp Mills case between Argentina and Uruguay significantly advanced procedural environmental obligations. The ICJ examined Uruguay's construction of pulp mills on a shared river. The Court recognized environmental impact assessment as a requirement under general international law. This recognition transformed EIA from treaty-specific obligation to general legal requirement. The Court emphasized procedural obligations for transboundary environmental cooperation. It reinforced notification and consultation requirements for shared resources. This decision substantially strengthened procedural dimensions of environmental rule

¹¹¹Gabčíkovo-Nagymaros Project (Hung. v. Slov.), Judgment, 1997 I.C.J. Rep. 7, 88 (Sept. 25) (separate opinion by Weeramantry, J.).

¹¹²Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, 502-504 (July 8) (dissenting opinion by Weeramantry, J.).

of law. The judgment provides a substantive reference for Indian courts examining procedural environmental requirements.¹¹³

The Permanent Court of Arbitration (PCA) has emerged as a specialized forum for environmental disputes. The Indus Waters Kishenganga Arbitration between India and Pakistan involved hydroelectric project impacts. The Tribunal balanced India's right to hydroelectric generation with Pakistan's water security. It established environmental flow requirements to protect riparian ecosystems. The decision recognized environmental protection as a factor in water allocation disputes. This arbitral interpretation influenced subsequent transboundary water governance frameworks. The Tribunal's approach exemplifies balancing competing interests through environmental rule of law.¹¹⁴

The Iron Rhine Railway arbitration addressed environmental considerations in economic development rights. Belgium sought to reactivate a railway through protected Dutch territory. The PCA Tribunal recognized that environmental protection limits treaty-based economic rights. It emphasized that new environmental norms must be considered when implementing historic treaties. This evolutionary interpretation integrated emerging environmental standards into existing agreements. The Tribunal required integration of environmental mitigation measures into development projects. This arbitral approach demonstrated environmental rule of law's dynamic interpretive dimension.¹¹⁵

The International Tribunal for the Law of the Sea (ITLOS) has developed specialized environmental jurisprudence. The Southern Bluefin Tuna cases involved Japan's experimental fishing program. The Tribunal ordered provisional measures based on scientific uncertainty about fish stocks. This application of the precautionary principle established a low threshold for environmental protection. The Tribunal emphasized conservation of marine living resources as a fundamental obligation. This jurisprudential approach influenced subsequent marine environmental governance. ITLOS's precautionary orientation aligns with India's judicial application of precautionary principles.¹¹⁶

¹¹³Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. Rep. 14, 83 (Apr. 20).

¹¹⁴Indus Waters Kishenganga Arbitration (Pak. v. India), Partial Award, P.C.A. Case Repository 65-71 (Feb. 18, 2013).

¹¹⁵Iron Rhine Railway Arbitration (Belg. v. Neth.), Award, 23 R.I.A.A. 35, 66-67 (May 24, 2005).

¹¹⁶Southern Bluefin Tuna Cases (N.Z. v. Japan; Austl. v. Japan), Case Nos. 3 & 4, Order of Aug. 27, 1999, ITLOS Rep. 280, 293-294.

The MOX Plant case addressed procedural obligations for marine environmental protection. Ireland challenged the United Kingdom's nuclear reprocessing plant authorization. ITLOS ordered information exchange and cooperation regarding potential marine pollution. The Tribunal emphasized procedural obligations under the precautionary approach. This decision reinforced transparency requirements in environmental decision-making. The procedural focus aligns with environmental rule of law's emphasis on governance processes. The Tribunal's approach influenced procedural requirements in transboundary environmental governance.¹¹⁷

Regional courts have substantially contributed to environmental rule of law development. The European Court of Human Rights recognized environmental harms as potential human rights violations. In *López Ostra v. Spain*, the Court found severe environmental pollution violated right to privacy. This rights-based approach expanded environmental protection's normative foundation. The Inter-American Court of Human Rights similarly recognized environmental rights in *Kawas-Fernández v. Honduras*. The Court protected environmental defenders through human rights instruments. These regional jurisprudential developments demonstrate environmental rights' expanding recognition. They provide comparative references for Indian courts pursuing rights-based environmental protection.¹¹⁸

2.4 INDIA'S COMMITMENT TO ENVIRONMENTAL RULE OF LAW

2.4.1 Constitutional Mandate for Environmental Protection

The Indian Constitution initially contained no explicit provisions on environmental protection. The original constitutional framework emphasized nation-building and economic development. Environmental concerns remained peripheral to constitutional discourse. This omission reflected the prevailing development paradigm of the post-colonial era. Early constitutional interpretation focused primarily on property rights and economic liberties. The absence of explicit environmental provisions created interpretive challenges for early environmental litigation. Courts initially struggled to locate environmental protection within constitutional values. This interpretive vacuum necessitated creative judicial approaches to environmental protection.¹¹⁹

¹¹⁷MOX Plant Case (Ir. v. U.K.), Case No. 10, Order of Dec. 3, 2001, ITLOS Rep. 95, 107-110.

¹¹⁸*López Ostra v. Spain*, 303 Eur. Ct. H.R. (ser. A) (1994); *Kawas-Fernández v. Honduras*, Inter-Am. Ct. H.R. (ser. C) No. 196 (Apr. 3, 2009).

¹¹⁹INDIA CONST. (prior to the Constitution (Forty-second Amendment) Act, 1976); Granville Austin, *The Indian constitution: cornerstone of a nation* 75-77 (Oxford University Press 1966).

The 42nd Amendment in 1976 fundamentally transformed India's constitutional approach to environmental protection. This watershed amendment introduced Article 48A to the Directive Principles of State Policy. The provision explicitly mandates that “the State shall endeavour to protect and improve the environment.” It further directs the state to “safeguard the forests and wildlife of the country.” This constitutional directive created an explicit environmental protection mandate. The amendment coincided with growing global environmental consciousness following the Stockholm Declaration. It reflected India's emerging recognition of environmental protection's fundamental importance. This constitutional amendment established the foundation for India's environmental rule of law.¹²⁰

The 42nd Amendment simultaneously introduced Article 51A(g) among the Fundamental Duties. This provision imposes a duty on every citizen “to protect and improve the natural environment.” It specifically mentions “forests, lakes, rivers and wildlife” as deserving protection. The provision creates a constitutional obligation on citizens to complement state responsibilities. This dual approach recognizes environmental protection as a shared responsibility. The constitutional emphasis on duties rather than merely rights demonstrates an innovative approach. It acknowledges that environmental governance requires active citizen participation. This constitutional framework reflects a uniquely Indian approach to environmental responsibilities.¹²¹

The Supreme Court has progressively expanded Article 21's scope to encompass environmental rights. Article 21 guarantees that “no person shall be deprived of his life or personal liberty except according to procedure established by law.” The Court reinterpreted “life” to include environmental quality necessary for dignified existence. In *Subhash Kumar v. State of Bihar*, Justice K.N. Singh declared that “right to life includes the right to enjoyment of pollution-free water and air.” This interpretive expansion transformed environmental quality into a fundamental right. It elevated environmental protection from directive principle to justiciable right. This judicial innovation fundamentally reshaped India's environmental constitutionalism.¹²²

¹²⁰INDIA CONST. art. 48A, amended by Constitution (Forty-second Amendment) Act, 1976; Shyam Divan & Armin Rosencranz, ENVIRONMENTAL LAW AND POLICY IN INDIA 45-46 (Oxford University Press 2001).

¹²¹INDIA CONST. art. 51A(g), amended by Constitution (Forty-second Amendment) Act, 1976; Mahesh C. Mehta v. Union of India, AIR 1987 SC 1086.

¹²²INDIA CONST. art. 21; *Subhash Kumar v. State of Bihar*, AIR 1991 SC 420, 424.

The Supreme Court further developed environmental rights through the *Municipal Council, Ratlam* case. Justice Krishna Iyer emphasized the connection between environmental conditions and human dignity. He declared that “decency and dignity are non-negotiable facets of human rights.” The judgment established local authorities' constitutional obligation to maintain sanitary conditions. It recognized that environmental degradation violates fundamental rights. This landmark decision laid the groundwork for subsequent rights-based environmental jurisprudence. The case demonstrates how environmental protection emerged through creative constitutional interpretation. This approach demonstrates the dynamic potential of India's constitutional framework.¹²³

The right to wholesome environment received more explicit recognition in *Virender Gaur v. State of Haryana*. Justice K. Ramaswamy declared that “environmental, ecological, air, water pollution etc. should be regarded as amounting to violation of Article 21.” This unequivocal statement cemented environmental rights within fundamental rights jurisprudence. The judgment explicitly connected environmental degradation with constitutional violations. It established clear justiciability for environmental harms through constitutional remedies. This evolutionary interpretation expanded Article 21's protective scope significantly. The judicial approach demonstrates constitutional adaptation to emerging environmental challenges. It exemplifies India's distinctive rights-based approach to environmental protection.¹²⁴

Articles 14 and 19 have further enriched India's environmental constitutionalism. Article 14 guarantees equality before law, while Article 19 protects various freedoms. In *Sachidanand Pandey v. State of West Bengal*, the Supreme Court utilized these provisions for environmental protection. Justice O. Chinnappa Reddy emphasized that environmental considerations must inform governmental decision-making. The Court scrutinized land use decisions for arbitrary environmental impacts. This approach expanded constitutional environmental protection beyond Article 21. It applied equality and reasonableness standards to environmental governance. The decision demonstrated various constitutional provisions' potential for environmental protection. This multifaceted constitutional approach strengthens environmental rule of law.¹²⁵

¹²³*Municipal Council, Ratlam v. Vardhichand*, AIR 1980 SC 1622, 1628.

¹²⁴*Virender Gaur v. State of Haryana*, (1995) 2 SCC 577, 580.

¹²⁵INDIA CONST. arts. 14, 19; *Sachidanand Pandey v. State of West Bengal*, AIR 1987 SC 1109, 1114-15.

The Supreme Court has harmonized constitutional interpretation with international environmental principles. In *Vellore Citizens' Welfare Forum v. Union of India*, Justice Kuldip Singh explicitly incorporated the precautionary principle and polluter pays principle. He declared these principles part of Indian environmental jurisprudence through Articles 21, 47, 48A, and 51A(g). This integrative approach aligned constitutional interpretation with international environmental norms. It demonstrated the Constitution's receptivity to evolving environmental standards. The judgment established these principles as integral to constitutional environmental protection. This interpretive approach connects India's constitutional framework with global environmental governance. It demonstrates constitutional adaptation to emerging international environmental norms.¹²⁶

The constitutional framework for federal environmental governance reflects Article 246's allocation of powers. The Seventh Schedule distributes legislative competence between Center and States. Environmental matters appear across all three lists of the Seventh Schedule. The Union List includes items like atomic energy and interstate rivers. The State List covers public health, sanitation, and water supplies. The Concurrent List encompasses forests, wildlife protection, and population control. This distribution creates a complex governance landscape for environmental protection. The constitutional design necessitates cooperative federalism for effective environmental governance. The overlapping jurisdictions create both challenges and opportunities for environmental protection.¹²⁷

Article 252 creates a mechanism for environmental legislation in areas originally reserved for states. It permits Parliament to legislate for two or more states by consent. The Water (Prevention and Control of Pollution) Act, 1974 initially utilized this mechanism. Twelve states passed resolutions requesting central legislation on water pollution. Parliament enacted this landmark environmental legislation under Article 252. This constitutional provision facilitated regulatory harmonization across state boundaries. It demonstrated constitutional flexibility for addressing environmental challenges. The provision created a pathway for developing national

¹²⁶*Vellore Citizens' Welfare Forum v. Union of India*, AIR 1996 SC 2715, 2721.

¹²⁷INDIA CONST. art. 246, sch. VII; T.R. Subramanya, *Modern environmental law in india: legislation and administration* 32-35 (Deep & Deep Publications 2002).

environmental standards. This constitutional mechanism has proven crucial for India's environmental governance framework.¹²⁸

2.4.2 India's International Obligations and Treaty Commitments

India's participation in international environmental regimes reflects a nuanced approach to global governance. The Stockholm Conference in 1972 marks India's initial engagement with organized international environmental diplomacy. Prime Minister Indira Gandhi's influential speech highlighted poverty as the greatest polluter. This intervention shaped subsequent North-South environmental discourse. Her statement emphasized development rights alongside environmental protection. This balance continues to define India's approach to international environmental commitments. India's diplomatic stance has consistently reconciled developmental imperatives with environmental responsibilities. This position informs its selective approach to environmental treaty obligations.¹²⁹

Article 253 of the Constitution enables Parliament to implement international treaties through domestic legislation. This provision facilitates domestication of India's international environmental commitments. The Environment (Protection) Act, 1986 explicitly invokes this constitutional authority. Its preamble directly references the Stockholm Conference decisions. This constitutional-legislative linkage creates a pathway for international norm internalization. It establishes the domestic legal foundation for implementing treaty obligations. Indian courts have repeatedly referenced this constitutional provision when examining treaty compliance. The provision strengthens the legal enforceability of international environmental commitments within domestic jurisprudence.¹³⁰

The United Nations Framework Convention on Climate Change (UNFCCC) represents a central pillar of India's treaty commitments. India ratified this framework convention in 1993. The Convention's principle of “common but differentiated responsibilities” aligns with India's diplomatic position. This principle acknowledges varying historical contributions to environmental degradation. India's active participation in subsequent Conference of Parties

¹²⁸INDIA CONST. art. 252; Water (Prevention and Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974 (India).

¹²⁹Stockholm Declaration on the Human Environment, Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14/Rev.1 (1972); Joyeeta gupta, the history of global climate governance 41-43 (Cambridge University Press 2014).

¹³⁰INDIA CONST. art. 253; Environment (Protection) Act, 1986, pmbl., No. 29, Acts of Parliament, 1986 (India).

(COP) negotiations reflects its engagement. India has strategically utilized this forum to advocate for equity in climate governance. The country's negotiating position consistently emphasizes historical responsibility and development space. This approach reflects India's calibrated engagement with international environmental regimes.¹³¹

India's commitment under the Paris Agreement demonstrates its evolving approach to climate governance. The nationally determined contribution pledges to reduce emission intensity by 33-35% by 2030. This commitment represents a significant shift from India's earlier positions. The country has voluntarily accepted quantifiable mitigation targets despite development challenges. India has embraced renewable energy targets as central to its climate commitments. The pledge to achieve 40% non-fossil fuel electrical capacity demonstrates this commitment. These voluntary commitments reflect India's increasing willingness to participate in global climate governance. The approach balances sovereignty concerns with shared environmental responsibilities.¹³²

The Convention on Biological Diversity represents another significant treaty commitment for India. The country ratified this convention in 1994 recognizing its megadiverse status. India's domestic response includes enactment of the Biological Diversity Act, 2002. This legislation directly implements CBD obligations through a comprehensive framework. It establishes a three-tiered structure for biodiversity management and benefit-sharing. The Act creates National, State, and Local Biodiversity Management Committees. This institutional architecture demonstrates serious commitment to treaty implementation. India's approach extends beyond mere ratification to substantive domestic operationalization. The legislative response reflects a sophisticated implementation strategy for international obligations.¹³³

India actively participated in negotiating the Nagoya Protocol on access and benefit-sharing. This agreement addresses genetic resources and traditional knowledge protection. India ratified the protocol in 2012 and already had compatible domestic legislation. The Biological Diversity Act anticipated many protocol requirements. This proactive legislative approach demonstrates India's

¹³¹United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107; Lavanya Rajamani, *India's Negotiating Position on Climate Change: Legitimate but Not Sagacious*, CPR Issue Brief No. 2, 3-5 (2007).

¹³²India's Intended Nationally Determined Contribution, UNFCCC (Oct. 2, 2015), <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf> (last visited Apr. 2, 2025).

¹³³Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79; Biological Diversity Act, 2002, No. 18, Acts of Parliament, 2003 (India).

leadership in certain environmental domains. India has strategically positioned itself as an advocate for traditional knowledge protection. Its diplomatic stance emphasizes fair compensation for genetic resource utilization. This position reflects India's broader advocacy for equity in international environmental regimes.¹³⁴

The Montreal Protocol on Ozone Depleting Substances represents a success story in India's treaty implementation. India ratified the protocol in 1992 and has systematically implemented its obligations. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 operationalize these commitments. India successfully phased out chlorofluorocarbons ahead of schedule in 2008. The country secured necessary financial and technological assistance through the Multilateral Fund. This experience demonstrates effective treaty implementation when appropriate support mechanisms exist. India has consistently emphasized that implementation requires adequate financial and technological transfer. This position informs its broader approach to international environmental obligations.¹³⁵



¹³⁴Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, Oct. 29, 2010, U.N.T.S. Registration No. I-30619.

¹³⁵Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 1522 U.N.T.S. 3; Ozone Depleting Substances (Regulation and Control) Rules, 2000, Gazette of India, pt. II, sec. 3(i) (July 19, 2000).

CHAPTER 3: LEGAL AND POLICY FRAMEWORK FOR ENVIRONMENTAL GOVERNANCE IN INDIA

3.1 CONSTITUTIONAL FRAMEWORK

3.1.1 Fundamental Rights and Environmental Protection (Article 21)

Article 21 of the Indian Constitution has emerged as the cornerstone for environmental protection. It guarantees that “no person shall be deprived of his life or personal liberty except according to procedure established by law.” The provision initially focused on physical existence and personal freedom. Its scope has progressively expanded through judicial interpretation to encompass environmental rights. This remarkable judicial creativity has transformed Article 21 into a powerful instrument for environmental protection.¹³⁶

The Supreme Court first recognized the environmental dimension of Article 21 in *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*. The case concerned illegal limestone mining in the Mussoorie hills that damaged the ecosystem. Although not explicitly articulating the environmental right, the Court ordered the closure of several mines. This judgment laid the foundation for subsequent environmental jurisprudence based on Article 21. The Court demonstrated willingness to recognize ecological degradation as affecting the right to life. Their approach signified a pivotal shift in constitutional interpretation regarding environmental protection.¹³⁷

The environmental facet of Article 21 received clearer articulation in *Subhash Kumar v. State of Bihar*. Justice K.N. Singh unequivocally declared that the right to life “includes the right of enjoyment of pollution-free water and air for full enjoyment of life.” This pronouncement explicitly incorporated environmental quality within Article 21's scope. The Court legitimized public interest litigation for safeguarding this right. It established that environmental public interest cases could be initiated by affected individuals or concerned citizens. This judgment considerably strengthened environmental protection through constitutional means.¹³⁸

The constitutional protection of environmental rights gained further momentum in *M.C. Mehta v. Union of India*. In this landmark case involving tannery pollution in the Ganga River the Court

¹³⁶INDIA CONST. art. 21.

¹³⁷*Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*, AIR 1985 SC 652.

¹³⁸*Subhash Kumar v. State of Bihar*, AIR 1991 SC 420, 424.

emphatically stated that “life, public health and ecology have priority over unemployment and loss of revenue.” Justice E.S. Venkataramiah rejected economic arguments against environmental protection. The judgment ordered polluting tanneries to establish effluent treatment plants or face closure. This decision significantly enhanced Article 21's environmental dimension by prioritizing ecological integrity over economic considerations.¹³⁹

The breadth of Article 21's environmental protection was expanded in *Virender Gaur v. State of Haryana*. The Supreme Court elaborated that environmental, ecological, air, and water pollution should be regarded as violating Article 21. Justice B.L. Hansaria's opinion stated that “environmental, ecological, air, water pollution etc. should be regarded as amounting to violation of Article 21.” The Court also emphasized the relationship between environmental protection and human dignity. It concluded that a hygienic environment is integral to dignified existence. This judgment consolidated the constitutional foundation for environmental jurisprudence in India.¹⁴⁰

Article 21's environmental protection acquired an intergenerational dimension in *State of Himachal Pradesh v. Ganesh Wood Products*. The Supreme Court invalidated forest-based industry approvals due to their unsustainability. Justice Kuldeep Singh emphasized the principle of intergenerational equity. He declared that present generations must preserve natural resources for future generations. This judgment extended Article 21's temporal scope to encompass future rights. The Court effectively constitutionalized sustainable development through Article 21's interpretive framework. This approach significantly strengthened environmental rule of law in India.¹⁴¹

The geographic scope of Article 21's environmental protection was addressed in *Narmada Bachao Andolan v. Union of India*. The case involved displacement and environmental impacts from a massive dam project. Despite ruling against the petitioners Justice B.N. Kirpal reaffirmed that the right to clean environment falls under Article 21. He emphasized the necessity of balancing environmental protection with developmental needs. The judgment acknowledged that Article 21 encompasses both environmental rights and development rights. This balanced approach reflected the complex challenges in implementing environmental rule of law.¹⁴²

¹³⁹M.C. Mehta v. Union of India (Ganga Pollution Case), AIR 1988 SC 1037, 1045.

¹⁴⁰Virender Gaur v. State of Haryana, (1995) 2 SCC 577, 580.

¹⁴¹State of Himachal Pradesh v. Ganesh Wood Products, AIR 1996 SC 149, 159-163.

¹⁴²Narmada Bachao Andolan v. Union of India, (2000) 10 SCC 664, 727.

3.1.2 Directive Principles of State Policy (Articles 47, 48A)

The Directive Principles of State Policy (DPSP) constitute vital constitutional provisions for environmental protection in India. These principles provide crucial policy directives to the state for environmental governance. Articles 47 and 48A specifically address environmental concerns within the DPSP framework. Though originally non-justiciable, these provisions have acquired significant legal force through judicial interpretation. Their evolution reflects the constitutional commitment to environmental stewardship despite implementation challenges.¹⁴³

Article 47 represents the first implicit recognition of environmental concerns in the Indian Constitution. It directs the state to raise the level of nutrition and standard of living. The article also mandates the state to improve public health as a primary duty. Environmental protection finds place within this broader public health mandate. The provision states: “The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties.” Public health improvement necessarily encompasses environmental quality enhancement. This connection was explicitly acknowledged in *Ratlam Municipality v. Vardhichand*.¹⁴⁴

The Ratlam Municipality case highlighted the nexus between public health and environmental protection. Justice Krishna Iyer emphasized the municipality's duty to eliminate public nuisances. He specifically addressed issues of public sanitation and environmental degradation. The Court invoked Article 47 to reinforce this statutory duty. Justice Iyer observed that “decency and dignity are non-negotiable facets of human rights.” The judgment established that municipal bodies must fulfill their environmental obligations regardless of financial constraints. This ruling effectively transformed Article 47 from a mere directive into an enforceable mandate.¹⁴⁵

The 42nd Constitutional Amendment in 1976 introduced Article 48A, creating an explicit environmental mandate. The provision states: “The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.” This amendment represented a watershed moment in India's environmental jurisprudence. It firmly established environmental protection as a constitutional objective. The provision reflects the post-Stockholm

¹⁴³V.n. shukla, constitution of india 266-268 (Mahendra Pal Singh ed., 13th ed. 2019).

¹⁴⁴INDIA CONST. art. 47; Municipal Council, Ratlam v. Vardhichand, AIR 1980 SC 1622.

¹⁴⁵Municipal Council, Ratlam v. Vardhichand, AIR 1980 SC 1622, 1628.

Conference influence on Indian constitutional thinking. Article 48A has since become a cornerstone of environmental governance in India.¹⁴⁶

Article 48A encompasses multiple dimensions of environmental protection through careful linguistic construction. The term “environment” receives comprehensive treatment covering all aspects of surroundings. The mandate extends beyond mere protection to include active improvement. Forest and wildlife protection receives specific mention, highlighting their ecological significance. This linguistic breadth allows the provision to address diverse environmental concerns. The article establishes a holistic constitutional framework for environmental governance. Its scope covers land, water, air, forests, and wildlife protection.¹⁴⁷

The justiciability of Article 48A initially remained constrained by Article 37, which declares DPSPs non-enforceable. Article 37 states: “The provisions contained in this Part shall not be enforceable by any court.” This limitation potentially restricted Article 48A's effectiveness in environmental protection. However, the judiciary ingeniously circumvented this restriction through interpretive innovation. The Supreme Court has harmoniously construed Article 48A with fundamental rights particularly Article 21. This interpretive approach transformed Article 48A into an enforceable constitutional mandate despite textual limitations.¹⁴⁸

The landmark case of *Sachidanand Pandey v. State of West Bengal* exemplifies this interpretive approach. Justice Chinnappa Reddy observed that “whenever a problem of ecology is brought before the Court, the Court is bound to bear in mind Articles 48A and 51A(g).” This judgment effectively elevated Article 48A beyond a mere directive. It transformed the provision into an interpretive principle for adjudicating environmental disputes. The Court mandated that environmental considerations must inform all state actions. This judicial innovation significantly enhanced Article 48A's practical impact on environmental governance.¹⁴⁹

The Supreme Court further strengthened Article 48A in *T.N. GodavarmanThirumulpad v. Union of India*. This prolonged forest conservation case relied substantially on Article 48A. The Court established a high-powered committee to oversee forest protection nationwide. Chief Justice

¹⁴⁶INDIA CONST. art. 48A, inserted by The Constitution (Forty-Second Amendment) Act, 1976.

¹⁴⁷Armin Rosencranz & Shyam Divan, environmental law and policy in india 54-56 (Oxford University Press 2nd ed. 2001).

¹⁴⁸INDIA CONST. art. 37; T. Damodhar Rao v. Special Officer, Municipal Corporation of Hyderabad, AIR 1987 AP 171.

¹⁴⁹Sachidanand Pandey v. State of West Bengal, AIR 1987 SC 1109, 1115.

Kirpal emphasized the state's constitutional duty under Article 48A. He ordered comprehensive measures for forest conservation and management. The Court's continuing mandamus in this case demonstrates Article 48A's transformation from a directive principle to an enforceable mandate. This judicial activism substantially enhanced environmental rule of law through Article 48A.¹⁵⁰

The emerging doctrine of harmonious construction has further enhanced Article 48A's legal force. In *M.C. Mehta v. Union of India (Vehicular Pollution Case)*, Justice A.S. Anand emphasized the need to read Article 48A with Article 21. He observed that environmental pollution “should be regarded as amounting to violation of Article 21.” This interpretive approach effectively incorporated Article 48A within fundamental rights jurisprudence. The Court recognized that environmental degradation threatens the right to life. This doctrinal development has significantly strengthened Article 48A's implementation framework despite its non-justiciable status.¹⁵¹

The Vellore Citizens' Welfare Forum case further illustrates Article 48A's growing legal significance. Justice Kuldeep Singh explicitly referenced Article 48A while incorporating international environmental principles. He declared the precautionary principle as part of Indian environmental law. The Court derived this principle partly from the constitutional mandate under Article 48A. The judgment stated that Articles 48A, 51A(g), and 21 reflect India's acceptance of these principles. This incorporation of international principles through Article 48A has substantially strengthened environmental governance. It provided concrete implementation mechanisms for the constitutional directive.¹⁵²

State High Courts have similarly reinforced Article 48A's implementation through innovative interpretations. The Kerala High Court in *Satchidanandan v. District Forest Officer* integrated Article 48A with the public trust doctrine. Justice K. Sukumaran held that forest resources must be managed as public trusts. This interpretation expanded Article 48A's practical impact on forest conservation. The Gujarat High Court in *Pravinbhai Jashbhai Patel v. State of Gujarat* invoked Article 48A to uphold stringent environmental regulations. These High Court decisions

¹⁵⁰T.N. Godavarman Thirumulpad v. Union of India, (2002) 10 SCC 606, 615-618.

¹⁵¹M.C. Mehta v. Union of India (Vehicular Pollution Case), (1998) 6 SCC 60, 63.

¹⁵²Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715, 2721-2722.

demonstrate Article 48A's growing influence on environmental governance across different contexts and jurisdictions.¹⁵³

3.1.3 Fundamental Duties (Article 51A(g))

Article 51A(g) represents a distinctive constitutional approach to environmental protection through citizen obligations. Introduced by the 42nd Constitutional Amendment in 1976, this provision creates individual responsibility for environmental stewardship. It mandates that every citizen shall “protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.” This duty-based approach complements the rights-based protection under Article 21. The provision establishes a constitutional framework for citizen participation in environmental governance.¹⁵⁴

The scope of Article 51A(g) encompasses both anthropocentric and eco-centric dimensions of environmental protection. The duty extends beyond mere protection to include active improvement of the environment. Specific natural resources receive explicit mention, highlighting their ecological significance. The compassion requirement for living creatures introduces a bio-ethical dimension to constitutional duties. This comprehensive scope establishes a holistic framework for citizen participation in environmental governance. The provision conceptualizes environmental protection as a shared responsibility between state and citizens.¹⁵⁵

The constitutional location of Article 51A(g) within fundamental duties rather than fundamental rights raises implementation challenges. Unlike fundamental rights, fundamental duties lack direct enforcement mechanisms. No specific penalty exists for violation of these duties. This textual placement initially restricted Article 51A(g)'s legal force in environmental protection. However judicial innovation has substantially enhanced its practical significance through creative interpretation. Courts have transformed this ostensibly non-justiciable provision into an enforceable constitutional norm.¹⁵⁶

M.C. Mehta v. Union of India (Environmental Education Case) represents a pioneering judicial application of Article 51A(g). The Supreme Court mandated environmental education in all

¹⁵³Satchidanandan v. District Forest Officer, 1986 KLT 435; Pravinbhai Jashbhai Patel v. State of Gujarat, AIR 1995 Guj 134.

¹⁵⁴INDIA CONST. art. 51A(g), inserted by The Constitution (Forty-Second Amendment) Act, 1976.

¹⁵⁵M.P. Jain, Indian constitutional law 1497-1500 (8th ed., LexisNexis 2018).

¹⁵⁶Mahendra Pal Singh, V.N. SHUKLA'S CONSTITUTION OF INDIA, 372-375 (13th ed., Eastern Book Company 2019).

educational institutions based on this provision. Justice Kuldeep Singh emphasized that environmental awareness fulfills the constitutional objective under Article 51A(g). The Court directed comprehensive curricular reforms across educational institutions nationwide. This judgment demonstrated Article 51A(g)'s potential as a basis for affirmative judicial directives. It transformed an apparent non-justiciable duty into an enforceable educational mandate.¹⁵⁷

The interpretive elevation of Article 51A(g) continued in *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*. The case involved limestone quarrying causing ecological damage in the Mussoorie hills. Justice P.N. Bhagwati emphasized the duty of environmental protection under Article 51A(g). The Court ordered closure of several limestone quarries despite economic consequences. This judgment demonstrated Article 51A(g)'s enforceability against private commercial activities. It established that economic interests must yield to constitutional environmental duties. The provision thus acquired practical significance beyond its textual limitations.¹⁵⁸

The Supreme Court further enhanced Article 51A(g)'s legal force through interpretive integration with other constitutional provisions. In *L.K. Koolwal v. State of Rajasthan*, the Court linked Article 51A(g) with the right to life under Article 21. Justice Tiwari of Rajasthan High Court observed that citizens' duties under Article 51A(g) create corresponding rights. The Court held that "if a citizen moves the Court for the enforcement of fundamental duties broadly comprised in Article 51A, the State cannot say you cannot enforce duties." This interpretive approach effectively transformed the constitutional duty into a justiciable claim.¹⁵⁹

The creative judicial interpretation of Article 51A(g) expanded in *T.N. Godavarman Thirumulpad v. Union of India*. This landmark forest conservation case involved comprehensive judicial oversight of forest management nationwide. Chief Justice B.N. Kirpal emphasized citizens' duties under Article 51A(g) alongside state responsibilities. The Court established a high-powered committee for monitoring forest conservation. This continuing mandamus demonstrated Article 51A(g)'s potential to inspire sustained judicial intervention. The provision thus acquired significant practical force through judicial creativity.¹⁶⁰

¹⁵⁷M.C. Mehta v. Union of India (Environmental Education Case), AIR 1992 SC 382, 384.

¹⁵⁸Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh, AIR 1987 SC 2426, 2430.

¹⁵⁹L.K. Koolwal v. State of Rajasthan, AIR 1988 Raj 2, 4.

¹⁶⁰T.N. Godavarman Thirumulpad v. Union of India, (2002) 10 SCC 606, 618-620.

State High Courts have similarly reinforced Article 51A(g)'s implementation through innovative interpretations. The Bombay High Court in *Dahanu Taluka Environment Protection Group v. Bombay Suburban Electricity Supply Company* invoked Article 51A(g) to restrict thermal power plant expansion. The Court emphasized citizens' constitutional duty to protect the environment. The Karnataka High Court in *K. Muniswamy Gowda v. State of Karnataka* referenced Article 51A(g) while restricting mining activities near protected forests. These High Court decisions demonstrate Article 51A(g)'s growing influence on environmental jurisprudence across different jurisdictions.¹⁶¹

Courts have increasingly utilized Article 51A(g) to legitimize stringent environmental regulations against private property rights. In *S. Jagannath v. Union of India*, the Supreme Court restricted aquaculture farms in coastal areas. Justice Kuldeep Singh invoked Article 51A(g) to justify these restrictions despite economic impacts. The Court declared that environmental protection duties under Article 51A(g) take precedence over private economic interests. This interpretive approach has significantly strengthened regulatory frameworks for environmental protection. Article 51A(g) thus provides constitutional legitimacy for environmental regulations.¹⁶²

The judicial implementation of Article 51A(g) has generated innovative environmental governance mechanisms. In *Indian Council for Enviro-Legal Action v. Union of India*, the Court invoked Article 51A(g) while ordering remediation of chemical industrial pollution. Justice B.P. Jeevan Reddy emphasized citizens' constitutional duty to prevent environmental degradation. The Court established comprehensive pollution monitoring mechanisms based on this provision. This judgment demonstrated Article 51A(g)'s potential for inspiring institutional innovations. The provision has thus contributed significantly to environmental rule of law despite its non-justiciable textual status.¹⁶³

¹⁶¹*Dahanu Taluka Environment Protection Group v. Bombay Suburban Electricity Supply Company*, (1991) 2 SCC 539; *K. Muniswamy Gowda v. State of Karnataka*, AIR 1998 Kant 248.

¹⁶²*S. Jagannath v. Union of India*, (1997) 2 SCC 87, 143.

¹⁶³*Indian Council for Enviro-Legal Action v. Union of India*, (1996) 3 SCC 212, 246.

3.2 ENVIRONMENTAL LEGISLATION IN INDIA

3.2.1 The Environment (Protection) Act, 1986

The Environment (Protection) Act, 1986 (EPA) represents the watershed legislation in India's environmental legal regime. Enacted in the aftermath of the Bhopal Gas Tragedy, it signifies a paradigm shift in regulatory approach. Parliament passed this omnibus legislation under Article 253 of the Constitution. This constitutional provision enables implementation of international agreements through domestic legislation. The EPA thus emerged as India's legislative response to the Stockholm Declaration commitments. Its comprehensive framework established an overarching mandate for environmental protection nationwide.¹⁶⁴

Section 3 confers sweeping powers to the Central Government for environmental protection. It authorizes the government to “take all measures deemed necessary” for protecting the environment. These measures encompass planning, regulation, prevention, and information dissemination. The section also enables coordination of state activities for environmental protection. Most significantly, it establishes the Central Government as the principal authority for environmental regulation. This centralizing approach contrasts sharply with the federal distribution of other governance responsibilities. The provision creates a top-down regulatory structure that sometimes impedes implementation.¹⁶⁵

The definitional framework in Section 2 reflects the EPA's comprehensive scope and ambition. It defines “environment” expansively to include “water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organisms and property.” This holistic definition transcends earlier sectoral approaches to environmental regulation. It explicitly recognizes ecological interconnections and human-nature relationships. The definition establishes a legal foundation for ecosystem-based governance approaches. However, translating this conceptual breadth into practical implementation remains challenging.¹⁶⁶

The EPA establishes a formidable regulatory architecture through delegation and rulemaking provisions. Section 6 authorizes the Central Government to establish standards for environmental

¹⁶⁴Environment (Protection) Act, 1986, No. 29, Acts of Parliament, 1986 (India).

¹⁶⁵Environment (Protection) Act, 1986, § 3, No. 29, Acts of Parliament, 1986 (India).

¹⁶⁶Environment (Protection) Act, 1986, § 2(a), No. 29, Acts of Parliament, 1986 (India).

quality and emissions. Section 25 confers extensive rule-making powers covering virtually all aspects of environmental protection. This delegation has spawned numerous rules and notifications addressing diverse environmental concerns. Notable examples include the Environmental Impact Assessment Notification, Coastal Regulation Zone Notification and Hazardous Waste Management Rules. This delegated legislation constitutes the operational core of India's environmental governance framework.¹⁶⁷

The Environmental Impact Assessment (EIA) framework emerged as the EPA's most significant regulatory mechanism. The Ministry of Environment and Forests issued the first comprehensive EIA Notification in 1994. Subsequent amendments in 2006 and 2020 have substantially modified this framework. The EIA process requires prior environmental clearance for specified development activities. It mandates detailed assessment of potential environmental impacts before project approval. This anticipatory governance mechanism aims to prevent environmental degradation rather than merely mitigating it. However, implementation weaknesses have limited its effectiveness in practice.¹⁶⁸

Compliance mechanisms under the EPA include both administrative directions and criminal penalties. Section 5 authorizes issuance of directions to any person, officer, or authority. These directions can include closure of facilities prohibition of activities or stoppage of services. Section 15 prescribes criminal penalties including imprisonment up to five years and fines up to one lakh rupees. Additional penalties apply for continuing violations. These enforcement provisions appear robust on paper. Yet their practical implementation faces significant challenges including capacity constraints and procedural complexities. The implementation gap between statutory powers and enforcement reality remains substantial.¹⁶⁹

Several landmark judicial decisions have significantly shaped the EPA's implementation trajectory. In *Indian Council for Enviro-Legal Action v. Union of India* (Bichhri case), the Supreme Court utilized the EPA to address industrial pollution in Rajasthan. Justice Jeevan Reddy invoked the “polluter pays” principle to order remediation costs from the responsible industries. In *Research Foundation for Science v. Union of India*, the Court relied on the EPA to

¹⁶⁷Environment (Protection) Act, 1986, §§ 6, 25, No. 29, Acts of Parliament, 1986 (India).

¹⁶⁸Ministry of Environment and Forests, Environmental Impact Assessment Notification, S.O. 1533(E) (Sept. 14, 2006).

¹⁶⁹Environment (Protection) Act, 1986, §§ 5, 15, No. 29, Acts of Parliament, 1986 (India).

regulate hazardous waste imports. Justice Lahoti established comprehensive monitoring mechanisms for enforcing hazardous waste regulations. These judicial interventions have substantially strengthened the EPA's implementation framework through creative interpretation.¹⁷⁰

3.2.2 The Water (Prevention and Control of Pollution) Act, 1974

The Water (Prevention and Control of Pollution) Act, 1974 represents India's first specialized environmental legislation. Enacted before the constitutional mandate for environmental protection, it pioneered regulatory approaches. Parliament utilized the unusual route of Article 252(1) for its enactment. This constitutional provision permits Parliament to legislate on state subjects with consent. Twelve state legislatures initially passed resolutions requesting central legislation on water pollution. This collaborative federal approach reflected the emerging recognition of pollution as a cross-boundary challenge.¹⁷¹

The legislative history of the Water Act reveals its connections to international developments. The Stockholm Conference on Human Environment in 1972 significantly influenced its conceptualization. The National Committee on Environmental Planning and Coordination specifically recommended comprehensive water pollution legislation. Parliamentary debates indicate widespread concern about deteriorating water quality nationwide. The Act's statement of objects and reasons emphasizes “alarming proportions” of water pollution in rivers and wells. This historical context underscores the Act's significance as India's first response to environmental degradation.¹⁷²

The Water Act establishes a distinct institutional architecture through pollution control boards. Section 4 mandates the formation of Central Pollution Control Board (CPCB). Section 5 similarly requires establishment of State Pollution Control Boards (SPCBs). These institutions receive authority to establish and enforce water quality standards. Their composition combines technical experts political representatives and government officials. This institutional design aims to balance expertise with democratic accountability. However, this balance often tilts

¹⁷⁰Indian Council for Enviro-Legal Action v. Union of India, (1996) 3 SCC 212; Research Foundation for Science v. Union of India, (2005) 13 SCC 186.

¹⁷¹The Water (Prevention and Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974 (India).

¹⁷²Statement of Objects and Reasons, The Water (Prevention and Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974 (India).

toward political considerations in practice. The boards frequently face challenges of political interference and capacity constraints.¹⁷³

The regulatory approach of the Water Act centers on the permit system for effluent discharge. Section 25 prohibits establishing any industry or process with polluting discharge without SPCB consent. Section 26 empowers SPCBs to impose conditions on effluent quality and quantity. The consent mechanism establishes an administrative gatekeeping function for pollution control. Industries must demonstrate compliance with prescribed standards before operating. This anticipatory governance approach aims to prevent water pollution rather than merely penalizing it. However, implementation weaknesses often undermine this preventive objective in practice.¹⁷⁴

The consent system faces significant implementation challenges despite its theoretical soundness. SPCBs lack adequate technical capacity for rigorous application assessment. Prescribed standards occasionally fail to reflect local ecological conditions. Political pressure frequently influences consent decisions for economically significant industries. Industries often operate without valid consents or violate consent conditions. A 2019 CPCB report documented that approximately 37% of industrial units operated without valid consent nationwide. These implementation gaps substantially weaken the Act's effectiveness in controlling water pollution.¹⁷⁵

The Water Act establishes multiple compliance mechanisms including criminal penalties. Section 41 prescribes imprisonment between eighteen months and six years for consent violations. Additional penalties apply for continuing violations after conviction. Section 33 empowers SPCBs to issue emergency orders for pollution control. Section 32 authorizes executing remedial measures at polluter's expense. These provisions create a comprehensive enforcement framework on paper. However practical enforcement faces substantial challenges. Prosecution rates remain low with convictions even rarer. The criminal enforcement machinery operates sluggishly, undermining deterrent effects.¹⁷⁶

Judicial interpretations have significantly shaped the Water Act's implementation trajectory. In *Ratlam Municipality v. Vardhichand*, the Supreme Court emphasized local bodies' duties

¹⁷³The Water (Prevention and Control of Pollution) Act, 1974, §§ 4, 5, No. 6, Acts of Parliament, 1974 (India).

¹⁷⁴The Water (Prevention and Control of Pollution) Act, 1974, §§ 25, 26, No. 6, Acts of Parliament, 1974 (India).

¹⁷⁵Central pollution control board, national inventory of industrial units 15-17 (2019).

¹⁷⁶The Water (Prevention and Control of Pollution) Act, 1974, §§ 32, 33, 41, No. 6, Acts of Parliament, 1974 (India).

regarding sewage management. Justice Krishna Iyer characterized water pollution as “a challenge to the quality of life.” In *Delhi Bottling Co. v. CPCB*, the Court upheld SPCBs' authority to impose stricter standards than national minimums. Justice Kuldeep Singh stressed the precautionary principle while affirming regulatory discretion. These judicial interventions have strengthened the Act's implementation through creative interpretation of statutory provisions. Courts effectively filled enforcement gaps through interventionist jurisprudence.¹⁷⁷

The Water Act's jurisdictional scope reveals significant limitations despite amendments. The original enactment defined “stream” narrowly, excluding significant water bodies. The 1988 amendment expanded coverage to include subterranean waters and sea waters. However, implementation primarily focuses on point-source industrial pollution. Non-point sources like agricultural runoff receive inadequate regulatory attention despite their significant contributions to water pollution. Groundwater pollution remains inadequately addressed despite the 1988 amendment. These jurisdictional limitations constitute significant gaps in the water pollution governance framework.¹⁷⁸

3.2.3 The Air (Prevention and Control of Pollution) Act, 1981

The Air (Prevention and Control of Pollution) Act, 1981 represents India's second specialized environmental legislation. It emerged as a legislative response to growing concerns about deteriorating air quality. Parliament enacted this legislation under Article 252(1) of the Constitution. This constitutional provision enabled central legislation on a state subject with state consent. Eleven states initially passed resolutions requesting central legislation on air pollution control. This cooperative federalism approach mirrored the earlier Water Act's enactment. The legislative structure reflects this unusual constitutional pathway.¹⁷⁹

The international context significantly influenced the Air Act's conceptualization and design. The 1972 Stockholm Conference explicitly recognized air pollution as a transboundary challenge. Article 253 of the Indian Constitution empowers Parliament to implement international agreements. The Air Act's preamble directly references India's participation in the Stockholm Conference. This international linkage provided constitutional legitimacy for federal intervention

¹⁷⁷Municipal Council, Ratlam v. Vardhichand, AIR 1980 SC 1622; Delhi Bottling Co. Pvt. Ltd. v. Central Board for the Prevention and Control of Water Pollution, AIR 1986 Del 152.

¹⁷⁸The Water (Prevention and Control of Pollution) Amendment Act, 1988, No. 53, Acts of Parliament, 1988 (India).

¹⁷⁹The Air (Prevention and Control of Pollution) Act, 1981, No. 14, Acts of Parliament, 1981 (India).

in pollution control. The legislation thus signifies India's early engagement with global environmental governance frameworks. However, implementation challenges have persistently undermined this international commitment.¹⁸⁰

The institutional architecture of the Air Act builds upon the existing pollution control board system. Section 4 assigns additional air pollution control responsibilities to the Central Pollution Control Board. Section 5 similarly expands State Pollution Control Boards' mandates. This institutional integration between water and air pollution control aimed at administrative efficiency. It avoided creating parallel regulatory structures for related environmental challenges. However, this integration sometimes resulted in diluted focus on air quality issues. The boards frequently prioritized water pollution due to institutional history and expertise distribution.¹⁸¹

The regulatory approach centers on the declaration of air pollution control areas. Section 19 empowers state governments to declare specific regions as air pollution control areas. Within these designated areas, industrial operations require prior consent from pollution control boards. This consent mechanism establishes administrative control over emissions sources. Operating without valid consent within designated areas constitutes a punishable offense. This area-specific approach aimed to prioritize intervention in severely affected regions. However, pollution frequently transcends these administratively designated boundaries. The spatial limitation represents a significant regulatory weakness.¹⁸²

The Air Act establishes standards-based regulation through multiple provisions. Section 17(1)(g) authorizes State Boards to establish emission standards for industrial plants and automobiles. These standards specify maximum permissible concentrations of various air pollutants. The scientific basis for standard-setting combines technical feasibility with health considerations. Implementation occurs primarily through the consent mechanism for industrial sources. Industries must demonstrate compliance with emission standards to obtain operational consent. This standards-based approach aligns with international regulatory practices. However, enforcement remains inconsistent across regions and sectors.¹⁸³

¹⁸⁰Preamble, The Air (Prevention and Control of Pollution) Act, 1981, No. 14, Acts of Parliament, 1981 (India).

¹⁸¹The Air (Prevention and Control of Pollution) Act, 1981, §§ 4, 5, No. 14, Acts of Parliament, 1981 (India).

¹⁸²The Air (Prevention and Control of Pollution) Act, 1981, § 19, No. 14, Acts of Parliament, 1981 (India).

¹⁸³The Air (Prevention and Control of Pollution) Act, 1981, § 17(1)(g), No. 14, Acts of Parliament, 1981 (India).

The compliance mechanisms include both administrative directions and criminal penalties. Section 31A empowers Boards to issue directions including industry closure for non-compliance. Section 37 prescribes imprisonment between eighteen months and six years for violations. Additional penalties apply for continuing violations after conviction. Section 39 establishes cognizance procedures for prosecution of offenses. This enforcement framework appears robust on paper. However, actual prosecution remains rare due to procedural complexities. A 2020 Parliamentary Standing Committee report noted only 132 prosecutions nationwide during the preceding five years.¹⁸⁴

Judicial decisions have significantly shaped the Air Act's implementation trajectory. In *M.C. Mehta v. Union of India* (Vehicular Pollution Case), the Supreme Court ordered conversion of Delhi's public transport to compressed natural gas. Justice A.S. Anand invoked the right to clean air as part of Article 21. The Court established a continuing mandamus mechanism for implementation monitoring. This judicial intervention dramatically exceeded the Air Act's formal enforcement mechanisms. It demonstrated the judiciary's willingness to fill enforcement gaps through creative interpretation. The case exemplifies how judicial activism has partially compensated for administrative implementation deficits.¹⁸⁵

The jurisdiction of the Air Act contains significant limitations despite amendments. The original enactment focused primarily on point-source industrial emissions. The 1987 amendment expanded coverage to include noise pollution. However, significant sources including agricultural burning and construction dust remained inadequately addressed. The definition of “air pollutant” in Section 2(a) emphasizes solid and liquid particulates. This emphasis potentially undervalues gaseous pollutants like ozone and sulfur dioxide. These jurisdictional limitations have hampered comprehensive air quality management. The Act's sectoral approach fails to address air pollution's multi-source nature.¹⁸⁶

3.2.4 The Wildlife Protection Act, 1972

The Wildlife Protection Act of 1972 represents India's first comprehensive legislation for wildlife conservation. It emerged during a period of alarming wildlife decline across the subcontinent.

¹⁸⁴The Air (Prevention and Control of Pollution) Act, 1981, §§ 31A, 37, 39, No. 14, Acts of Parliament, 1981 (India).

¹⁸⁵*M.C. Mehta v. Union of India* (Vehicular Pollution Case), (1998) 6 SCC 60, 68.

¹⁸⁶The Air (Prevention and Control of Pollution) Amendment Act, 1987, No. 47, Acts of Parliament, 1987 (India).

Parliament enacted this legislation before the 42nd Constitutional Amendment. The Act predates the explicit constitutional mandate for environmental protection. It relied initially on Entry 20 of the Concurrent List for legislative competence. This entry covers “economic and social planning” rather than environment directly. The colonial Indian Forest Act, 1927 had previously addressed wildlife protection only incidentally.¹⁸⁷

The legislation creates a specialized governance structure for wildlife protection. Section 3 mandates appointment of a Chief Wildlife Warden in each state. Section 4 empowers the appointment of Wildlife Wardens with territorial jurisdiction. Section 6 authorizes constitution of Wildlife Advisory Boards at state level. This institutional architecture establishes specialized administrative capacity for conservation. The structure combines technical expertise with political oversight mechanisms. This design aims to balance scientific conservation approaches with democratic governance. However, implementation often favors political considerations over scientific imperatives.¹⁸⁸

The protection mechanism centers on habitat conservation through protected area designation. Section 18 authorizes notification of sanctuaries while Section 35 covers national parks. Section 36A subsequently introduced conservation reserves and community reserves. These categories establish graduated protection levels for different habitats. The sanctuary designation permits certain human activities unlike strict national parks. This spatial approach anchors wildlife protection in territorial demarcation. Property rights within these areas face significant restrictions. The Supreme Court has consistently upheld these restrictions against challenges.¹⁸⁹

The species protection approach utilizes a schedular system of graduated protection. The original Act contained five schedules categorizing species by protection levels. Schedule I and II provide absolute protection for endangered species. Subsequent schedules permit regulated hunting or trade under specific circumstances. Section 9 prohibits hunting of scheduled animals except under limited exemptions. Section 49 similarly restricts trade in scheduled animal parts. This species-centric approach complements the habitat protection framework. Together they establish

¹⁸⁷The Wildlife (Protection) Act, 1972, No. 53, Acts of Parliament, 1972 (India).

¹⁸⁸The Wildlife (Protection) Act, 1972, §§ 3, 4, 6, No. 53, Acts of Parliament, 1972 (India).

¹⁸⁹The Wildlife (Protection) Act, 1972, §§ 18, 35, 36A, No. 53, Acts of Parliament, 1972 (India).

a comprehensive conservation strategy. However, enforcement faces substantial challenges despite this dual protection.¹⁹⁰

The enforcement mechanisms include both administrative orders and criminal penalties. Section 50 authorizes wardens to search premises arrest suspects and seize contraband. Section 51 prescribes imprisonment between three and seven years for Schedule I violations. Subsequent amendments have progressively increased penalties for wildlife offenses. The Wildlife Crime Control Bureau established in 2007 coordinates enforcement nationwide. This enforcement framework appears robust on paper. However, prosecution rates remain low with convictions even rarer. Endemic poaching of protected species highlights continuing enforcement deficits.¹⁹¹

Multiple amendments have progressively strengthened the Act's conservation framework. The 1991 amendment prohibited wildlife trade even within India. The 2002 amendment created new protected area categories and strengthened penalties. The 2006 amendment established the National Tiger Conservation Authority. Each amendment responded to emerging conservation challenges and implementation deficits. This legislative evolution demonstrates policy learning and adaptation. However, implementation challenges have persisted despite these amendments. The gap between statutory framework and effective governance remains substantial.¹⁹²

Judicial decisions have significantly shaped the Act's implementation trajectory. In *Centre for Environmental Law v. Union of India*, the Supreme Court halted tourism in core tiger reserve areas. Justice Aftab Alam emphasized strict implementation of statutory protections. In *Animal Welfare Board of India v. A. Nagaraja*, the Court recognized intrinsic worth of animals beyond utilitarian value. Justice K.S. Radhakrishnan explicitly recognized animal dignity while interpreting the Act. These judicial interventions have reinforced the conservation mandate through expansive interpretation. Courts have consistently prioritized ecological considerations over competing interests.¹⁹³

¹⁹⁰The Wildlife (Protection) Act, 1972, §§ 9, 49, No. 53, Acts of Parliament, 1972 (India).

¹⁹¹The Wildlife (Protection) Act, 1972, §§ 50, 51, No. 53, Acts of Parliament, 1972 (India).

¹⁹²The Wildlife (Protection) Amendment Act, 2006, No. 39, Acts of Parliament, 2006 (India).

¹⁹³*Centre for Environmental Law v. Union of India*, (2013) 8 SCC 234; *Animal Welfare Board of India v. A. Nagaraja*, (2014) 7 SCC 547.

3.2.5 The Forest Conservation Act, 1980

The Forest Conservation Act, 1980 represents a watershed legislative intervention in India's forest governance. Enacted during a period of alarming deforestation, it introduced unprecedented federal oversight. Parliament passed this legislation as a direct response to rampant forest conversion. States had diverted substantial forest areas for non-forest purposes during the 1970s. Data indicated annual deforestation rates exceeding 1.3 million hectares nationwide. This ecological crisis prompted central legislative intervention despite forests being a state subject. The Act fundamentally altered center-state dynamics in forest governance.¹⁹⁴

The legislative design reflects a deliberately minimalist yet powerful approach. Containing merely five sections in its original form, the Act achieves impressive regulatory impact. Section 2 establishes its central regulatory mechanism - the prior approval requirement. This provision prohibits state governments from dereserving forests or permitting non-forest uses without central approval. The simplicity of this provision belies its transformative impact on forest governance. It effectively established central government oversight over all forest land diversion decisions nationwide. This centralized approach significantly curtailed state discretion in forest management.¹⁹⁵

The constitutional basis for this central intervention relied on the forest entry in the Concurrent List. The 42nd Constitutional Amendment in 1976 transferred forests from the State List to the Concurrent List. This transfer enabled Parliament to legislate on forest conservation with overriding effect. The Supreme Court upheld this legislative competence in *Ambica Quarry Works v. State of Gujarat*. Justice Khalid explicitly endorsed central intervention for “arresting the rapid depletion of forests.” The judgment recognized forests as a national resource transcending state boundaries. This constitutional validation strengthened the Act's implementation despite state resistance.¹⁹⁶

The regulatory approach centers on a permit system for forest land diversion. The Forest Conservation Rules establish a detailed application procedure for non-forest use proposals. The Regional Empowered Committees initially evaluate diversion applications below specified thresholds. The Forest Advisory Committee examines applications for larger diversions at

¹⁹⁴The Forest (Conservation) Act, 1980, No. 69, Acts of Parliament, 1980 (India).

¹⁹⁵The Forest (Conservation) Act, 1980, § 2, No. 69, Acts of Parliament, 1980 (India).

¹⁹⁶*Ambica Quarry Works v. State of Gujarat*, AIR 1987 SC 1073, 1076.

national level. This committee combines forestry experts with administrative representatives. Its recommendations substantially influence final decisions by the Ministry. This permit system establishes procedural and substantive safeguards against unwarranted forest diversion. However, implementation often prioritizes form over substantive conservation.¹⁹⁷

Compensatory afforestation requirements substantially strengthened the regulatory framework. Section 3 enables the Central Government to impose conditions on forest diversion approvals. The Ministry has utilized this provision to mandate compensatory afforestation for all diversions. Applicants must identify and transfer equivalent non-forest land for afforestation purposes. Additionally, they must deposit funds for afforestation costs plus net present value of ecological services. The Compensatory Afforestation Fund Act, 2016 institutionalized this framework. However, implementation quality remains questionable despite substantial fund accumulation. Monitoring data indicates significant shortfalls in actual afforestation against requirements.¹⁹⁸

The judiciary has played a pivotal role in strengthening the Act's implementation through activist interpretation. In *T.N. Godavarman Thirumulpad v. Union of India*, the Supreme Court dramatically expanded the Act's jurisdictional scope. Justice J.S. Verma interpreted “forest” to include all areas meeting the dictionary definition regardless of ownership. This interpretation extended the Act's jurisdiction beyond recorded forest land to encompass all forest ecosystems. The Court established a Central Empowered Committee for monitoring implementation nationwide. This continuing mandamus significantly enhanced the Act's efficacy through judicial oversight. The case exemplifies how judicial activism has compensated for administrative implementation deficits.¹⁹⁹

The definition of “non-forest purpose” has generated significant implementation controversies. Section 2 exempts work “relating to conservation, development and management of forests” from approval requirements. This exemption's scope has been contested through multiple cases. In *Utkarsh Mandal v. Union of India*, the Delhi High Court rejected expansive interpretations of this exemption. Justice S. Muralidhar emphasized that mining activities cannot qualify as forest management. Conversely, the Supreme Court allowed underground mining under certain conditions in *Lafarge Umiam Mining v. Union of India*. These interpretative debates highlight the

¹⁹⁷The Forest (Conservation) Rules, 2003, G.S.R. 23(E), Ministry of Environment and Forests (India).

¹⁹⁸The Compensatory Afforestation Fund Act, 2016, No. 38, Acts of Parliament, 2016 (India).

¹⁹⁹*T.N. Godavarman Thirumulpad v. Union of India*, (1996) 9 SCC 216, 220.

Act's delicate balance between conservation and development. Exemption boundaries substantially influence the Act's implementation effectiveness.²⁰⁰

Recent amendments reveal continuing policy tensions between forest conservation and developmental imperatives. The Forest Conservation (Amendment) Act, 2023 introduced exemptions for strategic linear projects. Border infrastructure, security installations, and railways received relaxations from rigorous scrutiny. These amendments reflect prioritization of development and security considerations. Critics argue that these exemptions potentially compromise the Act's conservation objectives. These legislative modifications highlight the dynamic tension between competing policy goals. The amendment illustrates the evolving recalibration of environmental governance in response to development pressures.²⁰¹

Implementation challenges persist despite the Act's strong regulatory framework. The compensatory afforestation program faces significant implementation deficits. The Parliamentary Standing Committee on Environment identified merely 59% achievement against afforestation targets in 2019. The quality of compensated forests rarely matches ecological functions of diverted areas. Monitoring mechanisms remain inadequate for tracking long-term outcomes. Technical capacity shortages plague implementing agencies at multiple levels. These implementation gaps substantially undermine the Act's effectiveness despite its robust design. The distance between regulatory framework and ground implementation remains substantial.²⁰²

3.2.6 The Biological Diversity Act, 2002

The Biological Diversity Act, 2002 represents India's most significant legislative response to biodiversity conservation challenges. Parliament enacted this legislation to fulfill India's obligations under the Convention on Biological Diversity. India had ratified this international convention in 1994 following the Rio Earth Summit. The Act aims to conserve biological diversity, ensure sustainable use, and enable equitable benefit-sharing. It reflects India's megadiverse status and recognition of biodiversity's ecological and economic value.

²⁰⁰Utkarsh Mandal v. Union of India, WP(C) No. 9340/2009, Delhi High Court (Nov. 26, 2009); Lafarge Umiam Mining Pvt. Ltd. v. Union of India, (2011) 7 SCC 338.

²⁰¹The Forest (Conservation) Amendment Act, 2023, No. 14, Acts of Parliament, 2023 (India).

²⁰²Parliamentary standing committee on environment, forest and climate change, twenty-third report 45-47 (2019).

Approximately 7-8% of global recorded species occur within Indian territory despite occupying merely 2.4% of world land area.²⁰³

The legislation establishes a multi-tiered institutional structure for biodiversity governance. Section 8 constitutes the National Biodiversity Authority at apex level. Section 22 mandates State Biodiversity Boards in each state. Section 41 requires Biodiversity Management Committees at local body level. This three-tiered institutional framework reflects the Act's commitment to decentralized governance. The structure aims to integrate national priorities with local implementation. However, this institutional cascade faces significant coordination challenges in practice. Functional integration between these tiers remains weak despite structural connections.²⁰⁴

The regulatory approach centers on access control for biological resources and knowledge. Section 3 prohibits foreign individuals and entities from obtaining biological resources without prior approval. Section 7 requires Indian entities to provide prior intimation for commercial utilization. This differential treatment between foreign and domestic users reflects sovereignty concerns. The access regulation aims to prevent biopiracy of Indian genetic resources. This approach contrasts sharply with earlier unregulated access regimes. However, implementation faces challenges of monitoring vast biodiversity across diverse ecosystems.²⁰⁵

The benefit-sharing framework represents the Act's most innovative contribution to environmental governance. Section 21 mandates equitable sharing of benefits arising from commercial utilization. The framework encompasses monetary and non-monetary benefits including technology transfer, joint research, and capacity building. The 2014 Access and Benefit Sharing Regulations detail implementation mechanisms. This framework aims to reward conservation by indigenous communities and knowledge holders. It establishes economic incentives for sustainable biodiversity management. However, actual benefit flows remain minimal despite the robust legal framework.²⁰⁶

Traditional knowledge protection receives significant attention within the legislative framework. Section 36(5) explicitly mandates protection of knowledge of local communities. The traditional

²⁰³The Biological Diversity Act, 2002, No. 18, Acts of Parliament, 2003 (India).

²⁰⁴The Biological Diversity Act, 2002, §§ 8, 22, 41, No. 18, Acts of Parliament, 2003 (India).

²⁰⁵The Biological Diversity Act, 2002, §§ 3, 7, No. 18, Acts of Parliament, 2003 (India).

²⁰⁶Biological Diversity Rules, 2004, G.S.R. 261(E), Ministry of Environment and Forests (India); Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014.

knowledge digital library documents indigenous knowledge to prevent misappropriation. Patent examinations utilize this database to reject biopiracy claims. This knowledge protection aims to prevent unauthorized commercialization without benefit-sharing. The framework represents a pioneering attempt to integrate cultural and biological conservation. However, documentation itself raises concerns about knowledge dissemination without adequate safeguards.²⁰⁷

The judiciary has played a limited role in the Act's implementation compared to other environmental legislation. In *Divya Pharmacy v. Union of India*, the Uttarakhand High Court addressed benefit-sharing obligations for Indian companies. Justice Sudhanshu Dhulia upheld Indian companies' responsibility toward benefit-sharing with local communities. The Court emphasized the Act's objective of economic justice for biodiversity conserving communities. This judgment strengthened the benefit-sharing framework through purposive interpretation. However, biodiversity litigation remains relatively uncommon compared to pollution or forest cases. This limited judicial engagement reflects the Act's primarily administrative implementation approach.²⁰⁸

The 2021 amendment bill reveals continuing tensions between conservation and development objectives. The proposed amendments aim to exempt AYUSH practitioners from benefit-sharing obligations. They also simplify compliance requirements for Indian entities using biological resources. These proposed changes reflect pressure from domestic commercial interests. Critics argue that these exemptions potentially compromise the Act's benefit-sharing objectives. The amendment controversy highlights the dynamic tension between competing policy goals. It illustrates the continuous recalibration of environmental governance in response to economic pressures.²⁰⁹

Coordination with other environmental legislation presents implementation challenges. The Forest Conservation Act, 1980 regulates forest biodiversity through a separate framework. The Wildlife Protection Act, 1972 governs wildlife conservation through its specialized provisions. The Patents Act, as amended in 2005, addresses biological innovation through intellectual property lens. These parallel legal regimes create potential contradictions and overlaps. Forest officers, wildlife officials, and biodiversity authorities sometimes issue conflicting directives.

²⁰⁷The Biological Diversity Act, 2002, § 36(5), No. 18, Acts of Parliament, 2003 (India).

²⁰⁸*Divya Pharmacy v. Union of India*, 2018 SCC OnLine Utt 1035.

²⁰⁹The Biological Diversity (Amendment) Bill, 2021, Bill No. 158 of 2021 (India).

This legal pluralism generates coordination difficulties among implementing agencies. These challenges significantly impede effective implementation despite robust statutory frameworks.²¹⁰

3.3 INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION

3.3.1 The Ministry of Environment, Forests, and Climate Change (MoEF&CC)

The Ministry of Environment, Forests, and Climate Change (MoEF&CC) functions as the nodal agency for environmental governance in India. Its institutional evolution reflects the gradual prioritization of environmental concerns in India's governance framework. The ministry originated as a small Department of Environment in 1980. This department expanded into a full-fledged Ministry of Environment and Forests in 1985. The renaming to include “Climate Change” in 2014 reflected emerging priorities in environmental governance. This institutional evolution mirrors the expanding scope of environmental challenges and governance responses over four decades.²¹¹

The constitutional foundation for the ministry derives from multiple constitutional provisions. Article 48A directs the state to protect and improve the environment. Article 51A(g) imposes a fundamental duty on citizens for environmental protection. Entry 17A in the Concurrent List specifically covers “forests” as a legislative subject. Entry 17B similarly includes “protection of wild animals and birds” within federal competence. These constitutional provisions establish the legitimate basis for a specialized federal ministry. The ministry thus represents the institutional manifestation of constitutional environmental commitments.²¹²

The ministry exercises extensive regulatory powers under various environmental statutes. The Environment (Protection) Act designates it as the primary implementing authority nationwide. The Forest Conservation Act empowers it to approve forest land diversions. The Wildlife Protection Act assigns it supervisory jurisdiction over wildlife governance. The Biological Diversity Act establishes it as the overseer of biodiversity management. These statutory powers create a formidable regulatory apparatus on paper. The ministry thus consolidates

²¹⁰Kanchi Kohli & Shalini Bhutani, *biodiversity law: relating ecosystems, people and patents* 87-90 (Sage Publications 2018).

²¹¹Ministry of environment, forest and climate change, annual report 2021-22 2-4 (2022).

²¹²INDIA CONST. art. 48A, 51A(g); INDIA CONST. schedule VII, list III, entries 17A, 17B.

implementation authority for India's environmental legal framework. However, actual governance capacity often falls short of these extensive legal mandates.²¹³

3.3.2 Central and State Pollution Control Boards (CPCB & SPCBs)

The Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) constitute the specialized regulatory framework for pollution governance in India. Their institutional genesis lies in the Water (Prevention and Control of Pollution) Act, 1974. This legislation established the first statutory regulatory agency for environmental protection. The Air (Prevention and Control of Pollution) Act, 1981 subsequently expanded their mandate. These institutions represent India's earliest attempt at creating specialized environmental regulatory agencies. Their evolution reflects the gradual institutionalization of environmental governance in India.²¹⁴

The statutory foundation for these boards establishes their powers and functions. Section 16 of the Water Act delineates the CPCB's functions including coordination of state activities. Section 17 similarly outlines state boards' functions regarding water pollution control. The Air Act's parallel provisions extend these mandates to air pollution regulation. The Environment (Protection) Act, 1986 delegates additional responsibilities to these institutions. This statutory framework creates comprehensive regulatory authority for pollution management. However, statutory powers rarely translate into effective implementation. The gap between paper mandates and actual capacity remains substantial.²¹⁵

The consent mechanism represents the boards' primary regulatory tool for pollution control. Section 25 of the Water Act prohibits effluent discharge without prior consent. Section 21 of the Air Act similarly requires consent for emissions from industrial plants. This permit system establishes administrative control over pollution sources. Industries must demonstrate compliance with prescribed standards before receiving operational consent. This anticipatory governance approach aims to prevent pollution rather than merely penalizing violations.

²¹³Environment (Protection) Act, 1986, § 3, No. 29, Acts of Parliament, 1986 (India).

²¹⁴The Water (Prevention and Control of Pollution) Act, 1974, §§ 3, 4, No. 6, Acts of Parliament, 1974 (India).

²¹⁵The Water (Prevention and Control of Pollution) Act, 1974, §§ 16, 17, No. 6, Acts of Parliament, 1974 (India).

However, implementation faces significant challenges including capacity constraints and corruption.²¹⁶

The enforcement capacity reveals profound implementation deficits despite robust legal powers. Section 33A of the Water Act and Section 31A of the Air Act authorize closure directions for non-compliant industries. The boards can revoke consent, disconnect electricity, and initiate prosecution against violators. These enforcement powers appear formidable on paper. However, actual utilization remains limited due to multiple constraints. Political pressure frequently shields polluting industries from enforcement actions. Technical capacity for detecting sophisticated violations remains inadequate. These enforcement limitations substantially undermine regulatory effectiveness.²¹⁷

Several judicial interventions have substantially shaped these institutions' functioning and effectiveness. In *M.C. Mehta v. Union of India* (Kanpur Tanneries Case), the Supreme Court reprimanded the Uttar Pradesh board for failing to control Ganga pollution. Justice K.N. Singh described the board as “a statutory body reluctant to perform its duty.” In *Indian Council for Enviro-Legal Action v. Union of India*, the Court criticized “institutional failures” of pollution control boards nationwide. These judicial observations highlight persistent implementation deficits. Courts have repeatedly stepped in to address regulatory failures through direct interventions.²¹⁸

3.3.3 The National Green Tribunal (NGT) – Powers, Jurisdiction, and Effectiveness

The National Green Tribunal represents India's most significant institutional innovation in environmental governance. Parliament established this specialized environmental court through the National Green Tribunal Act, 2010. The legislative intent sought to create an expert forum for effective environmental dispute resolution. This institutional development followed the Law Commission's 186th Report recommending specialized environmental courts. The NGT's establishment significantly transformed India's environmental adjudication landscape. It emerged

²¹⁶The Water (Prevention and Control of Pollution) Act, 1974, § 25, No. 6, Acts of Parliament, 1974 (India); The Air (Prevention and Control of Pollution) Act, 1981, § 21, No. 14, Acts of Parliament, 1981 (India).

²¹⁷The Water (Prevention and Control of Pollution) Act, 1974, § 33A, No. 6, Acts of Parliament, 1974 (India); The Air (Prevention and Control of Pollution) Act, 1981, § 31A, No. 14, Acts of Parliament, 1981 (India).

²¹⁸*M.C. Mehta v. Union of India* (Kanpur Tanneries Case), (1988) 1 SCC 471, 479; *Indian Council for Enviro-Legal Action v. Union of India*, (1996) 3 SCC 212, 246.

as a response to the Supreme Court's observation in *Union Carbide Corporation v. Union of India* regarding specialized environmental adjudication.²¹⁹

The NGT's constitutional foundation derives from Article 21 read with India's international commitments. The tribunal implements the access to justice pillar of the Rio Declaration. Justice Swatanter Kumar described the NGT as a “child of international treaties” in his judgments. The preamble explicitly references the Rio Conference and sustainable development principles. This international linkage distinguishes the NGT from other specialized tribunals in India. The tribunal thus represents the institutional manifestation of international environmental norms. This constitutional-international foundation provides distinctive legitimacy for its jurisprudential innovations.²²⁰

The compositional design establishes the NGT as a hybrid judicial-technical institution. Section 4 mandates a combination of judicial and expert members in equal numbers. Judicial members require High Court judgeship experience. Expert members must possess professional qualifications and environmental expertise. This hybrid composition aims to integrate legal rigor with technical environmental understanding. The design acknowledges environmental disputes' technical complexity beyond traditional legal expertise. However, maintaining balance between judicial and technical perspectives remains challenging in practice. Technical considerations occasionally receive insufficient weight in final determinations.²²¹

The jurisdiction encompasses remarkably broad environmental subject matter. Section 14 confers substantive jurisdiction over seven environmental statutes. These include the Water Act, Air Act, Environment Protection Act, and Forest Conservation Act. Section 15 establishes jurisdiction over environmental damage compensation. Section 16 grants appellate jurisdiction against administrative decisions under specified statutes. This comprehensive jurisdiction creates a unified environmental adjudication forum. However, certain significant exclusions exist including the Wildlife Protection Act and Biodiversity Act. These jurisdictional limitations create fragmentation in environmental adjudication despite the NGT's specialized mandate.²²²

²¹⁹The National Green Tribunal Act, 2010, No. 19, Acts of Parliament, 2010 (India); *Union Carbide Corporation v. Union of India*, (1991) 4 SCC 584, 587.

²²⁰INDIA CONST. art. 21; Preamble, The National Green Tribunal Act, 2010, No. 19, Acts of Parliament, 2010 (India).

²²¹The National Green Tribunal Act, 2010, § 4, No. 19, Acts of Parliament, 2010 (India).

²²²The National Green Tribunal Act, 2010, §§ 14, 15, 16, No. 19, Acts of Parliament, 2010 (India).

The procedural innovations significantly distinguish the NGT from traditional courts. Section 19 explicitly authorizes application of the principles of natural justice rather than Civil Procedure Code. Section 20 empowers the tribunal to regulate its own procedure. The NGT Rules establish simplified pleading requirements for accessibility. Most significantly, Section 19(4)(k) authorizes site inspections for direct environmental assessment. These procedural flexibilities substantially enhance environmental decision-making effectiveness. The tribunal frequently conducts field visits to evaluate environmental conditions firsthand. This procedural innovation strengthens environmental fact-finding beyond traditional courtroom evidence.²²³

The substantive adjudicatory principles explicitly incorporate international environmental norms. Section 20 mandates application of sustainable development, precautionary principle, and polluter pays principles. This statutory incorporation provides domestic enforceability to these international norms. The tribunal has repeatedly invoked these principles in developing India's environmental jurisprudence. In *Srikanta Patra v. State of Odisha*, the NGT applied the polluter pays principle to impose restoration costs. In *Hindustan Coca-Cola Beverages v. West Bengal Pollution Control Board*, it utilized the precautionary principle for regulatory action. These substantive principles have significantly shaped India's environmental jurisprudence.²²⁴

The remedial powers represent perhaps the NGT's most innovative institutional feature. Section 15 authorizes compensation for environmental damage including restitution of affected property. Section 16 empowers modification or cancellation of administrative approvals on environmental grounds. Section 19 allows injunctive relief through interim orders during pendency. Most significantly, the tribunal can initiate suo motu proceedings based on environmental concerns. These sweeping remedial powers enable effective environmental governance beyond traditional judicial constraints. The tribunal has effectively utilized these powers to address various environmental challenges nationwide.²²⁵

The geographical reach encompasses nationwide jurisdiction through innovative institutional design. The principal bench operates in New Delhi with zonal benches in four regions. Circuit benches periodically visit additional locations for enhanced access. This geographical structure

²²³The National Green Tribunal Act, 2010, §§ 19, 20, No. 19, Acts of Parliament, 2010 (India).

²²⁴The National Green Tribunal Act, 2010, § 20, No. 19, Acts of Parliament, 2010 (India); *Srikanta Patra v. State of Odisha*, 2016 SCC OnLine NGT 689; *Hindustan Coca-Cola Beverages Pvt. Ltd. v. West Bengal Pollution Control Board*, 2012 SCC OnLine NGT 9.

²²⁵The National Green Tribunal Act, 2010, §§ 15, 16, 19, No. 19, Acts of Parliament, 2010 (India).

combines national coordination with regional accessibility. The design aims to balance institutional cohesion with environmental justice access. However, implementation reveals continuing accessibility challenges for remote communities. Financial and logistical barriers still impede access despite the regional bench structure. The geographical coverage thus remains imperfect despite innovative design.²²⁶

The tribunal's practical effectiveness is further constrained by a persistent implementation gap between the orders it issues and compliance on the ground. A 2022 assessment by the Centre for Science and Environment found that only approximately 35 per cent of NGT orders are fully implemented by the relevant government authorities, while a further 30 per cent receive only partial compliance. Compounding this, as of September 2024, the tribunal had only six judicial members serving against a sanctioned strength of twenty, severely limiting its capacity to hear matters within the statutory six-month disposal timeframe. The NCRB's 2022 data revealed a backlog of over 88,400 environment-related cases pending trial across Indian courts, with projections indicating that courts will need between eight and thirty-four years to clear existing arrears under various environmental statutes at prevailing disposal rates. These figures suggest that the NGT, though institutionally innovative, operates within a broader adjudicatory infrastructure that is structurally ill-equipped for the volume and complexity of environmental enforcement demands.²²⁷

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²²⁶The National Green Tribunal (Practices and Procedure) Rules, 2011, G.S.R. 95(E), Ministry of Environment and Forests (India).

²²⁷ Centre for Science and Environment, 'NGT Case Disposal and Order Implementation' (CSE Report 2022); National Crime Records Bureau, Crime in India 2022 (NCRB 2023); Down to Earth, 'India Will Need Around 34 Years to Dispose of the Pending Cases Under the Environment Protection Act' (Down to Earth, 22 April 2024) <<https://www.downtoearth.org.in/environment/india-will-need-around-34-years-to-dispose-of-the-pending-cases-under-the-environment-protection-act-93272>>.

CHAPTER 4: THE JUDICIARY AND ENVIRONMENTAL RULE OF LAW IN INDIA

4.1 JUDICIAL ACTIVISM IN ENVIRONMENTAL LAW

4.1.1 The Role of Public Interest Litigations (PILs) in Environmental Protection

Public Interest Litigation emerged as a revolutionary tool for environmental protection in India during the 1980s. The Supreme Court's relaxation of traditional locus standi requirements fundamentally transformed access to environmental justice. Prior to this judicial innovation, only aggrieved parties could approach courts seeking redress. Justice P.N. Bhagwati's pioneering judgment in *S.P. Gupta v. Union of India* (1982) dismantled procedural barriers by allowing any public-spirited citizen to approach courts for public grievances. This procedural flexibility proved especially valuable for environmental causes where impacts often affect diffuse populations rather than identifiable individuals.²²⁸

Environmental PILs have addressed diverse ecological concerns spanning industrial pollution water contamination and forest conservation. The M.C. Mehta series of cases stand as testament to PILs' transformative impact on environmental governance. *M.C. Mehta v. Union of India* (Oleum Gas Leak case) established absolute liability principle for hazardous industries. Another landmark case *M.C. Mehta v. Union of India* (Taj Trapezium case) resulted in the relocation of polluting industries around the Taj Mahal. Similarly the Ganga Pollution cases mandated treatment of effluents discharged into the river by tanneries. These cases demonstrate PILs' capacity to address both remedial measures and preventive safeguards against environmental degradation.²²⁹

²²⁸*S.P. Gupta v. Union of India*, AIR 1982 SC 149; Upendra Baxi, Taking Suffering Seriously: Social Action Litigation in the Supreme Court of India, 4 THIRD WORLD LEGAL STUD. 107, 112-114 (1985).

²²⁹*M.C. Mehta v. Union of India*, AIR 1987 SC 1086; *M.C. Mehta v. Union of India*, (1997) 2 SCC 353; *M.C. Mehta v. Union of India*, AIR 1988 SC 1037.

The evolution of environmental PILs reflects the judiciary's shifting approach from technical formalism to substantive justice. *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*, considered the first environmental PIL, addressed limestone quarrying in the fragile Mussoorie hills. The Supreme Court prioritized environmental protection despite economic implications. In *Indian Council for Enviro-Legal Action v. Union of India* (Bichhri village case), the Court confronted chemical industrial pollution affecting groundwater resources. These instances highlight judicial willingness to transcend procedural constraints to deliver environmental justice. The courts frequently invoked Article 21's right to life interpretation to justify environmental intervention.²³⁰

Procedural innovations within the PIL framework have enhanced environmental rule of law. Courts have exercised extraordinary powers by appointing commissions, expert committees and monitoring authorities. In *Vellore Citizens' Welfare Forum v. Union of India*, the Court established a expert committee to assess pollution by tanneries. The T.N. Godavarman case saw the appointment of a Central Empowered Committee for forest management issues. Even more significant has been the Court's willingness to formulate detailed guidelines when legislative gaps persist. The Court's directive to mandate CNG for public transport vehicles in Delhi exemplifies such judicial law-making. These procedural innovations have compensated for executive implementation deficits.²³¹

PIL-led environmental governance has facilitated the importation of international environmental principles into domestic jurisprudence. The Supreme Court incorporated the sustainable development concept in *Vellore Citizens' Welfare Forum* case, acknowledging it as customary international law. The precautionary principle gained domestic recognition through the same judgment. In *Narmada Bachao Andolan v. Union of India*, the Court applied the principle of intergenerational equity while addressing dam construction impact. The “polluter pays” principle received explicit recognition in *Indian Council for Enviro-Legal Action* case. Through these

²³⁰*Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*, AIR 1985 SC 652; *Indian Council for Enviro-Legal Action v. Union of India*, (1996) 3 SCC 212.

²³¹*Vellore Citizens' Welfare Forum v. Union of India*, AIR 1996 SC 2715; *T.N. Godavarman Thirumulpad v. Union of India*, (1997) 2 SCC 267; *M.C. Mehta v. Union of India*, (1998) 6 SCC 60.

interpretations, international environmental norms have been indigenized within India's legal framework despite the absence of specific legislative incorporation.²³²

Environmental PILs have catalyzed institutional innovations that strengthen implementation mechanisms. The establishment of Green Benches in High Courts emerged directly from Supreme Court directives in environmental cases. These specialized benches enhanced judicial expertise in environmental matters. The National Green Tribunal's creation in 2010 represents the culmination of this institutional evolution. The Tribunal possesses both judicial and technical expertise, addressing a significant limitation in regular courts. While the NGT's establishment partially institutionalized environmental adjudication, PILs continue to play a complementary role for constitutional matters beyond the NGT's jurisdiction.²³³

Despite their transformative impact, environmental PILs face significant critiques regarding democratic legitimacy and implementation effectiveness. Critics question the judiciary's technical competence to adjudicate complex environmental matters. Implementation challenges persist despite favorable judgments. The Ganga pollution cases, despite decades of litigation, haven't achieved desired results. Judicial monitoring cannot substitute systematic administrative enforcement. Over-reliance on courts has arguably distracted attention from strengthening administrative compliance mechanisms. Furthermore, judicial interventionism raises questions about separation of powers, particularly when courts formulate detailed policies. These limitations highlight the need for balanced institutional approaches to environmental governance.²³⁴

4.2 LANDMARK SUPREME COURT AND HIGH COURT JUDGMENTS

4.2.1 MC Mehta v. Union of India (Taj Trapezium Case)

The Taj Trapezium Case represents a watershed moment in Indian environmental jurisprudence. M.C. Mehta filed this PIL in 1984 to protect the Taj Mahal from environmental pollution. He identified industrial emissions as the primary threat to this historical monument. The Taj Mahal

²³²Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715, 2721; Narmada Bachao Andolan v. Union of India, (2000) 10 SCC 664, 727; Indian Council for Enviro-Legal Action v. Union of India, (1996) 3 SCC 212, 242.

²³³National Green Tribunal Act, 2010, No. 19, Acts of Parliament, 2010 (India); Shibani Ghosh, Litigating Environmental Claims in India, 5 J. ENVTL. L. & LITIG. 349, 355-358 (2020).

²³⁴Lavanya Rajamani, Public Interest Environmental Litigation in India: Exploring Issues of Access, Participation, Equity, Effectiveness and Sustainability, 19 J. ENVTL. L. 293, 311-314 (2007).

was suffering visible damage from acid rain and particulate deposits. The case assumed national significance due to the monument's cultural and heritage value. The Supreme Court's intervention became crucial when administrative measures proved inadequate.²³⁵

The Court's orders reflected a prioritization of environmental protection over short-term economic considerations. Industries within the Taj Trapezium Zone received directives to either relocate or switch to cleaner fuels. The Court rejected arguments about economic hardship and unemployment as justification for continued pollution. Justice Kuldeep Singh emphatically stated that environmental protection cannot be compromised. He invoked Article 21 and Article 48A to emphasize constitutional obligations toward environmental preservation. This judgment thus established environmental protection as a non-negotiable constitutional mandate.²³⁶

The precautionary principle received explicit judicial recognition through this case. The Court acknowledged scientific uncertainty regarding the precise impact of each pollutant. Nevertheless it implemented stringent measures based on available evidence of environmental harm. Justice Kuldeep Singh emphasized that lack of absolute scientific certainty cannot justify inaction. This application of the precautionary principle set a valuable precedent for future environmental litigation. It established that preventive measures must precede absolute scientific certainty in cases of potential irreversible damage.²³⁷

The case established juridical recognition of cultural heritage preservation as an environmental concern. The Court expanded environmental protection beyond traditional natural resources. It acknowledged monuments as environmental resources deserving special protection. This judicial innovation broadened the conceptual scope of environmental law in India. Cultural heritage protection thereby became integrated into environmental jurisprudence. The judgment thus established an important link between cultural preservation and environmental protection.²³⁸

²³⁵M.C. Mehta v. Union of India, (1997) 2 SCC 353; Armin Rosencranz & Michael Jackson, The Delhi Pollution Case: The Supreme Court of India and the Limits of Judicial Power, 28 COLUM. J. ENVTL. L. 223, 231-235 (2003).

²³⁶M.C. Mehta v. Union of India, (1997) 2 SCC 353, 381-383; INDIA CONST. art. 21, 48A.

²³⁷M.C. Mehta v. Union of India, (1997) 2 SCC 353, 373; Usha Tandon, Judicial Activism and New Environmental Jurisprudence in India, 22 INT'L J. SOC. L. 101, 107-108 (2020).

²³⁸M.C. Mehta v. Union of India, (1997) 2 SCC 353, 364; Lavanya Rajamani, The Right to Environmental Protection in India: Many a Slip Between the Cup and the Lip?, 16 REV. EUR. COMP. & INT'L ENVTL. L. 274, 279-280 (2007).

4.2.2 Vellore Citizens' Welfare Forum v. Union of India

The Vellore Citizens' Welfare Forum case represents a watershed moment in India's environmental jurisprudence. The Supreme Court addressed devastating pollution caused by tanneries in Tamil Nadu. These tanneries discharged untreated effluents into agricultural fields and waterways. The pollution affected over 35,000 hectares of land in the North Arcot district. Local drinking water became wholly unfit for consumption. This ecological disaster prompted citizens to file a writ petition under Article 32 of the Constitution. The petitioners sought enforcement of their right to clean environment and prevention of further ecological damage.²³⁹

The Court's judgment, delivered by Justice Kuldip Singh in 1996, formally incorporated three cardinal principles into Indian environmental law. These principles include “sustainable development,” “precautionary principle,” and “polluter pays principle.” The Court declared these principles part of Indian environmental law by virtue of Articles 21, 47, 48A, and 51A(g) of the Constitution. Justice Singh's opinion emphasized these principles as essential components of environmental rule of law. The Court further recognized that proper implementation would create a balance between ecology and development. This balance would ensure intergenerational equity and continued economic progress without environmental degradation.²⁴⁰ The Court's application of international environmental principles demonstrated its willingness to adapt foreign concepts to address domestic environmental challenges.

The judgment directly applied the “precautionary principle” by shifting the burden of proof. Traditionally, victims had to prove that pollution caused their harm. Following this decision, the polluting industries had to demonstrate their activities were environmentally benign. This reversal significantly strengthened citizens' ability to seek environmental justice. The Court also empowered regulatory authorities to anticipate and prevent environmental damage. It directed the government to apply the principle when examining industrial proposals. Financial institutions were instructed to refuse loans to industries that didn't implement pollution control measures. These directives fundamentally altered the regulatory landscape by prioritizing prevention over

²³⁹Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647, 650.

²⁴⁰Shyam Divan & Armin Rosencranz, Environmental law and policy in India 57-59 (Oxford University Press 2nd ed. 2001).

remediation.²⁴¹ The judgment's implementation led to immediate action against non-compliant tanneries, with many facing closure or substantial renovation requirements.

The “polluter pays principle” found practical application through the Court's compensation scheme. The judgment directed creation of an “Environmental Protection Fund.” Polluting industries were required to pay compensation based on their capacity and pollution magnitude. The Court established an authority under Section 3(3) of the Environment Protection Act to determine compensation amounts. This authority included members from environmental and technical fields. The Court instructed that compensation should cover ecological restoration and victim compensation. This framework created a tangible pathway for implementing the abstract principle into concrete financial obligations.²⁴² Notably, the Court rejected contentions that implementing these principles would hamper economic development. Instead, it argued that long-term economic growth depends on proper environmental management.

4.2.3 Subhash Kumar v. State of Bihar (Right to Clean Environment)

The Subhash Kumar case stands as a foundational judgment in Indian environmental jurisprudence. Filed as a public interest litigation in 1991, it addressed water pollution in the Bokaro River. The petitioner alleged that Tata Iron and Steel Company discharged toxic effluents into the river. These discharges contained slag and slurry which poisoned the water supply. Local communities depended on this river for drinking and agricultural purposes. The pollution threatened public health and endangered the riverine ecosystem. The Supreme Court's decision would ultimately reshape environmental rights interpretation in India.²⁴³

Justice K.N. Singh delivered the landmark judgment that explicitly recognized environmental rights. The Court made a revolutionary declaration linking Article 21 with environmental protection. It held that the right to live includes the right to pollution-free water and air. This interpretation expanded Article 21 far beyond its traditional scope of mere physical existence. The Court recognized that environmental quality directly impacts quality of life. Clean water became a legally enforceable fundamental right rather than a policy aspiration. This judicial innovation transformed environmental protection from a directive principle to a justiciable right.

²⁴¹Geetanjoy Sahu, Implications of Indian Supreme Court's Innovations for Environmental Jurisprudence, 4 L. ENV'T & DEV. J. 1, 3-5 (2008).

²⁴²Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647, 658-660.

²⁴³Subhash Kumar v. State of Bihar, AIR 1991 SC 420, 422.

Citizens gained constitutional standing to demand environmental quality through legal recourse.²⁴⁴

The judgment established critical parameters for public interest environmental litigation in India. The Court clarified that any person genuinely concerned with environmental protection could approach it. This approach lowered procedural barriers for environmental claims under Article 32. However, the Court warned against misusing PIL for personal or political gain. Justice Singh emphasized that courts would dismiss frivolous petitions filed under environmental pretexts. This balanced approach enabled legitimate environmental concerns while preventing judicial overload. The Court thus established a gate-keeping function that continues to guide environmental PILs today.²⁴⁵ The judgment ultimately dismissed this particular petition as the Court found the petitioner's motives questionable. Yet its constitutional reasoning created enduring precedent despite the case's outcome.

The Subhash Kumar decision fundamentally altered State responsibilities toward environmental protection. It imposed positive obligations on governments to protect environmental quality. State agencies gained a constitutional duty to prevent water pollution under Article 21. The ruling empowered courts to issue specific directives to pollution control boards. It created a legal framework for judicial supervision of administrative environmental action. The Court recognized that statutory environmental protections alone remained inadequate. Constitutional rights provided necessary backup when regulatory mechanisms failed. This approach ensured multiple layers of environmental protection through different institutional arrangements.²⁴⁶ The Court's reasoning reflected growing recognition of environmental degradation's serious consequences for human wellbeing.

4.3 DEVELOPMENT OF KEY ENVIRONMENTAL LAW PRINCIPLES IN INDIA

4.3.1 Polluter Pays Principle

The Polluter Pays Principle emerged in India through judicial activism rather than legislative action. This principle originated in international environmental law during the 1970s. The Organization for Economic Cooperation and Development first articulated it in 1972. It places

²⁴⁴Lavanya Rajamani, *India and climate change: what India wants, needs, and needs to do* 126-127 (Oxford India Short Introductions 2015).

²⁴⁵G. Nain gill, *Environmental justice in India: the national green tribunal* 87-88 (Routledge 2017).

²⁴⁶Subhash Kumar v. State of Bihar, AIR 1991 SC 420, 424-425.

financial responsibility for environmental damage on polluting entities. Indian courts gradually incorporated this principle through a series of landmark judgments. These judgments transformed abstract international concepts into enforceable domestic obligations. The Supreme Court's environmental jurisprudence established this principle as a cornerstone of India's environmental governance.²⁴⁷

The Indian Council for *Enviro-Legal Action v. Union of India* case marked the principle's formal adoption. Decided in 1996, this case addressed chemical pollution in Bichhri village of Rajasthan. Several chemical industries operated without proper effluent treatment facilities. Their activities contaminated groundwater and soil with toxic chemicals. Local residents suffered severe health consequences from the pollution. The Court unequivocally declared that the polluting industries must bear remediation costs. Justice Jeevan Reddy held that remedial measures must be taken by the responsible enterprises. The judgment established that financial liability extends beyond regulatory fines to include complete cleanup expenses.²⁴⁸

The Supreme Court expanded the principle's scope in *Vellore Citizens' Welfare Forum* case. The Court identified it as an essential component of sustainable development. Justice Kuldeep Singh emphasized its preventive and compensatory dimensions. The preventive aspect encourages adopting pollution control measures to avoid liability. The compensatory dimension ensures victims receive redress for environmental harm. The Court held that the principle had become part of customary international law. It therefore bound India regardless of specific statutory incorporation. The judgment created a comprehensive framework for principle application in diverse situations. This interpretation remains the most authoritative judicial explanation of the principle's foundations.²⁴⁹

The principle's practical implementation encountered significant challenges in Indian jurisprudence. Courts struggled with damage quantification and establishing causation in pollution cases. The *M.C. Mehta v. Union of India* case series addressed these implementation challenges. In the *Oleum Gas Leak Case*, the Court developed the absolute liability principle. This innovation removed traditional defenses available under tort law for hazardous industries.

²⁴⁷ Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* 228-230 (Cambridge University Press 4th ed. 2018).

²⁴⁸ *Indian Council for Enviro-Legal Action v. Union of India*, (1996) 3 SCC 212, 215-217.

²⁴⁹ *Vellore Citizens' Welfare Forum v. Union of India*, (1996) 5 SCC 647, 658-660.

Industries engaged in inherently dangerous activities faced strict liability without exceptions. The Court further determined that compensation should be proportional to enterprise size and capacity. This approach ensured meaningful deterrence for large industrial polluters. It addressed concerns that modest penalties might be treated as acceptable business costs.²⁵⁰

The National Green Tribunal has contributed significantly to the principle's evolution since 2010. In *Sterlite Industries v. Tamil Nadu Pollution Control Board*, the Tribunal refined compensation assessment methodologies. It incorporated scientific evidence and international standards into damage valuation. The NGT's specialized environmental expertise brought greater technical rigor to principle application. In multiple judgments, the Tribunal emphasized that compensation must reflect actual restoration costs. It rejected symbolic or nominal damages as inadequate for environmental justice. The Tribunal's approach demonstrated greater willingness to impose substantial penalties on corporate polluters.²⁵¹

4.3.2 Precautionary Principle

The Precautionary Principle represents a paradigm shift in environmental decision-making in India. It emerged from international environmental law during the late 1980s. The principle appears prominently in the 1992 Rio Declaration on Environment and Development. Its core premise advocates preventive action despite scientific uncertainty about environmental risks. Indian courts have enthusiastically embraced this principle through judicial interpretation. They have transformed it from an aspirational concept to an enforceable legal doctrine. This transformation occurred primarily through judge-made law rather than legislative enactment.²⁵²

The Supreme Court's watershed moment came in the *Vellore Citizens' Welfare Forum* case. The judgment formally incorporated the principle into Indian environmental jurisprudence. Justice Kuldeep Singh articulated a distinctly Indian formulation of the principle. He established three essential components that define its application. First, environmental measures must anticipate and prevent degradation. Second, the lack of scientific certainty cannot justify postponing preventive measures. Third, the onus of proof shifts to the developer or industrialist. The Court

²⁵⁰*M.C. Mehta v. Union of India (Oleum Gas Leak Case)*, AIR 1987 SC 1086, 1090-1091.

²⁵¹*Sterlite Industries v. Tamil Nadu Pollution Control Board*, 2019 SCC OnLine NGT 1547, paras 28-32.

²⁵²David Hunter et al., *International Environmental law and policy* 478-480 (Foundation Press 5th ed. 2015).

declared that these elements were already implied in existing environmental legislation. This interpretation allowed immediate implementation without waiting for new laws.²⁵³

The *A.P. Pollution Control Board v. Prof. M.V. Nayudu* case further developed the principle. Justice Jagannadha Rao provided a sophisticated analysis of scientific uncertainty in environmental decision-making. He emphasized that traditional standards of proof were inappropriate for environmental cases. The Court adopted a “reasonable person” standard for evaluating precautionary measures. It rejected the argument that only established scientific connections warrant regulatory action. Instead, reasonable indication of potential harm became sufficient grounds for intervention. The judgment explicitly recognized that environmental damage often manifests years after pollution occurs. This temporal dimension justified anticipatory regulation rather than reactive measures.²⁵⁴

The principle gained operational clarity through the *T.N. GodavarmanThirumulpad v. Union of India* case series. These cases addressed forest conservation challenges across India. The Court applied the principle to restrict mining and industrial activities in forested areas. Justice Kirpal's judgments emphasized that ecological services have immeasurable value. The Court articulated a strong version of the principle that prioritized environmental protection. It held that when environmental consequences remain unknown, activities should not proceed. This approach contrasted with weaker interpretations that merely required consideration of alternatives. The Court's application set a high threshold for permitting potentially harmful development projects.²⁵⁵

The principle has faced implementation challenges despite judicial endorsement. Administrative authorities often resist precautionary measures citing economic development imperatives. The *Narmada Bachao Andolan v. Union of India* case highlighted these tensions. The majority opinion allowed dam construction despite uncertainty about displacement and ecological impacts. Justice Bharucha's dissent argued for stricter application of the precautionary approach. This case revealed the principle's contested nature even within the judiciary. Later decisions have

²⁵³Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647, 658.

²⁵⁴A.P. Pollution Control Board v. Prof. M.V. Nayudu, (1999) 2 SCC 718, 732-734.

²⁵⁵T.N. Godavarman Thirumulpad v. Union of India, (2002) 10 SCC 606, 613-615.

attempted to reconcile developmental needs with environmental caution. Courts increasingly require comprehensive environmental impact assessments before project approvals.²⁵⁶

The National Green Tribunal has further refined the principle through specialized environmental adjudication. In *Wilfred J. v. Ministry of Environment & Forests*, the Tribunal clarified the principle's threshold requirements. It established a three-part test for triggering precautionary measures. First, there must be reasonable scientific plausibility of harm. Second, the harm must be serious or irreversible in nature. Third, the cost of preventive action must be proportionate to potential damage. This framework brought greater predictability to principle application. The Tribunal's technical expertise enhanced the scientific credibility of precautionary judgments. Its approach balanced environmental protection with pragmatic implementation considerations.²⁵⁷

4.3.3 Public Trust Doctrine

The Public Trust Doctrine represents a revolutionary legal principle in Indian environmental jurisprudence. It emerged from ancient Roman law and English common law traditions. These traditions viewed certain natural resources as common property for public benefit. The doctrine holds that specific environmental resources belong inherently to the public. The state serves merely as a trustee rather than absolute owner of these resources. Indian courts have significantly expanded this doctrine through judicial interpretation. They have adapted this ancient concept to address modern environmental challenges.²⁵⁸

M.C. Mehta v. Kamal Nath marks the seminal case introducing this doctrine into Indian law. The Supreme Court confronted a classic case of private appropriation of public resources. The Span Motels had diverted the course of River Beas to enhance their property. They received tacit government approval for these environmentally destructive activities. Justice Kuldeep Singh's 1997 judgment firmly rejected this privatization of a public waterbody. The Court explicitly recognized that certain natural resources cannot be converted to private ownership. It declared that rivers, forests, lakes and air are held in trust for public enjoyment. This judgment established that government has no authority to permit ecological degradation.²⁵⁹

²⁵⁶Narmada Bachao Andolan v. Union of India, (2000) 10 SCC 664, 702-704.

²⁵⁷Wilfred J. v. Ministry of Environment & Forests, 2014 SCC OnLine NGT 6658, paras 20-24.

²⁵⁸Michael C. Blumm & Mary Christina Wood, *The Public Trust Doctrine in Environmental and Natural Resources law* 333-336 (Carolina Academic Press 2nd ed. 2015).

²⁵⁹M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388, 407-409.

The Court's reasoning drew heavily from ancient Indian traditions of environmental stewardship. Justice Singh invoked the concept of “usufruct” from Roman law traditions. This concept permits use of resources while maintaining their essential character. The Court emphasized that natural resources constitute Earth's natural capital. They support all economic activity and human survival. The judgment cited American jurisprudence, particularly Professor Joseph Sax's influential work. It adapted these international principles to suit Indian constitutional and cultural contexts. This cross-fertilization created a distinctly Indian version of the doctrine. The Court elevated environmental protection above short-term economic interests.²⁶⁰

The doctrine gained expanded application in *Intellectuals Forum v. State of A.P.* This case involved the conversion of urban lakes into housing developments. The Supreme Court invalidated government attempts to allocate lake beds for construction. Justice Arijit Pasayat emphasized that urbanization cannot justify destruction of water bodies. The Court established that tanks, ponds, and lakes fall within the doctrine's protective ambit. It held that these water bodies serve critical ecological functions beyond immediate human use. The judgment recognized groundwater recharge and microclimate regulation as essential services. It highlighted the doctrine's application to both conventional and non-conventional natural resources.²⁶¹

Fomento Resorts & Hotels v. Minguel Martins further extended the doctrine to coastal ecosystems. The Court addressed private appropriation of beach areas in Goa. Justice S.H. Kapadia emphasized that beaches constitute public trust property. The judgment prohibited construction within coastal regulation zones. It established that private tourism developments cannot override public beach access rights. The Court recognized that ecological integrity serves broader public interests than commercial development. This application demonstrated the doctrine's flexibility in protecting diverse ecosystems. The judgment reinforced state responsibility to protect common natural heritage against commercial exploitation.²⁶²

The doctrine underwent significant evolution in *Reliance Natural Resources v. Reliance Industries*. Though primarily addressing natural gas allocation, this case had profound environmental implications. The Court held that natural resources, particularly fossil fuels,

²⁶⁰Gurdip Singh, *Environmental law in India* 189-192 (Macmillan Publishers 3rd ed. 2016).

²⁶¹*Intellectuals Forum v. State of A.P.*, (2006) 3 SCC 549, 576-578.

²⁶²*Fomento Resorts & Hotels v. Minguel Martins*, (2009) 3 SCC 571, 593-595.

belong to the nation. Justice R.V. Raveendran articulated a robust intergenerational equity dimension. He emphasized that present generations cannot deplete resources needed by future citizens. The judgment established that government decisions regarding resource allocation face judicial scrutiny. It reinforced the constitutional foundation of the public trust doctrine under Articles 21 and 48A. This application extended the doctrine beyond traditional environmental protection to resource governance.²⁶³

CHAPTER 5: ENVIRONMENTAL RULE OF LAW IN INDIA: IMPLEMENTATION CHALLENGES AND COMPARATIVE PERSPECTIVES

5.1 INSTITUTIONAL AND ADMINISTRATIVE WEAKNESSES

India's environmental governance framework suffers from significant institutional fragmentation and overlapping mandates. Multiple agencies operate at various governmental levels with poorly defined jurisdictional boundaries. The Ministry of Environment, Forest and Climate Change coexists with specialized boards and authorities. These include the Central and State Pollution Control Boards and the National Biodiversity Authority. Each entity operates under distinct statutory mandates with limited inter-agency coordination. This institutional multiplication creates regulatory confusion and administrative inefficiencies. It frequently results in contradictory directives that undermine consistent environmental governance. Regulated entities exploit these institutional gaps to delay compliance with environmental standards.²⁶⁴

The Central Pollution Control Board faces severe capacity constraints despite its crucial regulatory role. The organization remains chronically understaffed with inadequate technical resources. A 2019 parliamentary committee report revealed alarming vacancy rates exceeding 40%. Scientific and technical positions remain unfilled for extended periods due to bureaucratic hurdles. The Board's monitoring infrastructure covers only a fraction of potential pollution sources. Most industrial clusters lack continuous emissions monitoring systems. The situation worsens at state levels where pollution control boards operate with skeletal staff. These capacity

²⁶³Reliance Natural Resources v. Reliance Industries, (2010) 7 SCC 1, 75-78.

²⁶⁴Ritwick Dutta, Environmental justice in India: The national green tribunal 78-82 (routledge 2017).

deficits render comprehensive environmental monitoring virtually impossible. They create an implementation gap between legislative ambitions and enforcement realities.²⁶⁵

Environmental clearance processes demonstrate significant procedural weaknesses and regulatory capture. The Environmental Impact Assessment framework suffers from systematic deficiencies. Project proponents typically hire and directly pay EIA consultants. This arrangement creates inherent conflicts of interest in impact reporting. The quality of assessments remains questionable with inadequate baseline data collection. Public hearings frequently become perfunctory exercises without meaningful participation. The Expert Appraisal Committees face criticism for cursory project reviews. These committees often approve environmentally questionable projects with minimal scrutiny. A study of clearances between 2014-2019 revealed approval rates exceeding 95%. This pattern suggests prioritization of development over environmental protection.²⁶⁶

Budgetary allocations for environmental institutions remain persistently inadequate. The Ministry of Environment received merely 0.08% of the total Union Budget in 2022-23. This represents a declining trend in environmental funding over consecutive fiscal years. State environmental departments face even more severe financial constraints. Most pollution control boards rely primarily on consent fees rather than dedicated budgetary support. This funding model creates perverse incentives to maximize industrial permissions. Financial limitations restrict investment in monitoring technologies and enforcement capabilities. They hamper recruitment of qualified scientific personnel for regulatory functions. The resulting resource scarcity undermines implementation of ambitious environmental legislation. It creates a perpetual gap between environmental mandates and institutional capacity.²⁶⁷

The colonial bureaucratic culture persists in environmental administration despite evolving challenges. Environmental institutions retain hierarchical structures with centralized decision-making. Field-level officials lack autonomy to address localized environmental issues promptly. Procedural requirements often overshadow substantive environmental outcomes. The

²⁶⁵Standing committee on science & technology, environment & forests, 344th report on functioning of central pollution control board 23-27 (rajya sabha secretariat 2019).

²⁶⁶Centre for science and environment, environmental impact assessment in india: institutional dysfunction and technocratic governance 112-116 (CSE Publications 2020).

²⁶⁷MINISTRY OF FINANCE, UNION BUDGET 2022-23: EXPENDITURE PROFILE 17-19 (Government of India 2022).

administrative emphasis remains on documentation rather than actual environmental improvement. Innovation and adaptive management receive limited institutional support. Environmental administration continues to operate in departmental silos with minimal cross-sectoral integration. Modern environmental challenges require collaborative governance approaches across traditional boundaries. Indian administrative structures have inadequately evolved to address these complex interdependencies.²⁶⁸

Information asymmetries hamper effective environmental decision-making and public participation. Environmental data collection remains fragmented across multiple agencies without standardized protocols. Data accessibility faces significant barriers despite the Right to Information Act provisions. Technical information often remains locked in specialized institutional silos. Environmental quality metrics reach the public in highly technical formats. This limits meaningful citizen engagement in environmental governance. The 2016 Real-Time Air Quality Index represents a notable exception to this pattern. However, similar transparency initiatives remain absent for water, soil and forest quality. These information gaps perpetuate environmental injustice by limiting affected communities' advocacy capacity.²⁶⁹

5.2 COMPLIANCE AND ENFORCEMENT ISSUES

Inadequate deterrence mechanisms severely undermine environmental compliance in India. The existing penalty structures fail to create meaningful economic disincentives against violations. Most environmental statutes prescribe penalties that remain fixed since their enactment decades ago. The Environment Protection Act 1986 caps financial penalties at a mere ₹1 lakh. The Water Act's maximum penalty stands at ₹10,000 with additional ₹5,000 for continuing violations. These amounts represent negligible costs for large industrial operations. Corporations frequently find pollution payment cheaper than pollution prevention. The economic calculus thus favors deliberate non-compliance over expensive treatment technologies. This sanctions-cost imbalance fundamentally undermines the rule of law in environmental governance.²⁷⁰

²⁶⁸KANCHI KOHLI & MANJU MENON, BUSINESS INTERESTS AND THE ENVIRONMENTAL CRISIS 134-138 (SAGE Publications 2016).

²⁶⁹Shibani Ghosh, Evaluating India's Environmental Governance: Analysis of Environmental Clearance Processes, 56 ECON. & POL. WKLY. 45, 49-52 (2021).

²⁷⁰Shibani Ghosh, Reforming India's Environmental Compliance Framework: Examining Penalty Structures, 54 ECON. & POL. WKLY. 22, 25-27 (2019).

Procedural complexities in enforcement actions create substantial delays in addressing violations. The pollution control boards must follow elaborate procedures before initiating action. These include serving show-cause notices and conducting personal hearings for violators. The process frequently extends over months or even years before concrete action. The adjudicatory mechanisms remain equally cumbersome and time-consuming. Cases referred to environmental courts face substantial backlogs and procedural delays. A study of Maharashtra Pollution Control Board actions revealed average processing times exceeding 14 months. These delays create extended windows during which violations continue unabated. They effectively neutralize enforcement effectiveness through procedural attrition. Industrial violators exploit these procedural labyrinths to postpone compliance indefinitely.²⁷¹

Inter-agency coordination failures create significant enforcement gaps in environmental regulation. Multiple authorities possess overlapping responsibilities without clear demarcation or hierarchy. The forest department, pollution control boards, and coastal zone authorities operate in isolation. They rarely coordinate actions against violations that span multiple jurisdictions. Industrial estates frequently exploit these jurisdictional ambiguities to evade comprehensive scrutiny. The absence of an integrated database prevents authorities from recognizing repeat offenders. Each regulatory agency maintains separate records without information sharing mechanisms. This fragmentation enables violators to continue operations despite documented infractions in related domains. It creates a systemic inability to address complex environmental violations holistically.²⁷²

The criminalization approach to environmental enforcement demonstrates limited effectiveness in practice. Environmental statutes rely heavily on criminal sanctions including imprisonment provisions. However, successful prosecutions remain exceedingly rare with conviction rates below 4%. The evidentiary requirements for criminal conviction create substantial prosecutorial hurdles. Environmental harm attribution faces scientific challenges in establishing causation beyond reasonable doubt. Criminal courts lack specialized environmental expertise to evaluate technical evidence effectively. The enforcement machinery demonstrates reluctance to pursue

²⁷¹Sharachchandra Lele & Nakul Heble, Decentralized Environmental Governance in India: The Challenge of Institutional Reform, in INDIAN ENVIRONMENTAL LAW: KEY CONCEPTS AND PRINCIPLES 92, 103-107 (Shibani Ghosh ed., Orient BlackSwan 2019).

²⁷²Geetanjoy Sahu, Environmental Regulatory Authorities in India: An Assessment of State Pollution Control Boards, 52 ECON. & POL. WKLY. 25, 31-33 (2017).

criminal cases against corporate entities. Administrative closures of cases through settlements far outnumber criminal prosecutions. This pattern creates minimal deterrent effect despite seemingly robust statutory provisions.²⁷³

Political interference routinely undermines enforcement actions against well-connected industrial operations. Pollution control boards operate under administrative control of industrial development departments. This creates inherent conflicts of interest in regulatory decision-making. High-profile violators frequently secure political interventions to avoid enforcement. Industries with substantial employment or revenue generation often escape stringent action. The pattern becomes particularly pronounced in economically underdeveloped regions. Local political considerations frequently override environmental enforcement priorities. A stark example emerged in the 2018 Tuticorin Sterlite case where pollution persisted despite violations. Political economic considerations thus systematically trump environmental rule of law considerations.²⁷⁴

Monitoring technology limitations create substantial blind spots in environmental compliance verification. Continuous emissions monitoring systems cover less than 15% of major industrial operations. Most facilities self-report pollution data without independent verification mechanisms. The pollution control boards lack capacity to analyze even the limited data they receive. Laboratory infrastructure remains insufficient for testing the full range of potential contaminants. Many emerging pollutants lack standardized testing protocols altogether. Rural and small-scale industries operate almost entirely outside monitoring frameworks. The resulting information asymmetry between regulated entities fundamentally undermines enforcement. Industries exploit these limitations to conceal actual emission levels from regulatory scrutiny.²⁷⁵

The scale of this monitoring deficit is illuminated by data on online continuous emissions monitoring systems. While the Central Pollution Control Board mandated their installation for designated heavily polluting industries from 2014, field assessments conducted under National

²⁷³Videh Upadhyay & Shibani Ghosh, *Environmental law enforcement: challenges and reforms* 127-130 (Oxford University Press 2020).

²⁷⁴Centre for policy research, *mapping power: The political economy of electricity in India's states* 212-215 (Oxford University Press 2018).

²⁷⁵Ligia Noronha & Suresh P. Singh, *Monitoring Industrial Pollution: Challenges of Self-Reporting in Developing Countries*, in *environmental policy in india* 167, 178-184 (Michael Greenstone & Nicholas Ryan eds., Routledge 2021).

Green Tribunal oversight in multiple industrial clusters through 2022 and 2023 have consistently documented discrepancies between self-reported pollution data submitted by industries and independent field readings, confirming that monitoring gaps facilitate chronic underreporting of violations. The Down to Earth analysis of NCRB data further revealed that crimes registered under the Environment (Protection) Act, 1986 increased by approximately 31 per cent between 2021 and 2022, and crimes under the Air and Water Acts rose by around 42 per cent over the same period -- reflecting not improved enforcement capacity but rather the growing rate of detected violations within the fraction of the industrial sector subject to any active monitoring at all.²⁷⁶

5.3 LIMITED PUBLIC PARTICIPATION AND AWARENESS

The Environmental Impact Assessment notification framework reveals significant participatory deficits in India's environmental governance. Public hearings remain the primary mechanism for community involvement in project approvals. These hearings suffer from procedural inadequacies that undermine meaningful participation. Project proponents frequently provide technical documents exclusively in English. Local communities struggle to comprehend complex environmental data without technical assistance. The statutory 30-day notice period proves insufficient for absorbing expansive EIA reports. Public hearings often occur at inconvenient locations distant from affected communities. Meeting minutes selectively document objections raised during proceedings. These structural barriers effectively convert participatory rights into performative rituals. They represent tokenistic compliance rather than substantive engagement with community concerns.²⁷⁷

Information asymmetries create fundamental obstacles to effective public participation in environmental decision-making. Environmental quality data remains fragmented across multiple institutional repositories. Citizens lack centralized access points for comprehensive pollution information. Technical environmental parameters appear without contextualization or health implications. Regulatory bodies withhold crucial information citing commercial confidentiality

²⁷⁶ Down to Earth, 'India Will Need Around 34 Years to Dispose of the Pending Cases Under the Environment Protection Act' (Down to Earth, 22 April 2024) <<https://www.downtoearth.org.in/environment/india-will-need-around-34-years-to-dispose-of-the-pending-cases-under-the-environment-protection-act-93272>>; National Crime Records Bureau, Crime in India 2022 (NCRB 2023).

²⁷⁷ Kanchi Kohli & Manju Menon, calling the bluff: revealing the state of monitoring and compliance of environmental clearance conditions 87-92 (Kalpavriksh and Centre for Policy Research 2019).

concerns. The Right to Information Act implementation faces significant resistance in environmental matters. Applicants frequently receive partial disclosures or face outright rejections on procedural grounds. A 2021 study revealed that 63% of environmental information requests faced delays beyond statutory timeframes. These information barriers prevent communities from participating as informed stakeholders in environmental governance.²⁷⁸

Local governance institutions remain peripheral to environmental decision-making despite constitutional mandates. The 73rd and 74th Constitutional Amendments envisioned substantial environmental powers for panchayats and municipalities. These include water management, sanitation, and land use planning responsibilities. However, effective devolution of environmental authority remains aspirational rather than operational. State governments continue centralizing critical environmental decisions. Local bodies serve primarily as implementation agencies rather than decision-makers. Gram sabhas lack technical capacity to evaluate complex environmental proposals. Urban local bodies similarly struggle with municipal solid waste management autonomy. This governance disconnect undermines the constitutional vision of grassroots environmental democracy.²⁷⁹

Environmental education suffers from significant gaps in formal and informal knowledge dissemination. School curricula address environmental issues superficially without local contextualization. Higher education programs produce graduates with theoretical knowledge but limited practical skills. Environmental information campaigns focus primarily on urban middle-class audiences. Rural communities receive minimal outreach regarding critical environmental regulations. Low environmental literacy limits public capacity to engage effectively with governance processes. Citizens struggle to connect environmental degradation with legal violations and enforcement mechanisms. The National Green Tribunal acknowledged this knowledge deficit in multiple judgments. Justice Swatanter Kumar specifically highlighted awareness gaps as enforcement barriers in pollution cases.²⁸⁰

²⁷⁸Access to information assessment centre, environmental information disclosure in india: trends and challenges 45-49 (Centre for Policy Research 2021).

²⁷⁹Kalpana Sharma & Purnamita Dasgupta, Environmental Federalism: Local Participation in Environmental Governance, in routledge handbook of environmental governance in india 134, 142-146 (K.J. Joy & Sharachandra Lele eds., Routledge 2019).

²⁸⁰Centre for science and environment, state of environmental awareness and education in India: An assessment 67-72 (CSE Publications 2020).

Traditional environmental knowledge faces systematic marginalization despite its governance potential. Indigenous communities possess sophisticated ecological management systems developed over centuries. These systems remain undervalued in formal environmental decision-making frameworks. Forest governance illustrates this disconnect particularly starkly. The Forest Rights Act 2006 recognized traditional forest-dwelling communities' conservation roles. However, implementation reveals continued bureaucratic resistance to indigenous management approaches. Tribal ecological knowledge rarely informs protected area management or biodiversity conservation. Scientific institutions demonstrate limited engagement with traditional environmental practices. This epistemological hierarchy undermines potential synergies between formal and traditional governance systems.²⁸¹

Linguistic barriers significantly restrict participation in environmental governance processes. Official environmental documents appear predominantly in English with limited vernacular translations. Public hearings for major projects often proceed in languages unfamiliar to local populations. Environmental legislation remains largely unavailable in regional languages. Court judgments on environmental matters rarely receive official translations. These linguistic practices effectively exclude non-English speakers from governance participation. They create a participation gradient that disadvantages marginalized communities most severely. The gap proves particularly problematic in ecologically sensitive regions with indigenous populations. Environmental justice fundamentally requires linguistic accessibility that remains notably absent.²⁸²

5.4 CASE STUDY: THE BHOPAL GAS TRAGEDY AND ITS ENVIRONMENTAL AFTERMATH

The Bhopal Gas Tragedy represents the most catastrophic industrial disaster in India's history. It occurred on December 2-3, 1984, when methyl isocyanate leaked from Union Carbide's pesticide plant. Approximately 40 tons of deadly gas engulfed densely populated neighborhoods surrounding the facility. The immediate death toll reached nearly 3,000 with subsequent fatalities exceeding 15,000. Over 500,000 people suffered exposure to the toxic gas with lasting health

²⁸¹Amita Baviskar, Ecology and Development in India: A Field and its Futures, in the oxford companion to politics in india 292, 304-307 (Niraja Gopal Jayal & Pratap Bhanu Mehta eds., Oxford University Press 2010).

²⁸²Lavanya Rajamani & Shibani Ghosh, Bridging the Language Divide: Environmental Laws and Access to Justice, 53 ECON. & POL. WKLY. 19, 22-25 (2018).

consequences. The disaster exemplified regulatory failures at multiple governance levels. It revealed fundamental weaknesses in India's environmental safety framework. These weaknesses continue to plague environmental governance decades after the tragedy. Bhopal thus stands as a critical reference point for analyzing environmental rule of law challenges.²⁸³

The regulatory oversight preceding the disaster highlights systemic deficiencies in industrial risk management. Union Carbide's plant operated with hazardous chemicals in a densely populated urban area. Municipal authorities had permitted residential settlements to encroach near the hazardous facility. Safety systems showed significant deterioration with disabled warning systems and non-functional refrigeration units. Regulatory inspections failed to identify or address these critical safety lapses. The plant's emergency response plan existed merely on paper without practical implementation. These failures demonstrated the gap between formal regulatory requirements and actual implementation. They revealed fundamental weaknesses in environmental risk governance that persist in modified forms today.²⁸⁴

The legal aftermath exposed critical limitations in India's environmental liability framework. The Government enacted the Bhopal Gas Leak Disaster Act in 1985. This legislation positioned the government as the exclusive representative of victims. The legal strategy prioritized a quick settlement over comprehensive liability determination. The Supreme Court approved a \$470 million settlement with Union Carbide in 1989. This amount represented a fraction of the originally sought \$3.3 billion. The Court later partially reversed its quashing of criminal charges against corporate officials. However, meaningful criminal accountability remained elusive through decades of procedural delays. The case highlighted fundamental weaknesses in transnational environmental accountability mechanisms. It demonstrated the challenges in securing appropriate compensation for massive environmental disasters.²⁸⁵

Victim compensation mechanisms revealed fundamental deficiencies in environmental justice delivery. The compensation framework treated victims as undifferentiated mass rather than individuals with unique harms. The distribution system suffered from bureaucratic hurdles and corruption allegations. Medical categorization of injuries failed to capture chronic and long-term

²⁸³Jamie Cassels, *The uncertain promise of law: lessons from bhopal 3-7* (University of Toronto Press 1993).

²⁸⁴Report of ICMR, Bhopal gas disaster research centre: health effects of the toxic gas leak from the union carbide methyl isocyanate plant in bhopal 12-16 (Indian Council of Medical Research 1986).

²⁸⁵Upendra Baxi, *Writing about Impunity and Environment: The 'Silver Jubilee' of the Bhopal Catastrophe*, 1 J. HUM. RTS. & ENV'T 23, 30-34 (2010).

health impacts. Second-generation victims with congenital issues received minimal compensation consideration. The process stretched over decades with victims passing away before receiving entitled amounts. Compensation disbursement remained incomplete even thirty years after the disaster. This implementation failure demonstrates the gap between formal compensation rights and actual remedies delivery. It highlights administrative challenges in operationalizing environmental justice principles.²⁸⁶

The disaster triggered significant environmental legislative responses with mixed implementation outcomes. The Parliament enacted the Environment Protection Act 1986 as direct response to Bhopal. This umbrella legislation created comprehensive regulatory framework for environmental protection. The government subsequently established hazardous waste management rules and emergency response protocols. The Public Liability Insurance Act 1991 mandated insurance coverage for hazardous industries. The National Environment Tribunal Act 1995 created specialized adjudicatory mechanisms. These legislative innovations represented substantial improvements in formal environmental governance. However, implementation gaps continued undermining their practical effectiveness. The disconnect between legislative intent and administrative capacity persisted despite statutory improvements.²⁸⁷

Corporate accountability mechanisms demonstrated significant weaknesses in addressing transnational environmental crimes. The Indian legal system struggled to establish jurisdiction over Union Carbide's parent corporation. Extradition requests for Union Carbide's CEO Warren Anderson remained unimplemented by US authorities. The corporate veil effectively shielded parent company assets from substantial liability. Criminal proceedings against Indian officials concluded only in 2010 with minimal sentences. The maximum punishment imposed was merely two years imprisonment with subsequent bail. Union Carbide's successor corporation Dow Chemical continues denying legal responsibility for remediation. This accountability failure demonstrates fundamental challenges in regulating multinational corporations' environmental

²⁸⁶SATINATH SARANGI, *BHOPAL GAS TRAGEDY: LITIGATION AND COMPENSATION* 87-92 (Oxford University Press 2021).

²⁸⁷Armin Rosencranz & Kathleen Yurchak, Progress on the Environmental Front: The Regulation of Industry and Development in India, 29 *HASTINGS INT'L & COMP. L. REV.* 489, 493-496 (2006).

conduct. It highlights the need for strengthened international environmental liability frameworks.²⁸⁸

The difficulty of securing timely corporate accountability for environmental harm is not confined to the Bhopal era. The Vedanta-owned Sterlite Copper plant in Thoothukudi, Tamil Nadu, illustrates how documented, repeated violations can persist for years despite formal legal prohibitions. Following multiple documented sulphur dioxide leaks, the Tamil Nadu Pollution Control Board issued a closure order in April 2018 for breaches of consent conditions. In May 2018, thirteen protesters were killed by police during demonstrations demanding permanent closure, prompting the state government to order a permanent shutdown the same month. Vedanta contested the closure order through successive judicial forums over the following six years. The Supreme Court ultimately dismissed the company's plea for reopening in February 2024, characterising the violations as 'repeated breaches' and 'serious violations', more than five years after the closure order was first issued. The case illustrates that even where enforcement agencies act decisively, well-resourced corporations can delay the realisation of environmental accountability through procedural litigation, rendering the deterrent function of environmental law largely inoperative in the interim.²⁸⁹

5.5 UNITED STATES: THE ROLE OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA)

The United States Environmental Protection Agency represents a pioneering model of consolidated environmental governance. Established in 1970 through a presidential executive order, it marked a paradigm shift. Prior to EPA's creation, environmental responsibilities were fragmented across numerous federal departments. President Nixon consolidated these functions into a single independent regulatory authority. This organizational innovation created a unified environmental mandate with substantial autonomy. The agency received comprehensive authority for pollution control and environmental protection. It combined research, standard-setting, monitoring and enforcement functions under one institutional roof. This integrated

²⁸⁸Tim Edwards, *Corporate Accountability and the Law: The Bhopal Case Thirty Years On*, 14 ASIA-PAC. J. ENV'T L. 48, 53-57 (2011).

²⁸⁹Awstika Das, "'Serious Violations': Supreme Court Dismisses Vedanta's Plea to Reopen Sterlite Copper Smelter in Tamil Nadu's Tuticorin" (LiveLaw, 29 February 2024) <<https://www.livelaw.in/top-stories/supreme-court-vedanta-limited-reopening-sterlite-copper-smelter-tamil-nadus-tuticorin-250865>>; Nityanand Jayaraman, 'Why the Vedanta-Sterlite Judgement Matters' (The Wire Science, 24 August 2020) <<https://science.thewire.in/law/vedanta-sterlite-thoothukudi-madras-high-court-judgment-environmental-jurisprudence/>>.

approach contrasts sharply with India's fragmented environmental administration. The EPA's unified structure offers valuable lessons for institutional reform in India.²⁹⁰

The EPA operates with substantially greater resources than its Indian counterparts. Its annual budget exceeds \$9 billion with approximately 14,000 employees nationwide. This resource allocation reflects environmental protection's higher priority in American governance. The agency maintains specialized technical divisions addressing specific environmental media. These include the Office of Air and Radiation and Office of Water. Scientific research receives robust institutional support through the Office of Research and Development. Enforcement capabilities benefit from dedicated legal and investigative personnel. These resources enable comprehensive monitoring of industrial compliance across the nation. The stark resource disparity with Indian environmental institutions explains significant implementation gaps. Indian regulatory agencies require similar resource commitments to achieve comparable effectiveness.²⁹¹

The EPA's rule-making process demonstrates procedural rigor that enhances regulatory legitimacy. The Administrative Procedure Act establishes mandatory public participation requirements. Proposed regulations undergo public notice and comment periods before finalization. The agency must respond substantively to significant public comments. This transparent process creates strong administrative records supporting regulatory decisions. Courts review agency actions under the "arbitrary and capricious" standard. This framework balances agency expertise with meaningful public input. Technical decisions remain grounded in scientific evidence rather than political expediency. The Indian environmental rule-making process lacks comparable procedural safeguards. Administrative decisions frequently occur without substantive public engagement. This procedural deficit undermines both regulatory quality and legitimacy.²⁹²

The EPA's enforcement capabilities rely on a sophisticated toolbox of regulatory instruments. These range from informal notices to administrative penalties and criminal prosecutions. The agency possesses authority to impose substantial civil penalties without court intervention. Administrative penalties can reach \$100,000 per violation with additional amounts for

²⁹⁰J. William Futrell, *The History of Environmental Law*, in *Environmental Law from Resources to Recovery* 13, 31-36 (Celia Campbell-Mohn ed., West 1993).

²⁹¹U.S. Environmental Protection Agency, *Fiscal Year 2023 Budget in Brief* 3-7 (EPA 2022).

²⁹²Richard J. Lazarus, *The Making of Environmental Law* 92-96 (University of Chicago Press 2004).

continuing violations. Criminal enforcement targets willful and knowing violations through specialized investigators. These criminal cases can result in substantial fines and imprisonment for responsible individuals. The agency strategically utilizes these tools based on violation severity and compliance history. This graduated enforcement approach creates meaningful deterrence against environmental violations. Indian environmental authorities lack comparable administrative penalty powers. They rely heavily on criminal provisions that prove difficult to implement effectively.²⁹³

The EPA's information disclosure requirements foster public participation and industry accountability. The Toxics Release Inventory requires facilities to report annual chemical releases publicly. This mandatory disclosure creates powerful incentives for voluntary pollution reduction. Communities gain access to local environmental quality data in understandable formats. The Freedom of Information Act provides broad public access to agency records. Risk communication programs translate technical information for community understanding. These transparency mechanisms empower communities to advocate effectively for environmental protection. They create public pressure that supplements formal regulatory enforcement. Indian environmental governance lacks comparable transparency requirements. Information access frequently requires adversarial RTI applications rather than proactive disclosure. This opacity undermines citizen participation in environmental governance.²⁹⁴

The EPA demonstrates strong scientific foundations through robust research and technical guidance. The agency employs thousands of scientists across specialized research laboratories. Research findings inform regulatory standards through evidence-based methodologies. Technical guidance documents provide clear implementation protocols for regulated entities. Risk assessment procedures follow standardized methodologies with peer review requirements. Regulatory impact analyses systematically evaluate economic implications of environmental rules. This scientific infrastructure ensures that regulations rest on sound technical foundations. It provides credibility that withstands judicial and political scrutiny. Indian environmental institutions lack comparable scientific capacity. This deficit undermines regulatory credibility

²⁹³Joel A. Mintz, *Enforcement at the EPA: High Stakes and Hard Choices* 102-107 (University of Texas Press 2012).

²⁹⁴James T. Hamilton, *Regulation through Revelation: The Origin, Politics, and Impacts of the Toxics Release Inventory Program* 67-72 (Cambridge University Press 2005).

and implementation effectiveness. Strengthening scientific capabilities represents a critical reform priority.²⁹⁵

The EPA's federal-state relationship exemplifies cooperative environmental federalism in practice. Federal laws establish nationwide environmental standards ensuring baseline protections. States receive authority to implement these programs with federal oversight. This “cooperative federalism” balances national consistency with local implementation flexibility. States can exceed federal standards but cannot fall below minimum requirements. The federal government provides substantial funding for state environmental programs. Technical assistance helps states develop implementation capacity. This model addresses India's environmental federalism challenges effectively. It demonstrates how national standards can coexist with state implementation authority. Indian environmental governance requires similar cooperative mechanisms. Current central-state environmental relationships lack comparable clarity and cooperation.²⁹⁶

5.6 EUROPEAN UNION: A STRONG LEGAL FRAMEWORK AND COMPLIANCE MECHANISM

The European Union's environmental governance framework demonstrates exceptional legal coherence and implementation effectiveness. Environmental protection received explicit treaty recognition through the Single European Act of 1987. This constitutional foundation elevated environmental concerns to fundamental legal status. The Lisbon Treaty further strengthened environmental protection as a core EU value. Article 191 of the Treaty on the Functioning of the European Union establishes explicit environmental objectives. These include preserving and improving environmental quality and protecting human health. The treaty explicitly incorporates sustainability, precautionary principle and polluter pays principle. This constitutional anchoring creates a robust foundation for environmental legislation. It contrasts sharply with India's primarily judge-made environmental constitutional framework.²⁹⁷

EU environmental governance operates through a sophisticated multilevel structure with clear power distribution. The European Commission proposes environmental legislation and monitors

²⁹⁵Sheila Jasanoff, *The Fifth Branch: Science Advisers as Policymakers* 123-129 (Harvard University Press 1990).

²⁹⁶Denise Scheberle, *Federalism and Environmental Policy: Trust and the Politics of Implementation* 54-62 (Georgetown University Press 2nd ed. 2004).

²⁹⁷Ludwig Krämer, *EU Environmental Law* 5-12 (Sweet & Maxwell 8th ed. 2016).

implementation. The European Parliament and Council jointly adopt directives and regulations through democratic processes. Member States transpose directives into national legislation with implementation flexibility. This institutional architecture balances centralized standard-setting with decentralized implementation. It addresses challenges remarkably similar to India's federal environmental governance structure. The EU framework demonstrates how environmental federalism can maintain uniform standards while accommodating local conditions. India's environmental governance could benefit from similar clarity in central-state environmental responsibilities.²⁹⁸

The directives-based regulatory approach creates implementation flexibility within a mandatory framework. EU environmental directives establish binding objectives while permitting flexible implementation methods. Member States retain authority to determine specific regulatory mechanisms. This approach acknowledges varying administrative traditions and institutional capacities across jurisdictions. The Water Framework Directive exemplifies this approach through river basin management requirements. It mandates ecological water quality objectives while permitting tailored implementation strategies. This balanced approach contrasts with India's frequently rigid regulatory mandates. Indian environmental governance frequently imposes uniform methods regardless of local conditions. Adopting similar flexibility within a mandatory framework could enhance Indian implementation effectiveness.²⁹⁹

The EU's environmental compliance mechanism functions through a sophisticated pressure system. The European Commission conducts systematic conformity assessments of national implementation. It initiates infringement proceedings against non-compliant Member States through formal notices. The process escalates through reasoned opinions and ultimately European Court of Justice referrals. The Court possesses authority to impose substantial financial penalties for persistent non-compliance. These penalties accumulate daily until violations cease, creating powerful compliance incentives. This mechanism addresses implementation failures through graduated but meaningful consequences. It contrasts dramatically with India's enforcement mechanisms that lack comparable intermediate measures. Indian environmental

²⁹⁸Andrew Jordan & Camilla Adelle, *Environmental Policy in the EU: Actors, Institutions and Processes* 74-81 (Routledge 3rd ed. 2013).

²⁹⁹Maria Lee, *EU Environmental Law, Governance and Decision-Making* 105-112 (Hart Publishing 2nd ed. 2014).

governance frequently relies on criminal sanctions without effective administrative alternatives.³⁰⁰

The precautionary principle receives robust operational implementation in EU environmental decision-making. The principle appears explicitly in the treaty framework as a foundational approach. Regulatory frameworks incorporate precautionary approaches through systematic risk assessment requirements. The REACH chemicals regulation exemplifies this approach through mandatory safety testing. It places burden of proof on manufacturers to demonstrate chemical safety before market access. This operationalization contrasts with India's largely rhetorical precautionary principle application. Indian courts frequently invoke the principle without detailed implementation mechanisms. The EU framework demonstrates practical pathways for implementing precautionary approaches in regulatory decisions. It offers valuable models for translating precautionary rhetoric into operational reality.³⁰¹

Environmental information disclosure requirements support robust public participation in EU governance. The Aarhus Convention implementation ensures comprehensive access to environmental information. Public authorities must proactively disseminate environmental quality data and regulatory decisions. The Pollutant Release and Transfer Register provides industrial emissions data in accessible formats. Environmental Impact Assessment procedures mandate early and effective public consultation. These mechanisms enable informed public participation in environmental decision-making. They create transparency that enhances both regulatory quality and legitimacy. Indian environmental governance lacks comparable information disclosure requirements. RTI applications frequently represent the only pathway to environmental information access. This opacity undermines effective public participation in environmental governance.³⁰²

The EU's strategic environmental assessment framework demonstrates advanced planning integration. The SEA Directive requires environmental assessment of plans and programmes before adoption. This approach addresses environmental concerns at the earliest decision stages. It prevents downstream implementation conflicts through upstream integration. Assessment

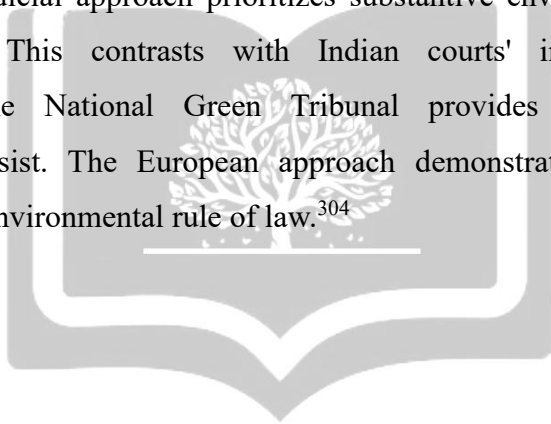
³⁰⁰Pål Wennerås, *The Enforcement of EC Environmental Law* 218-226 (Oxford University Press 2007).

³⁰¹Joakim Zander, *The Application of the Precautionary Principle in Practice: Comparative Dimensions* 92-98 (Cambridge University Press 2010).

³⁰²Charles Poncelet, *Access to Justice in Environmental Matters—Does the European Union Comply with its Obligations?*, 24 J. Env'tl. L. 287, 295-301 (2012).

processes consider reasonable alternatives and cumulative impacts comprehensively. They integrate environmental considerations into sectoral policies systematically. This framework contrasts with India's predominantly project-level environmental assessments. Indian governance frequently addresses environmental concerns after fundamental planning decisions. Adopting similar strategic assessment approaches would enhance environmental integration in Indian development planning.³⁰³

The European Court of Justice plays a crucial role in environmental law development and enforcement. The Court's jurisprudence has strengthened environmental protection through purposive treaty interpretation. It consistently interprets environmental directives to maximize ecological protection. The Court recognizes environmental organisations' standing in legal challenges. It enforces strict liability for environmental damage through the environmental liability directive. The judicial approach prioritizes substantive environmental protection over procedural compliance. This contrasts with Indian courts' inconsistent environmental jurisprudence. While the National Green Tribunal provides specialized adjudication, implementation gaps persist. The European approach demonstrates how effective judicial enforcement strengthens environmental rule of law.³⁰⁴

The logo features a stylized tree with roots and branches, enclosed within a shield-like shape. This is set against a background of a large, open book. The entire logo is framed by a thick, light gray border.

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³⁰³Thomas B. Fischer, Theory and Practice of Strategic Environmental Assessment: Towards a More Systematic Approach 125-132 (Earthscan 2007).

³⁰⁴Hans Vedder, The Treaty of Lisbon and European Environmental Law and Policy, 22 J. Envtl. L. 285, 291-297 (2010).

CHAPTER 6: RECOMMENDATIONS AND THE WAY FORWARD

6.1 STRENGTHENING LEGAL AND INSTITUTIONAL MECHANISMS

India requires a comprehensive environmental code consolidating fragmented legislation into a coherent framework. The current patchwork of environmental statutes creates implementation challenges through overlapping mandates. A unified environmental code would resolve jurisdictional ambiguities and regulatory contradictions. This approach has proven successful in countries like France with their Code de l'environnement. The consolidation should integrate water, air, forest and biodiversity protection statutes. It should explicitly incorporate international environmental principles into statutory language. The code must clarify the relationship between sectoral regulators and environmental authorities. Legislative clarity would significantly enhance enforcement effectiveness and regulatory compliance. The Law Commission should initiate a stakeholder consultation for drafting this unified code.³⁰⁵

Penalty provisions in environmental legislation demand substantial upward revision to create meaningful deterrence. Current financial penalties represent negligible costs for industrial polluters. The Environment Protection Act's maximum fine of ₹1 lakh lacks deterrent effect. Amendments should establish penalties proportional to company size and violation severity. The approach should incorporate both absolute minimums and turnover-based maximums. Administrative penalties must enable direct imposition without court proceedings. Civil penalties should supplement rather than replace criminal liability for severe violations. The European Union's model of daily accumulating fines merits adoption for continuing violations. This revised penalty framework would fundamentally alter compliance cost-benefit calculations for regulated entities.³⁰⁶

An independent National Environmental Protection Authority would address critical institutional fragmentation challenges. The proposed authority should consolidate functions currently dispersed across multiple agencies. It would require statutory foundation with explicit mandate and powers. The model resembles the US Environmental Protection Agency's unified structure. This institution would integrate standard-setting, monitoring and enforcement functions. It would

³⁰⁵N. Janardhanan, *Reforming Environmental Governance in India: Challenges and Opportunities*, in *Environmental Challenges and Governance: Diverse Perspectives from Asia*, 122, 129-134 (Sacchidananda Mukherjee & Debashis Chakraborty eds., Routledge 2015).

³⁰⁶Geetanjoy Sahu, *Environmental Regulatory Authorities in India: An Assessment of State Pollution Control Boards*, 54 *Econ. & Pol. Wkly.* 21, 28-32 (2019).

require financial and administrative autonomy from ministerial control. The board composition should include scientific experts, civil society and industry representatives. Regional offices would ensure implementation consistency nationwide while addressing local conditions. This institutional reform would create accountability while eliminating jurisdictional conflicts.³⁰⁷

Environmental clearance processes demand substantial procedural reforms to achieve genuine environmental protection. The Environmental Impact Assessment notification requires statutory rather than executive foundation. Project categorization should follow scientific risk assessment rather than investment thresholds. The assessment methodology requires standardization with mandatory scoping requirements. Consultant accreditation must include performance-based renewal and blacklisting provisions. Public hearings should occur earlier in the process with expanded timeline requirements. Expert Appraisal Committees need restructuring with mandatory expertise diversity requirements. Post-clearance monitoring demands automated compliance tracking through continuous emissions monitoring. These reforms would transform environmental clearance from procedural formality to substantive assessment.³⁰⁸

The Central and State Pollution Control Boards require comprehensive restructuring to fulfil their statutory mandates. Boards should transition from consent-focused bureaucracies to data-driven regulatory agencies. Staff recruitment should emphasize technical qualifications with competitive compensation packages. Scientific and engineering positions must constitute 70% of organizational strength. Board chairpersons should possess technical qualifications with fixed tenure protection. Financial autonomy requires shifting from consent fee dependence to dedicated budgetary allocations. Technical capacity demands investment in advanced analytical laboratories and monitoring equipment. Board members should include independent environmental experts with statutory voice. These institutional reforms would transform boards into effective regulatory agencies.³⁰⁹

Criminal enforcement mechanisms require streamlining through specialized environmental prosecutors and investigators. Environmental offenses present unique challenges requiring

³⁰⁷Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India* 89-95 (Oxford University Press 3rd ed. 2020).

³⁰⁸M.K. Ramesh, *Environmental Justice Delivery in India: Contextualizing Transformative Constitutionalism*, 62 J. Indian L. Inst. 195, 210-214 (2020).

³⁰⁹TERI Report, *Strengthening Pollution Control Boards to Achieve the National Ambient Air Quality Standards in India* 45-53 (The Energy and Resources Institute 2021).

specialized expertise. Dedicated environmental prosecutors should handle cases at designated court sessions. Specialized investigation units need establishment within pollution control boards. They should receive training in environmental forensics and evidence collection. Plea bargaining provisions could expedite minor violation resolution while focusing resources on major cases. Sentencing guidelines should ensure proportionality between environmental harm and punishment. Witness protection provisions would encourage whistleblowers to report violations. These specialized enforcement mechanisms would enhance criminal deterrence through increased conviction rates.³¹⁰

Administrative enforcement tools require substantial expansion beyond the current binary approach. Enforcement currently oscillates between written notices and criminal prosecution. This creates implementation gaps for intermediate violations requiring proportionate response. Regulatory agencies need administrative penalty authority without court intervention. Compliance schedules should incorporate legally binding milestones with automatic penalties. Performance bonds should secure compliance commitments from historically non-compliant industries. Permit suspension mechanisms need simplification for repeated or severe violations. Industry-wide enforcement initiatives should target priority sectors with systematic non-compliance. These administrative tools would create a graduated enforcement approach matching response to violation severity.³¹¹

Environmental courts require jurisdictional expansion and structural strengthening to enhance access to justice. The National Green Tribunal has demonstrated specialized adjudication's effectiveness in environmental disputes. Its jurisdiction should expand to encompass all environmental statutes including forest conservation. The restriction limiting applications to six months requires elimination to address latent environmental harms. Regional benches need multiplication to reduce geographical barriers to justice access. Circuit sessions should occur monthly in underserved regions to enhance accessibility. Filing procedures require simplification with standardized forms in regional languages. The tribunal's order enforcement mechanism

³¹⁰Lavanya Rajamani, Public Interest Environmental Litigation in India: Exploring Issues of Access, Participation, Equity, Effectiveness and Sustainability, 19 J. Env'tl. L. 293, 301-306 (2007).

³¹¹Sanjay Upadhyay, Environmental Governance in India: Constitutional Dimensions and Vision, in Constitutional and Administrative Law in India 78, 96-102 (P. Ishwara Bhat ed., Oxford University Press 2018).

demands strengthening through contempt provisions. These reforms would enhance environmental justice access for affected communities.³¹²

6.2 STRENGTHENING THE ROLE OF JUDICIARY AND NGT

The National Green Tribunal requires comprehensive jurisdictional expansion to fulfill its environmental justice mandate. Current statutory limitations restrict NGT jurisdiction to specific environmental legislation. The tribunal lacks authority over crucial forest conservation and wildlife protection matters. Legislative amendments must expand jurisdiction to encompass all environmental legislation comprehensively. This expansion would create a truly specialized environmental adjudication forum. The Forest Conservation Act and Wildlife Protection Act demand explicit inclusion. Climate change litigation similarly requires explicit jurisdictional recognition. The expanded jurisdiction would eliminate current fragmentation in environmental adjudication. It would enable holistic resolution of complex environmental disputes spanning multiple statutes. This reform represents a critical step toward unified environmental justice delivery.³¹³

Procedural reforms would enhance access to environmental justice through simplified NGT processes. Current procedures retain excessive formality despite statutory simplification mandates. Application formats require standardization with multilingual versions for diverse applicants. Filing fees should implement graduated structures based on applicant categories. Individual citizens and community groups merit nominal fees or complete exemptions. The statutory six-month filing limitation requires elimination for environmental harms with delayed manifestation. Online filing mechanisms need establishment with technical assistance facilities. Mobile tribunal benches should conduct periodic sessions in underserved regions. These procedural reforms would democratize access to specialized environmental adjudication. They would transform the NGT into a genuinely accessible justice forum.³¹⁴

The NGT's technical capacity demands strengthening through enhanced expert membership and support systems. Current expert member positions frequently remain vacant for extended periods. The appointment process requires streamlining with transparent selection criteria. Expert

³¹²Gitanjali Gill, *Environmental Justice in India: The National Green Tribunal* 123-129 (Routledge 2017).

³¹³C.M. Jariwala, *The National Green Tribunal: Statutory Command, Judicial Response and Challenges Ahead*, 17 *Indian J. Const. L.* 182, 195-201 (2022).

³¹⁴Gitanjali Nain Gill, *Access to Environmental Justice in India: Innovation and Change*, in *Access to Environmental Justice: A Comparative Study* 145, 156-163 (Andrew Harding ed., Brill 2018).

members need specialization across diverse environmental domains including emerging areas. The tribunal requires dedicated scientific research support staff beyond expert members. Technical capacity must include specialized environmental economists for compensation determinations. Regular capacity building programs should update members on emerging environmental jurisprudence. International environmental law training would enhance jurisprudential development. These enhancements would strengthen the NGT's fundamental character as a specialized tribunal. They would improve decision quality through enhanced scientific foundations.³¹⁵

Order implementation mechanisms require substantial strengthening to address current execution deficits. NGT judgments frequently face implementation delays or outright non-compliance. The tribunal needs statutory contempt powers similar to High Courts. Implementation committees with dedicated monitoring authority should oversee complex remediation directives. Court commissioners warrant appointment for continuous supervision of technical compliance. Progress reporting requirements must include standardized metrics and verification mechanisms. Financial penalties for non-compliance should include daily accrual for continuing violations. The tribunal should establish dedicated implementation benches for monitoring execution. These mechanisms would transform NGT from judgment-issuing authority to environmental problem-solver. They would address the critical gap between judicial directives and practical implementation.³¹⁶

Compensatory jurisprudence demands methodological refinement through standardized environmental damage valuation. Current compensation determinations often lack transparent, scientific methodologies. The NGT should establish valuation guidelines for diverse environmental damage categories. These guidelines must incorporate ecosystem services valuation and restoration costs. They should consider both direct remediation expenses and lost environmental benefits. The approach would create predictability while retaining case-specific flexibility. Independent technical committees should assist in complex valuation determinations. Compensation must incorporate deterrence elements beyond mere damage restoration. This

³¹⁵Geetanjoy Sahu, Tightening the Legal Grip on Polluters, in *Environmental Justice in India* 112, 123-129 (Cambridge University Press 2020).

³¹⁶Lavanya Rajamani, The Right to Environmental Protection in India: Many a Slip Between the Cup and the Lip?, 16 *Rev. Eur. Comty. & Int'l Env'tl. L.* 274, 282-287 (2007).

structured approach would enhance compensatory justice while creating preventive incentives. It would address current inconsistencies in environmental damage monetization.³¹⁷

Appellate jurisdiction rationalization would enhance environmental justice through streamlined review mechanisms. Current appeal provisions create unnecessary procedural complexity and delay. Supreme Court appeals should limit to questions of law rather than factual reexamination. Alternatively, specialized environmental appellate benches within the Supreme Court merit establishment. These benches would develop dedicated environmental jurisprudential expertise. They would ensure consistent interpretation across environmental adjudication forums. The approach would balance finality with review rights effectively. It would prevent dilatory appeals while preserving legitimate review opportunities. This rationalized structure would enhance environmental adjudication efficiency. It would address current delays through appellate streamlining without sacrificing justice quality.³¹⁸

Regional bench multiplication would address geographical access barriers to environmental justice. The current five-bench structure creates prohibitive distance barriers for many affected communities. Additional regional benches require establishment particularly in environmentally vulnerable regions. The Northeast, coastal regions and tribal areas demand dedicated adjudicatory presence. Circuit benches should supplement permanent locations with monthly sessions. Virtual hearing facilities need enhancement while maintaining in-person options. Regional language facilities would further enhance accessibility for local communities. This geographical expansion would democratize environmental justice access substantially. It would address the current metropolitan concentration of environmental adjudication resources.³¹⁹

Public interest litigation guidelines require refinement to balance access with procedural integrity. The NGT's current approach lacks consistent standards for public interest standing determination. Explicit guidelines should establish standing criteria while maintaining accessibility. Genuine environmental concerns must receive recognition regardless of formal credentials. Bad faith litigants require identification through transparent assessment criteria. The

³¹⁷Shibani Ghosh, Reforming the Liability Regime for Air Pollution in India, 57 Econ. & Pol. Wkly. 53, 59-63 (2022).

³¹⁸Michael G. Faure & A.V. Raja, Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables, 21 Fordham Env'tl. L. Rev. 239, 248-254 (2010).

³¹⁹Upendra Baxi, Environmental Justice: Some Reflections, in Challenges to Sustainable Development in India 45, 58-64 (Shyam Divan et al. eds., Oxford University Press 2019).

framework should establish documentation requirements proportionate to applicant capacity. Intervention mechanisms need formalization for affected communities in developer-initiated cases. Public interest costs protection requires explicit recognition. This balanced approach would maintain access while preventing misuse. It would enhance both institutional legitimacy and public trust.³²⁰

6.3 PROPOSALS FOR LEGISLATIVE REFORMS AND POLICY ENHANCEMENTS

A comprehensive National Environmental Code represents an urgent legislative imperative for India's environmental governance. The current fragmented statutory framework creates implementation gaps through overlapping mandates. This unified code should consolidate existing environmental legislation into a coherent structure. It must explicitly codify established environmental principles including precautionary and polluter pays. The code should establish clear hierarchies between central and state environmental authorities. Environmental offenses require rationalization with graduated penalties reflecting violation severity. Administrative enforcement mechanisms need statutory recognition alongside criminal provisions. The legislative drafting must involve diverse stakeholders through nationwide consultations. This consolidated framework would eliminate current statutory contradictions and ambiguities. It would create coherent environmental governance architecture enhancing implementation effectiveness.³²¹

The Environment Protection Act demands substantial amendments to address contemporary environmental challenges. The current legislation lacks specificity in critical operational domains. Amendments should establish administrative penalty provisions with substantial financial consequences. Statutory emission standards must replace executive notifications for enhanced enforceability. Corporate environmental liability requires explicit provisions addressing parent company responsibility. Director liability provisions need strengthening for knowing environmental violations. Environmental emergency response mechanisms demand comprehensive statutory frameworks. The amendments should establish mandatory environmental management systems for high-risk facilities. These modifications would

³²⁰Shyam Divan, Public Interest Litigation, in *The Oxford Handbook of the Indian Constitution* 662, 674-681 (Sujit Choudhry et al. eds., Oxford University Press 2016).

³²¹Bharat H. Desai, Revitalizing Environmental Federalism in India, 48 *Envtl. L. Rep.* 10048, 10056-10062 (2018).

transform environmental compliance incentives fundamentally. They would address critical implementation deficits in current regulatory approaches.³²²

A dedicated Climate Change Response Act has become essential given India's vulnerability. The current legislative framework lacks specific provisions addressing climate risks. The proposed legislation should establish mandatory national and state adaptation plans. Carbon budgeting mechanisms require statutory foundation with sectoral reduction pathways. The legislation must create institutional coordination mechanisms across relevant departments. Climate impact assessments should become mandatory for policy decisions and projects. Legal recognition of climate refugees would address emerging migration challenges. Financial mechanisms for climate adaptation demand legislative support and guidance. This legislation would operationalize India's international climate commitments domestically. It would create institutional accountability for climate action implementation.³²³

The Environmental Impact Assessment framework requires statutory rather than executive foundation. Current notification-based procedures lack legislative legitimacy and stability. A comprehensive Environmental Assessment Act should establish mandatory assessment procedures. Strategic environmental assessment must receive explicit statutory recognition. The legislation should create independent expert panels for assessment review. Cumulative impact assessment requirements need mandatory inclusion for industrial clusters. Post-approval monitoring provisions demand statutory enforcement mechanisms. Public participation procedures require detailed legislative specifications. This legislative approach would enhance assessment quality through procedural certainty. It would address current implementation weaknesses in impact assessment frameworks.³²⁴

Financial mechanisms for environmental protection demand specific legislative frameworks. Environmental taxation lacks coherent statutory foundation despite proven effectiveness internationally. A comprehensive Environmental Fiscal Reform Act should establish pollution taxes. The legislation must create dedicated environmental funds with specific utilization

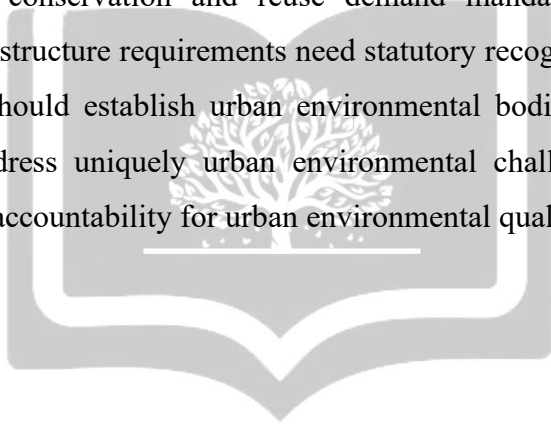
³²²Lavanya Rajamani, *India and Climate Change: What India Wants, Needs, and Needs to Do*, 11 Int'l Envtl. Agreements 165, 172-178 (2011).

³²³Navroz K. Dubash et al., *India's Climate Policy: Choices and Challenges*, 53 Econ. & Pol. Wkly. 47, 52-57 (2018).

³²⁴Shibani Ghosh, *Reforming the Environmental Impact Assessment Process in India*, 39 Pub. Admin. & Dev. 104, 111-118 (2019).

mandates. Tax incentives for clean technology adoption require statutory recognition. Carbon pricing mechanisms need legislative foundation with predictable escalation pathways. Extended producer responsibility demands comprehensive statutory support across sectors. Green procurement provisions should receive legislative backing for public institutions. These financial instruments would harness economic incentives for environmental protection. They would complement traditional command-and-control regulation effectively.³²⁵

Urban environmental management requires specialized legislative attention through focused legislation. Current urban governance frameworks inadequately address environmental dimensions. A dedicated Urban Environmental Management Act should establish mandatory ecological planning. Air quality management provisions must include emergency response mechanisms. Waste management requires integrated statutory approaches beyond current fragmented rules. Water conservation and reuse demand mandatory provisions for urban developments. Green infrastructure requirements need statutory recognition with implementation metrics. The legislation should establish urban environmental bodies with specific mandates. This approach would address uniquely urban environmental challenges comprehensively. It would create institutional accountability for urban environmental quality.³²⁶



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³²⁵Shreekanth Gupta, Environmental Policy and Federalism in India, in Environmental Federalism 241, 250-257 (Oxford University Press 2017).

³²⁶Amita Bhide, The Smart City Mission in Delhi: Implications for Urban Governance, 5 Urbanisation 35, 42-48 (2020).

CHAPTER 7: CONCLUSION

7.1 INTRODUCTION

This dissertation critically examines the implementation gap in India's environmental governance framework, specifically analyzing the disconnect between robust legal provisions and their practical enforcement. Despite India possessing one of the most comprehensive environmental legal regimes globally, environmental degradation continues unabated across various sectors. This research explores this paradox through the conceptual lens of Environmental Rule of Law (Environmental Rule of Law), investigating the structural, institutional, and operational factors that impede effective implementation. The study adopts a doctrinal research methodology complemented by comparative legal analysis to evaluate India's environmental legal framework against global best practices. It traces the evolution of environmental jurisprudence from constitutional foundations through legislative enactments to judicial interpretations, revealing how progressive principles often remain aspirational rather than operational. Key findings indicate that implementation deficits stem from fragmented institutional mechanisms, limited enforcement capacity, inadequate scientific infrastructure, weak penalty provisions, and constrained public participation. The research highlights how sectoral environmental legislation creates regulatory overlaps and jurisdictional ambiguities that undermine cohesive governance. Similarly, it demonstrates how specialized institutions like the National Green Tribunal, despite innovative jurisprudence, face significant challenges in order implementation. Through a detailed examination of the Bhopal Gas Tragedy's environmental aftermath, the research illuminates persistent accountability challenges in addressing industrial disasters. Comparative analysis with regulatory frameworks in the United States and European Union identifies transferable governance innovations that could strengthen India's implementation mechanisms. The dissertation proposes a multidimensional reform agenda including legislative consolidation through a comprehensive Environmental Code, institutional restructuring via an integrated regulatory authority, enhanced penalty frameworks, strengthened monitoring systems, and expanded public participation mechanisms. It argues that transforming environmental governance requires addressing both capacity constraints and accountability deficits simultaneously. This research contributes to environmental governance scholarship by systematically analyzing implementation challenges through the Environmental Rule of Law

framework, offering evidence-based reform pathways that balance developmental imperatives with environmental sustainability in the Indian context.

7.2 SUMMARY OF KEY FINDINGS

The environmental rule of law in India presents a paradoxical landscape of robust frameworks and implementation deficits. Constitutional environmental provisions remain among the world's most progressive on paper. Articles 48A and 51A(g) establish environmental protection as both state directive and citizen duty. The Supreme Court expanded Article 21 to include the right to a healthy environment. These constitutional foundations created powerful theoretical environmental protection. Yet practical implementation reveals significant gaps between normative aspirations and ground realities. The constitutional vision succumbs frequently to implementation weaknesses at administrative levels. This implementation deficit represents the central challenge in India's environmental governance. Constitutional provisions alone cannot secure environmental protection without effective implementation mechanisms.³²⁷

India's environmental legislative framework demonstrates considerable comprehensiveness yet suffers from structural deficiencies. The Environment Protection Act 1986 created umbrella legislation with expansive regulatory potential. The Water Act 1974 and Air Act 1981 established specialized pollution control mechanisms. The Wildlife Protection Act 1972 instituted comprehensive species protection provisions. This legislative architecture covers most environmental domains comprehensively. However, statutory penalties remain absurdly low with maximum fines often below ₹1 lakh. Administrative enforcement mechanisms lack explicit statutory recognition in most legislation. Criminal provisions prove ineffective through procedural complexities and low conviction rates. These structural weaknesses undermine the deterrent effect of environmental legislation substantially. Legislative reform must address these fundamental structural deficiencies.³²⁸

The institutional framework for environmental governance suffers from fragmentation and coordination failures. Multiple regulatory bodies operate at central and state levels with overlapping mandates. The Ministry of Environment coordinates policy while pollution control

³²⁷Lavanya Rajamani, *The Right to Environmental Protection in India: Many a Slip Between the Cup and the Lip?*, 16 Rev. Eur. Comty. & Int'l Env'tl. L. 274, 276-278 (2007).

³²⁸Geetanjoy Sahu, *Implementation of Environmental Judgments in Context: A Comparative Analysis of Dahanu Thermal Power Plant Pollution Case in Maharashtra and Vellore Leather Industrial Pollution Case in Tamil Nadu*, 6 L. Env't & Dev. J. 335, 339-342 (2010).

boards implement regulations. Specialized authorities manage forests, wildlife, coastal zones and biodiversity separately. This institutional multiplication creates jurisdictional ambiguities and coordination challenges. Regulated entities exploit these gaps to evade comprehensive regulatory oversight. Institutional mandates frequently emphasize procedural compliance over environmental outcomes. Regulatory focus remains on permission granting rather than compliance monitoring. These institutional weaknesses fundamentally undermine environmental governance effectiveness. Comprehensive institutional reforms must address these structural deficiencies systematically.³²⁹

The environmental clearance process demonstrates significant procedural weaknesses and enforcement limitations. The Environmental Impact Assessment framework operates through executive notifications rather than legislation. Project categorization follows investment thresholds rather than ecological impact potential. Environmental consultants face inherent conflicts of interest when hired by project proponents. Public hearings frequently become perfunctory exercises without meaningful participation. Post-clearance monitoring remains the weakest implementation link in the regulatory chain. Compliance verification suffers from limited monitoring capacity and technological constraints. These procedural weaknesses transform environmental assessment into paperwork exercise rather than protection mechanism. The clearance framework requires fundamental reimagination and restructuring. Regulatory attention must shift from clearance issuance to compliance monitoring.³³⁰

The judiciary has played a transformative role in environmental governance despite implementation challenges. The Supreme Court articulated fundamental environmental principles through landmark judgments. Public interest litigation created citizen access to environmental justice through procedural innovations. The National Green Tribunal established specialized environmental adjudication with technical expertise. Judicial activism compensated substantially for executive implementation failures. Yet judicial interventions face their own implementation challenges through delayed execution. Court-appointed committees frequently lack enforcement capacity for complex directives. Environmental judgments sometimes demonstrate limited appreciation of technical complexities. Judicial environmental activism thus

³²⁹Michael Faure, Morag Goodwin & Franziska Weber, *Bucking the Kuznets Curve: Designing Effective Environmental Regulation in Developing Countries*, 51 Va. J. Int'l L. 95, 102-107 (2010).

³³⁰Manju Menon & Kanchi Kohli, *From Impact Assessment to the Forest Clearance Process: Losing the Forest for the Trees?*, 48 Econ. & Pol. Wkly. 60, 63-67 (2013).

remains a necessary but insufficient governance mechanism. It represents reaction to regulatory failure rather than governance solution.³³¹

The polluter pays principle received significant judicial attention but limited operational implementation. The Indian judiciary incorporated this principle through landmark decisions like Vellore Citizens' Welfare Forum. The judicial articulation established absolute liability without exception for hazardous industries. Compensation requirements extended beyond actual damages to include restoration costs. However, practical application reveals substantial implementation gaps in damage quantification. Environmental harm valuation methodologies remain underdeveloped and inconsistently applied. Financial guarantees for potential environmental liabilities lack systematic requirements. These implementation weaknesses limit the principle's deterrent and compensatory functions. The principle requires operational mechanisms beyond judicial pronouncements. Statutory incorporation with implementation guidelines would enhance practical effectiveness.³³²

The precautionary principle similarly received strong judicial endorsement with limited administrative operationalization. The Supreme Court established burden reversal requiring polluters to demonstrate safety. Environmental uncertainty cannot justify regulatory inaction under this principle. However, administrative decision-making frequently neglects precautionary considerations in practice. Risk assessment methodologies remain underdeveloped in regulatory frameworks. Scientific uncertainty continues justifying regulatory procrastination despite judicial directives. The principle receives rhetorical invocation without systematic implementation procedures. Administrative guidelines must translate judicial principles into operational decision frameworks. The precautionary approach requires practical implementation mechanisms beyond judicial articulation.³³³

The public trust doctrine established state trusteeship over natural resources through judicial interpretation. The doctrine prevented privatization of common environmental resources like waterbodies. It restricted government discretion in natural resource allocation decisions.

³³¹Lavanya Rajamani & Shibani Ghosh, India, in *The Role of the Judiciary in Environmental Governance: Comparative Perspectives* 179, 185-191 (Louis J. Kotzé & Alexander R. Paterson eds., Kluwer Law International 2009).

³³²Gitanjali Nain Gill, *Environmental Justice in India: The National Green Tribunal and Expert Members*, 5 *Transnat'l Env'tl. L.* 175, 179-182 (2016).

³³³Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India* 42-46 (Oxford University Press 3rd ed. 2020).

However, implementation reveals continuing resource alienation despite doctrinal constraints. Administrative authorities frequently circumvent trust responsibilities through procedural maneuvers. Resource allocation decisions often prioritize economic considerations over trust obligations. The doctrine lacks systematic integration into decision-making frameworks at administrative levels. This implementation deficit renders the doctrine less effective than its theoretical potential. Administrative mechanisms must operationalize trust responsibilities across governance levels.³³⁴

Compliance and enforcement mechanisms demonstrate critical weaknesses in India's environmental governance. Regulatory sanctions remain absurdly low compared to compliance costs. Enforcement approaches rely excessively on criminal provisions with minimal conviction rates. Administrative penalties lack explicit statutory foundation in most legislation. Monitoring infrastructure covers only a fraction of potential pollution sources. Information asymmetry between regulators and regulated entities undermines effective oversight. The enforcement approach prioritizes formal permissions over substantive compliance verification. These weaknesses create rational economic incentives for deliberate non-compliance. The enforcement framework requires fundamental reimagination and restructuring. Regulatory attention must shift from paperwork compliance to environmental outcomes.³³⁵

Comparative analysis with international models reveals significant lessons for enhancing India's environmental governance. The United States Environmental Protection Agency demonstrates the advantages of integrated regulatory authority. The European Union illustrates effective compliance mechanisms through graduated enforcement approaches. The EU's implementation of the precautionary principle offers practical operationalization models. International frameworks emphasize information disclosure and public participation mechanisms. They incorporate economic instruments alongside command-and-control regulation. These comparative models highlight India's implementation gaps while suggesting reform pathways. Selective adaptation of international best practices could enhance domestic implementation.

³³⁴Sairam Bhat, *Natural Resources Conservation Law* 125-131 (SAGE Publications 2010).

³³⁵D. Narasimha Rao & B.S. Prakash, *Prevention and Control of Pollution in India: An Analysis of the Failure of Enforcement*, 4 J. Env'tl. L. & Prac. 137, 142-148 (2021).

They demonstrate that implementation effectiveness requires both institutional capacity and compliance pressure.³³⁶

Public participation in environmental governance suffers from significant procedural and substantive limitations. Current participation mechanisms focus on project-level consultation rather than policy involvement. Public hearings occur after assessment completion limiting influence on fundamental decisions. Technical information remains inaccessible through language and complexity barriers. Participant comments receive limited consideration in final decision-making. Procedural complexities create barriers for marginalized community participation. These limitations transform participation into tokenistic exercise rather than meaningful engagement. Genuine participation requires procedural reforms and capacity building. Participatory mechanisms must influence decisions substantively rather than merely documenting objections.³³⁷

Environmental information accessibility remains limited despite right to information legislation. Environmental quality data remains fragmented across multiple agencies without centralized access. Technical parameters appear without contextualization or health implications. Proactive disclosure remains limited with most information requiring formal applications. Information frequently appears in technically complex formats inaccessible to laypersons. These limitations undermine informed public participation in environmental governance. Information democracy represents a prerequisite for effective environmental citizenship. Transparency mechanisms must transform from compliance requirement to governance principle.³³⁸

Institutional capacity constraints fundamentally undermine environmental governance effectiveness in India. Environmental agencies face chronic understaffing across technical and scientific positions. Budgetary allocations remain grossly inadequate relative to regulatory mandates. Monitoring infrastructure covers merely a fraction of potential pollution sources. Technical capacity for emerging pollutants and complex environmental challenges remains limited. These capacity constraints create an implementation gap between legislative ambition

³³⁶Armin Rosencranz & Michael Jackson, *The Delhi Pollution Case: The Supreme Court of India and the Limits of Judicial Power*, 28 Colum. J. Envtl. L. 223, 231-236 (2003).

³³⁷Krithika Dinesh & Arpitha Kodiveri, *Decoding Public Participation in Environmental Clearances in India*, 53 Econ. & Pol. Wkly. 17, 21-24 (2018).

³³⁸Shibani Ghosh, *Reforming the Liability Regime for Air Pollution in India*, 65 J. Indian L. Inst. 187, 193-197 (2023).

and administrative reality. They transform environmental governance into procedural exercise rather than substantive protection. Capacity building requires sustained investment across institutional frameworks. Environmental protection effectiveness fundamentally depends on implementation capacity enhancement.³³⁹

7.3 FUTURE DIRECTIONS FOR THE IMPLEMENTATION OF ENVIRONMENTAL RULE OF LAW IN INDIA

Environmental rule of law implementation in India demands a multidimensional transformation of governance frameworks. The evolutionary pathway must transcend piecemeal reforms toward systematic restructuring. Legislative consolidation represents the essential first step in this transformative journey. Current fragmentation creates implementation gaps through overlapping mandates and jurisdictional ambiguities. The Parliament should enact a comprehensive Environmental Code integrating diverse legislation. This code must explicitly incorporate international environmental principles including precautionary and polluter pays. It should establish clear hierarchies between central and state environmental authorities. Legislative clarity would enhance implementation effectiveness substantially while reducing jurisdictional conflicts. This consolidation must result from inclusive stakeholder consultation processes nationwide. Parliamentary action represents the foundation for governance transformation.³⁴⁰

Institutional restructuring demands priority attention through creation of an integrated regulatory authority. India requires a National Environmental Protection Agency with comprehensive mandate and powers. This institution should consolidate functions currently fragmented across multiple agencies. The organizational structure must integrate standard-setting, monitoring and enforcement capabilities. Regional offices would ensure implementation consistency while addressing local conditions. The agency requires statutory foundation with administrative and financial autonomy. Its governance structure should include diverse stakeholders including scientific experts and civil society. This institutional reform would address the fragmentation undermining current governance effectiveness. It would create clear accountability while

³³⁹Navroz K. Dubash & Shibani Ghosh, Towards an Effective Indian Air Pollution Governance Framework, 57 Econ. & Pol. Wkly. 44, 49-54 (2022).

³⁴⁰Bharat H. Desai, Revitalizing Environmental Federalism in India, 48 Env'tl. L. Rep. 10048, 10056-10062 (2018).

eliminating jurisdictional ambiguities. This transformation demands political commitment transcending departmental interests.³⁴¹

The enforcement paradigm requires fundamental reimagination shifting focus from procedural to substantive compliance. Current approaches emphasize paperwork compliance over environmental outcomes. The revised framework must establish administrative penalties with significant economic consequences. Enforcement strategies should incorporate risk-based approaches targeting high-impact violations. Specialized environmental prosecutors would enhance criminal enforcement effectiveness. Compliance history should determine monitoring frequency and regulatory scrutiny. Self-reporting must supplement rather than replace independent verification mechanisms. The enforcement approach should balance deterrence with compliance assistance for smaller entities. This rebalanced framework would create meaningful incentives for environmental compliance. It would transform the economic calculus currently favoring deliberate violations.³⁴²

Scientific capacity building represents a critical dimension for enhancing governance effectiveness. Current technical capabilities remain insufficient for complex environmental challenges. Research institutions require strengthening with explicit environmental monitoring mandates. Reference laboratories need establishment for standardizing measurement protocols. Emerging contaminants demand enhanced analytical capabilities and detection methodologies. Environmental health research requires significant expansion addressing exposure pathways. Ecosystem monitoring demands integration into comprehensive reporting frameworks. Scientific capacity must extend beyond pollution to biodiversity and ecosystem services. This scientific infrastructure would enhance evidence-based environmental decision-making. It would address the information asymmetry currently undermining regulatory effectiveness.³⁴³

Digital transformation offers unprecedented opportunities for enhancing monitoring capacity and transparency. Current regulatory approaches rely excessively on physical inspections with limited coverage. India should develop an integrated environmental information system with

³⁴¹Geetanjoy Sahu, Environmental Regulatory Authorities in India: An Assessment of State Pollution Control Boards, 52 Econ. & Pol. Wkly. 25, 31-33 (2017).

³⁴²Michael G. Faure & A.V. Raja, Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables, 21 Fordham Env'tl. L. Rev. 239, 248-254 (2010).

³⁴³K. Muralidhar, Implementation of Court Orders in the Area of Environmental Law: Diffusing the Problem, 30 Delhi L. Rev. 1, 9-15 (2008).

real-time monitoring. Industry should mandatorily install continuous emissions monitoring systems with direct data transmission. Satellite monitoring could supplement ground-level surveillance for large-scale violations. Mobile applications would facilitate citizen reporting with geotagging capabilities. Artificial intelligence could identify compliance patterns and violation clusters. This technological transformation would expand regulatory reach dramatically. It would address the capacity constraints currently limiting monitoring effectiveness. Digital tools represent force multipliers for regulatory authorities.³⁴⁴

Market mechanisms demand integration alongside command-and-control regulation. Current approaches rely excessively on direct regulation with limited economic instruments. Environmental taxation should create financial incentives for pollution reduction. Emissions trading systems offer potential efficiency in high-density industrial clusters. Extended producer responsibility requires implementation across product categories systematically. Green procurement policies would leverage government purchasing power for environmental protection. Financial institutions must integrate environmental risk assessment into lending decisions. These market instruments would harness economic motivations for environmental improvement. They would complement traditional regulatory approaches effectively. This balanced strategy recognizes regulatory limitations while leveraging market dynamics.³⁴⁵

Environmental federalism requires reconfiguration establishing clear responsibilities with accountability mechanisms. Current central-state relationships lack coherent frameworks creating implementation gaps. Cooperative federalism demands formalization through explicit coordination mechanisms. Central government should establish minimum standards while permitting state implementation flexibility. Financial transfers must incorporate environmental performance metrics and incentives. Cross-border environmental challenges require specialized interstate governance mechanisms. River basin authorities demand strengthening with genuine enforcement capabilities. This reconfigured federalism would balance national standards with local implementation. It would create cooperative rather than competitive environmental

³⁴⁴Navroz K. Dubash & Shibani Ghosh, Towards an Effective Indian Air Pollution Governance Framework, 57 *Econ. & Pol. Wkly.* 44, 49-54 (2022).

³⁴⁵Shreekant Gupta, Implementing Market-Based Environmental Policy in India, in *Market Instruments for Environmental Policy in Developing Countries* 97, 105-112 (Oxford University Press 2020).

governance. This transformation represents essential adaptation to India's constitutional reality.³⁴⁶

Climate governance integration represents imperative adaptation to emerging environmental challenges. Current frameworks address climate change peripherally rather than centrally. Climate considerations demand mainstreaming across all policy and regulatory domains. Sectoral ministries require explicit climate mandates with accountability mechanisms. State climate action plans need statutory foundation with implementation monitoring. Urban planning must incorporate climate resilience through mandatory provisions. Energy transitions require regulatory support through comprehensive policy frameworks. These governance adaptations would address the defining environmental challenge. They would create institutional responsibility for climate action implementation. Climate integration represents essential environmental governance evolution.³⁴⁷

Environmental justice demands explicit recognition and operationalization within governance frameworks. Current approaches neglect distributional impacts on marginalized communities. Environmental impact assessments must incorporate justice dimensions explicitly. Regulatory decisions should consider cumulative impacts on disadvantaged populations. Procedural justice requires enhancement through genuine participation opportunities. Compensatory mechanisms must address historical environmental burdens. Indigenous communities deserve recognition of traditional ecological knowledge and practices. These justice dimensions would transform governance from technocratic to genuinely democratic. They would ensure equitable distribution of environmental protection benefits. Justice considerations represent moral imperative and practical necessity.³⁴⁸

Judicial capacity enhancement requires attention alongside regulatory strengthening. Environmental courts need expansion with specialized benches nationwide. The National Green Tribunal requires jurisdictional expansion covering all environmental legislation. Judicial officers need continuous environmental training opportunities. Scientific advisory committees

³⁴⁶Shibani Ghosh, Implementation of Environmental Judgments in Context: A Comparative Analysis of Environmental Rule of Law in India, 6 J. Env'tl. L. 22, 27-33 (2019).

³⁴⁷Navroz K. Dubash et al., India's Climate Policy: Choices and Challenges, 53 Econ. & Pol. Wkly. 47, 52-57 (2018).

³⁴⁸Usha Ramanathan, Environment and the Law: The 'Equalizing' Potential of Constitutional Provisions, 49 J. Indian L. Inst. 452, 459-465 (2007).

could enhance technical decision quality. Order implementation mechanisms demand strengthening through monitoring committees. Environmental judgments require standardization in compensation assessment methodologies. These enhancements would strengthen judiciary's environmental governance contribution. They would address implementation gaps in judicial environmental protection. Judicial effectiveness complements regulatory enhancement strategies.³⁴⁹

Private governance mechanisms offer supplementary pathways alongside public regulation. Current approaches rely excessively on governmental oversight with limited complementary systems. Environmental disclosure requirements should create reputational incentives for compliance. Industry associations must develop meaningful environmental codes with compliance verification. Certification systems could differentiate environmentally responsible products and companies. Supply chain management presents opportunities for environmental standards propagation. Financial markets should incorporate environmental performance in investment decisions. These private mechanisms would extend regulatory reach through non-governmental pathways. They would create multiple accountability systems beyond direct regulation. Governance diversity enhances overall regulatory effectiveness.³⁵⁰

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