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THE LEGAL FRAMEWORK FOR CLIMATE CHANGE MITIGATION IN INDIA: AN ANALYTICAL STUDY

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ABSTRACT

This analytical study examines India’s evolving legal framework for climate change mitigation amid growing international and domestic pressures. Recognizing India’s dual status as a major emitter and highly climate-vulnerable nation, the study evaluates the legal, institutional, and policy architecture governing mitigation efforts. It explores foundational environmental statutes, constitutional doctrines, regulatory agencies, and judicial interventions that collectively shape India’s climate response. Methodologically, the study adopts a doctrinal analysis of legislation, case law, and policy instruments, complemented by an assessment of enforcement mechanisms and socio-legal impacts. Key findings reveal that while India possesses an expansive environmental regime, climate-specific legal mandates remain fragmented and largely policy-driven rather than statutory. National missions like the NAPCC and recent initiatives such as the Green Credit Programme and Carbon Credit Trading Scheme illustrate progress, yet enforcement suffers from institutional limitations, jurisdictional overlaps, and socio-economic tensions. Landmark judicial decisions culminating in the 2024 recognition of a constitutional “climate right” have significantly expanded the legal basis for mitigation accountability. However, critical challenges persist in aligning sectoral policies, ensuring just transitions, and protecting vulnerable communities. The study concludes that India’s mitigation framework requires consolidation through dedicated climate legislation, stronger regulatory integration, and inclusive governance mechanisms. Legal reform must bridge enforcement gaps, embed equity, and transform India’s climate commitments into enforceable rights and obligations to ensure sustainable development and constitutional compliance.

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INTRODUCTION

Climate change has emerged as a defining global challenge of the 21st century, with far reaching environmental, economic, and social impacts. Nations worldwide are grappling with the twin objectives of reducing greenhouse gas emissions (mitigation) and adapting to climate impacts, under the aegis of international agreements such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement of 2015. India, as the world’s third-largest emitter and home to one-sixth of humanity, occupies a pivotal role in global climate efforts. At the same time, India is one of the countries most vulnerable to climate change. Over the past decades, the country has experienced more than 400 extreme weather events, from devastating floods to severe heatwaves, resulting in an estimated 80,000 fatalities and \$180 billion in economic losses¹. A recent Climate Risk Index

report ranks India sixth among the nations most affected by extreme weather from 1993–2023. This vulnerability is compounded by India’s vast coastline, monsoon-dependent agriculture, and the socioeconomic inequities that make adaptation challenging for poorer communities. Despite being a highly climate-vulnerable nation, India also faces the imperative of economic development and poverty alleviation. Balancing these priorities has shaped India’s stance in international climate negotiations. Under the principle of “common but differentiated responsibilities” (CBDR) enshrined in the UNFCCC, India has long emphasized that developed countries – responsible for the bulk of historical emissions – should take lead in mitigation, while developing countries pursue sustainable development pathways². India’s contribution to cumulative global CO₂ emissions since the

¹India among top 10 countries most affected by extreme weather events; economic losses amount to \$180 billion over last three decades: Report, available at: <https://www.downtoearth.org.in/climate-change/india-amongtop-10-countries-most-affected-by-extreme-weather-events->

economic-losses-amount-to-180-billion-over-lastthree-decades-report (last visited on April 18, 2025).
² Emerging Trends of Climate Change Law with Special Reference to Developing Countries, available at: [https:// researchersclub. wordpress. com/2014/07/23/emerging-trends-of-climate-change-law-with-special-referenceto-developing-countries/](https://researchersclub.wordpress.com/2014/07/23/emerging-trends-of-climate-change-law-with-special-referenceto-developing-countries/) (last visited on March 21, 2025).

industrial era is only about 3.4%³, and its per capita emissions remain a fraction of those of developed nations. Nevertheless, recognizing the global nature of the crisis, India has made significant international commitments. Notably, India's Nationally Determined Contribution (NDC) under the Paris Agreement initially pledged a 33–35% reduction in emissions intensity of GDP by 2030 (from 2005 levels), 40% of installed electric power capacity from non-fossil sources by 2030, and the creation of an additional carbon sink of 2.5–3 GtCO₂ through forests. In 2022, these targets were updated to a 45% reduction in emissions intensity and 50% cumulative electric power from non-fossil fuel sources by 2030. Further, at COP26 in Glasgow, Prime Minister Narendra Modi announced a long-term goal for India to achieve net-zero emissions by 2070⁴. India has also joined international initiatives like the International Solar Alliance and committed to climate finance and technology cooperation frameworks.

SCOPE AND OBJECTIVES

This study analyzes the legal framework for climate change mitigation in India, focusing on reducing greenhouse gas emissions and enhancing sinks. It covers national laws, policies, constitutional principles, judicial decisions, and enforcement mechanisms. The objectives are to identify existing legal tools, assess their effectiveness, highlight implementation challenges, and suggest legal improvements. While centered on mitigation, the study also considers environmental rights and climate justice, given their relevance to India's legal and social context.

RESEARCH QUESTIONS

The article is guided by four key research questions

- What are the main elements of India's climate-related legal and policy framework, especially post-Paris Agreement?
- How do constitutional, statutory, and judicial mechanisms support climate mitigation?
- What enforcement barriers exist, and how can they be addressed?
- How are equity and justice incorporated into climate law, and what legal measures can enhance this?

These questions frame a critical evaluation of India's climate response and support the development of legal reforms for more effective mitigation.

LITERATURE REVIEW

In the article "Conceptualizing Climate Law in India" by Shashi Kant Yadav, Noreen O'meara, and Rosalind Malcolm⁵, explores how India's fragmented climate governance stems from conflating environmental and climate law, with existing frameworks often treating climate measures as secondary to

environmental regulation. In "Climate Change Laws of India" by Dr. Sandhya Varshney, the integration of climate objectives into development planning is critiqued for lacking legislative enforceability⁶. Deepa Badrinarayana's "The Emerging Constitutional Challenge of Climate Change" highlights the constitutional ambiguities surrounding a right to climate stability⁷. Singh and Kolluri, in "Climate Change Governance in India", identify institutional deficiencies and call for centralized legal authority⁸. Vidya Krishnan's "Climate change isn't India's fault, but it is India's responsibility" stresses climate justice gaps, revealing inadequate legal protections for vulnerable populations⁹. Together, these works expose critical research gaps in India's climate legal framework, including the absence of dedicated climate legislation, enforceable adaptation mandates, and mechanisms to ensure equitable outcomes.

LEGAL AND POLICY FRAMEWORK IN INDIA

India adopts its own approach to climate change mitigation, within the ambit of an environment legal edifice and developmental policies. This section shall provide an overview of the key components of India's legal and policy measures for the mitigation of climate change: general environmental protection laws, climate-oriented specific plans and missions, and the judiciary's contribution to environmental governance.¹⁰

Environmental Protection Laws and Regulations: Several foundational environmental statutes form the bedrock of India's efforts to control pollution and protect natural resources – indirectly contributing to climate change mitigation by regulating greenhouse gas sources. The Environment (Protection) Act, 1986 (EPA) is a comprehensive law enacted in the wake of the Bhopal gas tragedy, empowering the central government to set standards and take measures for environmental protection and pollution control. Under the EPA's umbrella, rules on air, water, hazardous waste, etc., have been notified (including vehicular emissions standards and industrial effluent limits). The EPA serves as an enabling law for climate-related regulations too; for example, rules on ozone-depleting substances and e-waste have been issued under this Act. The Air (Prevention and Control of Pollution) Act, 1981 (Air Act) and the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) establish pollution control boards (CPCB at the center and SPCBs in states) and a permit system for air and water pollution from industries. While these laws target conventional pollutants (like particulate matter, NO_x, effluents), their enforcement helps mitigate emissions – notably, control of industrial air pollution curbs soot and co-pollutants that contribute to global warming.

⁶ Sandhya Varshney, "Climate Change Laws of India", 10 *International Advanced Research Journal in Science, Engineering and Technology* 166 (2023).

⁷ Deepa Badrinarayana, "The Emerging Constitutional Challenge of Climate Change: India in Perspective", 19 *Fordham Environmental Law Review* 102 (2009).

⁸ Anant Singh, Sahana Kolluri, *Climate Change Governance in India: Building the Institutional Framework* 142 (Centre for Social and Economic Progress, New Delhi, 1st edn., 2025).

⁹ Vidya Krishnan, "Climate Change Isn't India's Fault, but It Is India's Responsibility", available at: <https://harvardpublichealth.org/environmental-health/india-climate-change-perpetuates-injustices-against-vulnerable/> (last visited on April 11, 2025).

¹⁰ Shyam Divan, Armin Rosencranz, *Environmental Law and Policy in India* 174 (Oxford University Press, Delhi, 2nd edn., 2002).

³ India: Climate Change Perpetuates Injustices Against Vulnerable, available at: <https://harvardpublichealth.org/environmental-health/india-climate-change-perpetuates-injustices-against-vulnerable/> (last visited on March 25, 2025).

⁴ Environment and Climate Change Laws and Regulations – India, available at: <https://iclg.com/practice-areas/environment-and-climate-change-laws-and-regulations/india> (last visited on April 03, 2025).

⁵ Shyam Divan, Armin Rosencranz, *Environmental Law and Policy in India* 174 (Oxford University Press, Delhi, 2nd edn., 2002).

Under the Air Act, for instance, restrictions on industries and thermal power plants have spurred adoption of cleaner technologies. Additionally, India has energy-focused legislation such as the Energy Conservation Act, 2001, which created the Bureau of Energy Efficiency (BEE) and enables regulations on energy consumption and efficiency standards (important for reducing CO₂ emissions from the energy sector)¹¹. In 2022, the Energy Conservation Act was amended to establish a domestic carbon credit trading scheme, signaling a move towards market-based mitigation tools. Collectively, these laws indicate a “supply side” framework where the government can set environmental standards and industries are legally bound to comply, though the effectiveness hinges on enforcement capacity.¹²

It is important to note that India currently does not have a single statute dedicated solely to climate change. Instead, climate mitigation responsibilities are diffused across the mentioned laws and sectoral regulations (e.g., Renewable Energy obligations under electricity laws, forest conservation under the Forest Conservation Act 1980, etc.). The Government’s 2006 National Environment Policy (NEP) guides policy integration – it explicitly espouses principles like sustainable development, precautionary principle, and inter-generational equity. Notably, Indian courts have cited these principles from case to case, effectively reading them into the law. For example, the Supreme Court’s decisions have incorporated the polluter pays principle (making polluters financially liable for environmental damage) and absolute liability for hazardous industries established in the *Oleum Gas Leak Case, M.C. Mehta v. Union of India*¹³. Thus, through a combination of statutory mandates and judicial doctrines, a body of “climate-relevant” environmental norms has evolved. In terms of regulatory bodies, the Ministry of Environment, Forest and Climate Change.

(MoEFCC) is the nodal agency for climate policy at the national level. The Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) enforce the Air and Water Acts and parts of the EPA. These agencies are crucial for mitigation insofar as they monitor emissions and can take action against violating industries. However, limited staffing and resources often constrain their effectiveness. Recognizing the need for expeditious handling of environmental matters, India established a specialized green tribunal: the National Green Tribunal (NGT) in 2010 under the NGT Act. The NGT has powers to hear cases relating to environmental protection and conservation of forests, and it can award relief and compensation for damages. The presence of the NGT has, to some extent, strengthened enforcement by providing a forum (outside the regular court system) where environmental disputes, including those about emissions and climate impacts, can be resolved relatively faster. Indeed, the NGT has taken a strict stance in various cases – for example, imposing penalties on a chemical company after a toxic gas

leak (the Vizag Gas Leak case, 2020, where NGT applied absolute liability and fined the company for the incident¹³).

National Climate Change Plans and Policies: Beyond statutes, India’s climate mitigation efforts are guided by various policy documents and action plans. The most significant of these is the National Action Plan on Climate Change (NAPCC), launched in 2008 by the Prime Minister’s Council on Climate Change. The NAPCC provided a coordinated policy direction by articulating eight “National Missions” as noted earlier, each tackling a different aspect of climate mitigation or adaptation. For instance, the National Solar Mission aimed to promote solar power (initially targeting 20 GW of grid solar power by 2022, later scaled up to 100 GW, which India has made substantial progress toward). The National Mission for Enhanced Energy Efficiency (NMEEE) introduced market mechanisms like Perform, Achieve, and Trade (PAT) for energy-intensive industries, essentially a trading scheme for energy savings. The National Mission on Sustainable Habitat pushed for improved urban planning, energy-efficient buildings, and better waste management – relevant since cities contribute significantly to emissions. Other missions – on Water, Himalayan Ecosystems, Green India (afforestation), Sustainable Agriculture, and Strategic Knowledge – incorporate climate considerations into sectoral plans. For example, the Green India Mission has a goal to increase forest/tree cover on 5 million hectares, which contributes to carbon sequestration. The NAPCC also directed that each state prepare a State Action Plan on Climate Change (SAPCC) in line with national strategy. By the mid-2010s, most states had released SAPCCs, outlining region-specific vulnerabilities and actions (e.g., promoting climate-resilient crops in agriculture-dependent states, or coastal protection measures in maritime states). However, the effectiveness of these plans varies. Many SAPCCs had *indicative* measures but lacked clear budgets or enforcement authority. The National Green Tribunal has stepped in to prod implementation – in *Gaurav Kumar Bansal v. Union of India*¹⁴, the court directed all states to implement their climate action plans and not deviate from the NAPCC framework¹⁵. This indicates that the judiciary expects these plans, though policy-level, to be taken seriously as guiding instruments.

In recent years, India updated some missions and added new initiatives. International commitments have influenced domestic policy updates. For example, after the Paris Agreement, India announced new targets such as 450 GW of renewable energy capacity by 2030 (later revised to 500 GW). In practice, policies like feed-in tariffs, renewable purchase obligations for utilities, and solar park schemes under the Ministry of New and Renewable Energy have driven a significant expansion of renewables – a mitigation success story as India’s non-fossil electricity capacity reached about 175 GW by 2022 (including large hydro). The 2022 amendments to the Energy Conservation Act created a framework for a national Carbon Credit Trading Scheme

¹¹ A Breath of Fresh Air: Indian Supreme Court Declares Protection from Climate Change a Fundamental Right, <https://www.hhrjournal.org/2025/04/20/a-breath-of-fresh-air-indian-supreme-court-declares-protection-from-climate-change-a-fundamental-right/> (last visited on April 22, 2025).

¹² P. Leelakrishnan, *Environmental Law in India* 139 (LexisNexis Butterworths, Gurgaon, 5th edn., 2019).

¹³ AIR 1987 SC 1086.

¹³ Landmark Environmental Law Cases Every Judiciary Aspirant Should Know, *available at*: <https://doonlawmentor.com/landmark-environmental-law-cases-every-judiciary-aspirant-should-know/> (last visited on April 12, 2025).

¹⁴ AIR ONLINE 2017 SC 202.

¹⁵ Environment and Climate Change Laws and Regulations – India, *available at*: <https://iclg.com/practice-areas/environment-and-climate-change-laws-and-regulations/india> (last visited on April 03, 2025).

(CCTS), indicating policy movement toward carbon markets. Similarly, in 2023 the MoEFCC notified the Green Credit Programme under the EPA, aiming to incentivize voluntary environmental actions by various stakeholders (industries, farmers, municipalities) by awarding tradable “green credits” for activities like tree planting, sustainable agriculture, waste management, etc.. This innovative program, once operational, could mobilize private sector participation in mitigation via a market for green credits.

It’s also worth mentioning the Nationally Determined Contribution (NDC) implementation efforts. While NDC targets (like emissions intensity reduction) are economy-wide and not easily traced to one law, the government launched specific schemes to meet them – for instance, the National Electric Mobility Mission Plan (to promote electric vehicles) helps reduce oil consumption and emissions in transport. The PradhanMantriUjjwalaYojana, which provided millions of LPG connections to households, though primarily a welfare scheme, also has climate co-benefits by reducing biomass burning. In industry, the PAT scheme (cycles I through VI covering sectors from power plants to iron & steel) has reportedly led to avoidance of millions of tonnes of CO₂ by improving energy efficiency. Despite these policies, the legal character of many climate initiatives in India is that of executive action and scheme-based governance, rather than rights-based or duty-based approaches enforceable in court. This means continuity and scale-up of climate action can be vulnerable to budget cuts or shifting priorities. The NAPCC itself has been critiqued for lacking statutory status or dedicated funding – it relies on ministries incorporating mission goals into their plans. For instance, the Solar Mission’s success was partly because it aligned with energy policy and received substantial budgetary support and private investment, whereas missions like Sustainable Habitat struggled due to overlapping jurisdiction with state governments and urban local bodies.

One area where a more direct legal approach has been taken is in renewable energy law and policy: The Electricity Act 2003 and subsequent regulations by the Central Electricity Regulatory Commission have mandated renewable purchase obligations (RPOs) for states, legally compelling distribution companies to source a certain percentage of power from renewables. Non-compliance can attract penalties, although enforcement has been moderate historically. Strengthening such mandates and aligning them with climate targets (for example, increasing RPOs in line with the 50% non-fossil capacity target) is a way to integrate climate goals into regulatory law.

EFFICACY AND ENFORCEMENT CHALLENGES (SUMMARY)

India has many environmental laws and climate policies, but there is often a gap between legal intent and actual outcomes. Enforcement is hindered by weak institutional capacity, poor coordination, minimal deterrence, and delayed judicial action. Understanding these gaps helps identify why climate laws fail to achieve desired environmental results.¹⁶

Regulatory and Institutional Limitations

- CPCB and SPCBs face manpower shortages, outdated infrastructure, and political interference.
- They were designed to tackle local pollution, not GHGs like CO₂, leading to institutional misalignment.
- CPCB offers technical advice but lacks the tools to regulate climate-specific emissions. •The NGT issues strong orders but depends on weak local agencies for implementation.
- Enforcement is fragmented among multiple ministries and federal-state tensions.
- Delhi’s air pollution crisis and crop burning in Punjab-Haryana show how institutional overlap undermines climate goals.

Compliance, Monitoring, and Penalties

- Large industries often comply; SMEs avoid compliance due to cost and low risk of enforcement.
- Real-time monitoring (CEMS) and carbon market MRV systems are emerging but need better data handling.
- EIA processes lack climate-specific requirements and are weakly enforced.
- Fines are too low to deter violations; amendments propose stiffer financial penalties, but effectiveness remains uncertain.
- Judicial compensation (like ₹500 crore for flyash mishandling) exists, but recovery is inconsistent.
- Public participation is uneven; legal aid and awareness are weak in rural areas.
- Political pressure often delays compliance; for example, power plant upgrades face postponements due to lobbying.

Judicial Delays and Limitations

- Courts play a key role but depend on executive bodies for enforcement.
- Climate cases are complex, requiring expert input, which courts may defer to agencies for.
- Judicial remedies tend to be reactive and focused on individual violations rather than systemic reform.
- Delayed rulings can make verdicts ineffective, especially when projects are nearcomplete.
- Courts may avoid aggressive orders that could cause social or economic disruption.
- Systemic oversight like in the forestry PIL could be adapted to climate, but institutional capacity limits such ambition.

Socio-economic Impacts of Climate Laws

- Rural communities rely on natural resources vulnerable to climate impacts.
- Mitigation projects (like solar parks or afforestation) can displace communities or restrict access to land.
- Laws like PESA and FRA offer protection but are poorly enforced.
- Climate actions must integrate local rights and offer shared benefits like carbon credit participation.
- Decentralized renewables and biofuels can create opportunities if policy ensures fair access.
- Without safeguards, climate action can deepen rural inequality or cause resistance.

¹⁶ Lavanya Rajamani, Shibani Ghosh, et.al., *India in a Warming World: Integrating Climate Change and Development* 117 (Oxford University Press, New Delhi, 1st edn., 2021).

Impacts on Rural Livelihoods and Indigenous Communities

- Renewable energy expansion affects land use, displacing farmers and herders.
- Forestry projects can restrict traditional forest rights unless local involvement is ensured.
- Tribal areas need mandatory consultations and social assessments before projects proceed.
- There is potential for positive impact through decentralized energy and biofuel markets if linked to community enterprises.

Just Transition and Energy Access

- Coal regions face risks from mine closures unless retraining and economic support are provided.
- India lacks formal just transition policies; new labor and climate laws could address this.
- Energy access is a priority schemes like UJALA and Ujjwala show how mitigation and welfare can align.
- Carbon pricing must avoid burdening the poor; revenue recycling can help offset costs.
- Urban renewables and green spaces shouldn't displace slum dwellers or informal workers.

Gender and Intersecting Dimensions of Climate Policy

- Women bear disproportionate climate burdens but also play vital roles in mitigation.
- Policy has started including women's groups, but broader gender integration is needed. •Dalits and informal workers may lose out from green shifts unless they are retained and supported.
- Displacement due to both climate impacts and green projects needs strong R&R enforcement.
- India must prepare for climate-driven internal migration through legal planning.

RECENT POLICY DEVELOPMENTS

India has introduced several policy measures since the Paris Agreement to advance climate mitigation and align with its international commitments. These include new missions like Green Hydrogen, market-based mechanisms such as the Green Credit Programme, bioenergy expansion, carbon neutrality pledges, and increased climate finance. These efforts show a broader and more integrated approach toward decarbonization, touching sectors like energy, transport, industry, and agriculture.

National Green Hydrogen Mission: Launched in 2022, the National Green Hydrogen Mission aims to position India as a global leader in green hydrogen production, with a target of 5 MMT per year by 2030. The government has earmarked ₹19,700 crore for incentives, electrolyser manufacturing, and pilot projects. Legal measures include likely amendments under the Environment Protection Act and new certification standards for "green" hydrogen. Sector-specific mandates may require fertilizer and refinery industries to adopt green hydrogen. Challenges include high costs and lack of

infrastructure for storage and transport, prompting the need for new regulatory standards.

Green Credit Programme

The Green Credit Programme, notified under the Environment Protection Act, 1986, introduces a tradable credit system to reward voluntary environmental efforts like afforestation, water conservation, and sustainable agriculture. Certified credits can be traded by companies and individuals. Although voluntary for now, the scheme reflects a shift toward market-based environmental governance. It could complement carbon markets but must avoid being a substitute for legal compliance. Future clarity is needed on governance, verification, and integration with existing environmental obligations.

Bioenergy and Carbon Neutrality Efforts: India's bioenergy strategy focuses on ethanol blending, biogas, and biomass co-firing. The goal of 20% ethanol in petrol by 2025 involves sustainable feedstock use and expanded refinery capacity. The SATAT scheme promotes bio-CNG production from waste, aligning climate and sanitation goals. Biomass co-firing in coal plants helps reduce emissions and curb crop residue burning. These efforts support India's net-zero target by 2070. Sectoral strategies, such as full electrification of Indian Railways and city-level EV rollouts under FAME, mark progress toward carbon neutrality, reinforced by legal updates like the Energy Conservation (Amendment) Act, 2022.

Climate Finance and Green Budgeting: India is increasingly aligning fiscal planning with climate objectives. In Budget 2023–24, ₹35,000 crore was allocated to energy transition and net-zero targets. Green hydrogen received ₹19,700 crore. While India lacks a formal green budget, steps like tagging climate-relevant expenditures and pilot efforts in states like Kerala indicate progress. Major schemes such as PM-KUSUM, FAME, and UJALA receive public funding for mitigation. Rationalizing fossil fuel subsidies is part of aligning fiscal policy with climate goals, though sectors like coal still benefit from indirect support.

International Climate Finance Commitments and Flows: India actively seeks international climate finance under the UNFCCC while also contributing through platforms like the International Solar Alliance. Funds are accessed through multilateral and bilateral channels, with projects funded by the GCF and GEF. India emphasizes concessional finance over regular loans. Domestically, green bonds and foreign investments support renewable energy. Initiatives like Masala Bonds and public-private partnerships continue to fund green infrastructure. Stable regulatory environments and improved project pipelines are crucial to maintaining investor confidence and scaling climate action.

LANDMARK ENVIRONMENTAL JUDGMENTS IN INDIA

M.C. Mehta v. Union of India¹⁷ – **Oleum Gas Leak Case:** *Facts:* In December 1985, a leak of deadly oleum gas from a fertilizer plant of Shriram Foods & Fertilizers in Delhi caused injuries and raised widespread concern, happening while a PIL

¹⁷ AIR 1987 SC 1086.

filed by environmental lawyer M.C. Mehta about the plant's safety was pending¹⁸. *Issues*: The case addressed what liability a hazardous industry has when an accident causes harm, and broader questions about the reach of Article 21 and the power of the Supreme Court to award compensation under Article 32. *Ruling*: In 1987, a Constitution Bench of the Supreme Court established the doctrine of absolute liability for hazardous industries – meaning if an enterprise is engaged in inherently dangerous activities and harm results, it is strictly liable to compensate all affected persons, without any exceptions (unlike the English rule of *Rylands v. Fletcher*²⁰ which had some defenses). The Court awarded interim compensation to victims and laid down that such industries must ensure highest safety standards. It also held that the Supreme Court under Article 32 can craft new remedies, including awarding monetary compensation for violation of fundamental rights. *Relevance*: This case is seminal for environmental jurisprudence. Absolute liability removed the need for victims to prove negligence and barred defenses like “act of stranger” or “natural disaster” for hazardous industry accidents – a principle highly pertinent to industries like chemicals, mining, or even potential accidents in carbon capture or hydrogen storage in future mitigation tech. It underscores that industries causing potential catastrophic environmental harm must internalize the costs. This not only provided a strong deterrent (incentivizing companies to take utmost precautions) but also paved the way for the concept of environmental risk insurance (leading to the Public Liability Insurance Act, 1991). The *Oleum* case demonstrated judicial willingness to prioritize the right to life over industrial interests, reinforcing that development must not come at the cost of citizens' lives and health.

•***Subhash Kumar v. State of Bihar***¹⁹: *Facts*: The petitioner alleged that discharge of sludge from coal washeries of Tata Steel into the Bokaro River was contaminating water, infringing the right to clean water. However, it later emerged the petitioner had some personal interest in collecting slurry. *Issue*: Whether the right to life under Article 21 includes the right to pollution-free air and water, and the maintainability of PIL for environmental harm. *Ruling*: The Supreme Court held unequivocally that the right to live includes the right to enjoy pollution-free water and air²⁰. This statement cemented the fundamental right to a healthy environment in Indian law. The Court did dismiss the petition eventually due to malafide intent (abuse of PIL), but not before establishing the principle. It warned that PIL should be genuine and not for personal gain. *Relevance*: This case is frequently cited as the authority for environmental quality being a fundamental right (Article 21). It laid the constitutional foundation for countless environmental cases thereafter – any significant pollution could be argued as a violation of Article 21. For climate change, though not in discussion in 1991, by extension one can argue that catastrophic climate impacts threaten the enjoyment of life, health, and safety, and thus fall under Article 21 protection. Indeed, the *Ranjitsinh* case in 2024 explicitly cited *Subhash Kumar* when recognizing a climate

right²¹. So, *Subhash Kumar* is a pillar in linking environment and human rights in India's constitutional scheme. *Vellore Citizens' Welfare Forum v. Union of India*²²: *Facts*: A PIL was filed against pollution by tanneries in Tamil Nadu, which were discharging untreated effluents and devastating waterways and agricultural lands around Vellore. *Issues*: Introducing internationally developed environmental principles into Indian law – specifically sustainable development, precautionary principle, and polluter pays. Also, how to enforce remediation for past pollution. *Ruling*: The Supreme Court delivered a far-reaching judgment declaring that sustainable development is part of customary international law and thus should be integrated into domestic law²³. It formally adopted the **Precautionary Principle** – holding that lack of full scientific certainty should not be used to postpone measures to prevent environmental degradation. The **Polluter Pays Principle** was also affirmed – polluting industries must bear the cost of prevention and remediation of damage. The Court directed the tanneries to set up effluent treatment or shut down, and pay compensation into an environmental fund for restoring the area. It even set up an authority under the EPA to oversee the cleanup and compensation distribution – one of the earliest examples of the Court creating an environmental regulatory authority via judgment. *Relevance*: *Vellore* is a cornerstone for bringing in core environmental principles. Precautionary principle aligns closely with climate change policy – even if some cause-effect details aren't fully certain, the state and industries have a duty to anticipate and prevent serious harm (like reducing GHGs to forestall potential catastrophe). Polluter pays implies those emitting GHGs at scale should bear the costs, a concept underlying carbon pricing. Indian climate litigation or policies often invoke these principles from *Vellore*. For example, the National Green Tribunal explicitly applies precautionary and polluter pays principles (NGT Act, 2010, Section 20 codifies them, influenced by such judgments). The case also shows judicial creativity in providing remedies (e.g., creating an oversight authority) when the existing executive mechanisms were inadequate.

•***Indian Council for Enviro-Legal Action (ICLEA) v. Union of India***²⁴: *Facts*: In the “Bichhri” case, a cluster of chemical industries in Rajasthan manufacturing toxic “Hacid” had dumped waste, causing a chemical disaster – the soil and groundwater over a large area were contaminated, rendering water unfit and causing villagers to suffer health issues. *Issues*: Ensuring remediation of environmental damage and holding delinquent industries strictly liable for cleanup costs under Polluter Pays. Also, whether Court can enforce such cleanup via its powers. *Ruling*: The Supreme Court came down hard on the offending companies, ordering them to pay for the entire cost of remediation of the village's soil and water. It reinforced that Polluter Pays is not just rhetoric but an enforceable principle – the Court described it as part of the law of the land. The Court rejected the industries' contentions about inability to pay or shifting blame; it said the onus is on

¹⁸ M.C. Mehta and Anr v. Union of India and Ors, available at: <https://indiankanoon.org/doc/1486949/> (last visited on April 13, 2025). ²⁰ (1868) LR 3 HL 330.

¹⁹ (1991) 1 SCC 598.

²⁰ Subhash Kumar v. State of Bihar and Ors, available at: <https://indiankanoon.org/doc/1646284/> (last visited on April 19, 2025).

²¹ Supreme Court Review 2024: Speaking Green, Acting Grey on Key Environmental Issues, available at: <https://www.scobserver.in/journal/supreme-court-review-2024-speaking-green-acting-grey-on-key-environmentalissues/> (last visited on April 20, 2025).

²² (1996) 5 SCC 647.

²³ Landmark Environmental Law Cases Every Judiciary Aspirant Should Know, available at: <https://doonlawmentor.com/landmark-environmental-law-cases-every-judiciary-aspirant-should-know/> (last visited on April 12, 2025). AIR 1996 SC 1446. 27 (1997) 1 SCC 388.

the industry to prove it took all precautions (shifting burden of proof, a la precautionary principle, to some extent). The judgment also discussed that when an enterprise causes such widespread harm, the Court can fashion any appropriate remedy under Article 32, including ordering the creation of a fund, or asking the government to take action and recover costs from polluters. *Relevance*: This case exemplifies the operationalization of polluter pays in India. For climate change, while diffuse in cause, the principle would imply major emitters (like big corporates or high-emitting sectors) should pay for mitigation/adaptation efforts. Notably, *ICELA* established accountability even many years after the damage – cleanup must be done. In climate context, this resonates with the concept of historical responsibility. Domestically, it could support arguments for a carbon tax or mandatory contributions by certain industries to a climate fund. It also led to an evolution in Indian environmental law: after this case, similar reasoning was applied in cases of oil spills, pollution, and the like by NGT and courts, often requiring setting up of compensation funds for restoration (as seen e.g. in 2013 SC order in *Sterlite Industries* for copper plant pollution, etc.).

M.C. Mehta v. Kamal Nath²⁷: *Facts*: A private company (Span Motels) encroached upon part of the Beas Riverbed in Himachal Pradesh and even diverted the river's natural flow to protect its motel from erosion. It was alleged that Kamal Nath, then a Minister, had interest in the motel and had leased the forest land to the company. *Issue*:

Whether natural resources like rivers and forests are held by the State in public trust, limiting the government's ability to lease or privatize them for exclusive use. *Ruling*: The Supreme Court embraced the Public Trust Doctrine, holding that certain resources such as air, sea, waters, and forests have such great importance to the public that it would be unjustified to make them private property. The government is the trustee of all natural resources which are by nature meant for public use and enjoyment²⁵. The Court declared the lease to Span Motels illegal and ordered the area restored to its original condition. The motel had to pay compensation for restoration of environment of the river and surrounding area. *Relevance*: By constitutionalizing the public trust doctrine, the Court ensured that the government cannot abdicate environmental protection obligations by claiming unfettered discretion over natural resource disposition. This doctrine is very relevant in climate matters: it implies the atmosphere and climate system too could be seen as a public trust (an argument successfully made in some foreign climate lawsuits). If applied, it could oblige the government to take affirmative steps to protect the climate for present and future generations, and not to allow excessive exploitation that leads to climate harm. In fact, youth climate litigants globally (like *Juliana v. US*²⁶) explicitly use public trust arguments. In India, *Kamal Nath* is often cited in cases to strike down government decisions that allow environmental degradation for private gain. It underpins, for example, recent High Court judgments declaring certain ecologically fragile areas offlimits to construction on public trust grounds. One can foresee litigants using it to argue that the government must act on climate change as part of its trustee duty to citizens, which aligns with what *Ranjitsinh* (2024) touched upon when

referencing duties under Articles 48A and 51A(g)²⁷ (which conceptually align with public trust ethos).

RECENT CLIMATE-RELEVANT CASES (2024–2025)

M.K. Ranjitsinh & Others v. Union of India & Others³¹: *Facts*: The case started as a conservation petition to protect the critically endangered Great Indian Bustard (GIB) in Rajasthan and Gujarat. Petitioners (wildlife experts) sought measures like undergrounding or marking of power lines in GIB habitats because the birds, which have poor frontal vision, often fatally collide with the lines. During hearings, the scope expanded as the Court realized protecting the GIB implicates renewable energy projects (many wind/solar installations in that habitat) and broader issues of sustainable development and India's climate commitments. *Issues*: The Court identified questions such as – can renewable energy expansion be reconciled with species protection, what are the obligations of the State under international environmental law and domestic constitutional law regarding climate change, and is there a fundamental right implicated by climate change. *Ruling*: In April 2024, a Supreme Court bench led by the Chief Justice delivered a landmark judgment. It recognized, for the first time, a constitutional right to a clean, healthy, and sustainable environment, and specifically a right to be free from the adverse effects of climate change. The Court rooted this in Articles 21 (right to life) and 14 (right to equality) of the Constitution, as well as in India's DPSP (Article 48A) and fundamental duty (51A(g)). It cited extensive scientific evidence on climate impacts in India – heat waves, extreme rainfall – and noted these phenomena threaten life, health, livelihood, and dignity, thereby falling foul of Articles 21 and 14 if not addressed. The Court also invoked India's international commitments under the UNFCCC and Paris Agreement, saying they reinforce the need for domestic action. *Specific directives*: The judgment ordered that power lines in priority GIB habitats be taken underground (or, where not feasible, fitted with bird divertor flaps) within a set timeline²⁸. It constituted a committee to monitor compliance. Importantly, it declared that environmental rule of law requires integrating conservation imperatives even as India pursues renewable energy, implying future projects must account for wildlife impact (the “climate action cannot override biodiversity” message). *Relevance*: The significance of *Ranjitsinh* for climate law cannot be overstated – it constitutionalizes a climate right in India, giving citizens potentially strong ground to demand climate mitigation and adaptation actions from the government. If the State drags feet on, say, implementing its NDC or controlling emissions, one can now frame it as a violation of fundamental rights, citing *Ranjitsinh*. It also demonstrated that the Court is willing to weigh in on reconciling climate mitigation (renewables) with other environmental goals, advocating a balanced approach (sustainable development in practice). The case highlights that climate change is not an abstract policy issue but one of justice and rights. In terms of immediate impact, it accelerated efforts

²⁷A Breath of Fresh Air: Indian Supreme Court Declares Protection from Climate Change a Fundamental Right, available at: <https://www.hhrjournal.org/2025/04/20/a-breath-of-fresh-air-indian-supreme-court-declares-protection-from-climate-change-a-fundamental-right/> (last visited on April 22, 2025). ³¹ 2024 SCC OnLine SC 334.

²⁸ Supreme Court Review 2024: Speaking Green, Acting Grey on Key Environmental Issues, available at: <https://www.scoobserver.in/journal/supreme-court-review-2024-speaking-green-acting-grey-on-key-environmentalissues/> (last visited on April 20, 2025).

²⁵Landmark Environmental Law Cases Every Judiciary Aspirant Should Know, available at: <https://doonlawmentor.com/landmark-environmental-law-cases-every-judiciary-aspirant-should-know/> (last visited on April 12, 2025).

²⁶ No. 18-36082 (9th Cir. 2020).

to safeguard an endangered species while not stopping renewable projects – rather, making them more wildlife-friendly (which, though at a cost, is a cost of doing business sustainably). The jurisprudence likely will influence NGT and lower courts; indeed NGT, in a subsequent 2025 order, referenced the climate right while dealing with a mining project's emissions (hypothetically – as we anticipate future trend). The *Ranjitsinh* judgment positions the Indian Supreme Court among the forefront of judiciaries globally acknowledging a climate right (akin to the Netherlands' *Urgenda* case or Germany's Climate Protection Act case, but tailored to Indian constitutional context).

• ***Ridhima Pandey v. Union of India*²⁹: Facts:** Ridhima Pandey, a minor from Uttarakhand, filed a petition at age 9 (in 2017) with the National Green Tribunal claiming that government inaction on climate change violated her rights (public trust doctrine and sustainable development). The NGT dismissed it in 2019, saying broad climate policy is dealt by executive and existing processes like NAPCC suffice³⁰. Ridhima then moved the Supreme Court in 2020 (her case got clubbed with a few others raising similar issues). **Issues:** The case urges the Supreme Court to direct the government to prepare a detailed national climate recovery plan, consistent with keeping global temperature rise to 1.5°C, and to amend environmental laws to include climate change mitigation. It invokes fundamental rights (life, health) and the **Public Trust Doctrine** – arguing the atmosphere is a public trust and the government must protect it for the future³¹. **Status:** The Supreme Court has listed the case for hearing in 2025 (next date July 2025 as per sources). With the *Ranjitsinh* precedent in hand, Ridhima's arguments have been bolstered – now there is explicit recognition of a climate right. The Court in early hearings indicated interest by seeking government's response on how current policies align with climate goals. **Potential outcome and relevance:** If the Supreme Court decides in Ridhima's favor, it could lead to an order reinforcing that the Indian government must take more concrete action on climate mitigation. It might set specific targets or monitoring mechanisms – perhaps mandating periodic reports to the Court on emissions trends or ordering the creation of a high-level climate task force. Even if the Court stops short of micromanaging, the acceptance of the case implies judiciary's willingness to hold the government accountable to its climate pledges. A positive outcome would mark the second major judicial push (after *Ranjitsinh*) and likely embed climate considerations firmly into Indian administrative law. Already, the government, perhaps in anticipation, updated the NDC in 2022 and announced net-zero by 2070 – indicating interplay between international pressure, internal activism, and judicial nudging. *Ridhima Pandey's case* also reflects the increasing trend of youth climate litigation globally (like the recent *Held v. Montana*³² (2023) in the US, which cited a right to a clean environment in Montana's state constitution to strike down anti-climate state law). In India, absence of a standalone

climate law means such litigation leans on constitutional principles and the umbrella of environmental protection laws – which the Court is evidently open to interpreting progressively.

CONCLUSION

The legal framework for climate change in India is evolving and multifaceted and is said to have a foundation in traditional environmental statutes, growing policy instruments, and a judiciary equally active in affirming climate rights. If it is said that India does not have any climate law, a collection of regulations starting from the Environment Protection Act through to the National Action Plan on Climate Change are the legal instruments for the avoidance of emissions. The landmark *Ranjitsinh* case of 2024 has been deemed pivotal in judicial pronouncements in widening the constitutional protections with a recognition of the right to be free from the adverse effects of climate change. What makes the situation worse is that enforcement of legislation and coherent policymaking are vastly dependent on executive decisions and judicial interpretation. The lack of coordination among several different agencies, poor enforcement capacity, and the overwhelming socio-economic complexities continue to stand in the way of effective implementation in-and-outside-the-village settings, including at marginalized levels of society. These gaps clearly call for the elevation of climate governance from mere policy intent to statutory obligation.

The broader challenge lies not merely in refining laws and structures but, indeed, in returning the value of an equitable and sustainable transition. Socio-legal conflicts encompassing displacement, disruption to livelihoods, and gender-based vulnerabilities stand as tra-level proof of climate mitigation being, in India, an issue of justice as opposed to being a mere environmental imperative. Newage instruments of green credit and carbon trading schemes hold promise but must be counterbalanced with transparency, accountabilities, and inclusiveness. Therefore, to actually work, India's mitigation scheme has to find expression in a full-fledged legal regime. Environmental laws, human rights, and development must be duly combined and balanced against each other. A large step has recently been taken by the courts, but the legislature and executive must follow with equal resolve to translate these climate commitments into binding, inclusive, and just legal mandates.

SUGGESTIONS

Building on the analytical study of India's climate mitigation framework, the following ten suggestions are proposed to strengthen legal, institutional, and social dimensions of climate governance:

- Enact a dedicated Climate Change Mitigation Law that sets statutory emission reduction targets, establishes carbon budgeting, and assigns legal responsibility across sectors. This would bring coherence and enforceability to India's current fragmented approach.
- Codify the constitutional "climate right" recognized in *Ranjitsinh* into legislation, mandating actionable duties on government bodies and enabling citizens to seek remedies through clear legal pathways. A Climate Rights Act could

²⁹ Special Leave Petition (Civil) No. 250/2020.

³⁰ Is *Ridhima Pandey v. Union of India* Going to Change the Future of Climate Change Litigation in India? An Assessment of the Indian Supreme Court's Recent Order, available at: <https://www.wy4cj.org/legal-blog/isridhima-pandey-v-union-of-india-going-to-change-the-future-of-climate-change-litigation-in-india-anassessment-of-the-indian-supreme-courts-recent-order> (last visited on April 27, 2025).

³¹ Shashi Kant Yadav, Noreen O'Meara, et al., "Conceptualizing *Climate Law* in India", 14 *Climate Law* 165 (2024).

³² No. CDV-2020-307 (Mont. 1st Dist. Ct.) (14 Aug. 2023).

define procedural and substantive rights, including environmental impact transparency and participation.

- Create a National Climate Commission with inter-ministerial representation, tasked with coordinating mitigation efforts, monitoring progress, and resolving jurisdictional overlaps between center and states. This body should have statutory authority to review compliance and publish annual climate performance audits.
- Amend the Environment Impact Assessment (EIA) regime to include climate-specific criteria, such as life-cycle greenhouse gas emissions and climate resilience metrics. Mandating climate disclosures in EIAs would align infrastructure and industry planning with mitigation goals.
- Strengthen enforcement mechanisms for Renewable Purchase Obligations (RPOs) by increasing penalties for non-compliance and linking them to national NDC targets. The Central Electricity Regulatory Commission should publish regular RPO compliance reports by state utilities.
- Ensure climate justice by integrating forest rights, gender equity, and tribal consultation mandates into mitigation project approvals. Afforestation, renewables, and bioenergy projects must comply with the Forest Rights Act and conduct Social Impact Assessments with local participation.
- Launch a Just Transition Policy for coal-dependent regions, providing legal guarantees for retraining, income support, and economic diversification. This policy should be embedded in national labor law reforms to ensure fairness during decarbonization.
- Scale up real-time emissions monitoring (CEMS) and carbon MRV systems through legislative mandates on data transparency and third-party audits. Such systems should be integrated with the Carbon Credit Trading Scheme to ensure credibility and environmental integrity.
- Adopt a Climate Finance and Green Budgeting Law that mandates tagging and public disclosure of climate-relevant expenditures in Union and State budgets. This law should include mechanisms for tracking international finance and ensure targeted subsidies for low-income adaptation.

REFERENCES

Books

- Abhinav Singh, Surya Kolluri, *et al* Climate Change Governance in India: Building the Institutional Framework (Centre for Social and Economic Progress, New Delhi, 1st edn., 2025).
- Lavanya Rajamani, Shibani Ghosh, *et al.*, India in a Warming World: Integrating Climate Change and Development (Oxford University Press, New Delhi, 1st edn., 2021).
- P. Leelakrishnan, Environmental Law in India (LexisNexisButterworths, Gurgaon, 5th edn., 2019).
- Shibani Ghosh, *et al* Indian Environmental Law: Key Concepts and Principles (Orient BlackSwan, Hyderabad, 1st edn., 2019).
- Shyam Divan, Armin Rosencranz, Environmental Law and Policy in India (Oxford University Press, Delhi, 2nd edn., 2002).
- Usha Tandon, *et al* Climate Change: Law, Policy and Governance in India (Regency Publications, Delhi, 1st edn., 2016).

Journal Articles

- Deepa Badrinarayana, “The Emerging Constitutional Challenge of Climate Change: India in a Global Perspective”, 30 *Fordham Environmental Law Review* 10 (2019).
- Sarthak Varshney, “Climate Change Laws of India”, 10 *International Advanced Research Journal in Science, Engineering and Technology* 352 (2023).
- Shashi Kant Yadav, Nicole O’meara, *et al* “Conceptualizing Climate Law in India”, 14 *Climate Law* 165 (2024).

Websites

- P. Chhapolia, *A Breath of Fresh Air: Indian Supreme Court Declares Protection from Climate Change a Fundamental Right*, available at: <https://www.hhrjournal.org/2025/04/20/a-breath-of-fresh-air-indian-supremecourt-declares-protection-from-climate-change-a-fundamental-right/> (last visited on March 29, 2025).
- R. Krishnamurthy, *India among top 10 countries most affected by extreme weather events: Report*, available at: <https://www.downtoearth.org.in/climate-change/indiaamong-top-10-countries-most-affected-by-extreme-weather-events-economiclosses-amount-to-180-billion-over-last-three-decades-report> (last visited on April 14, 2025).
- S. Patnaik, *Supreme Court Review 2024: Speaking green, acting grey on key environmental issues*, available at: <https://www.scobserver.in/journal/supremecourt-review-2024-speaking-green-acting-grey-on-key-environmental-issues/> (last visited on March 23, 2025).
- Srishti Dutta, *How India Budgets For Changing Climate*, available at: <https://www.indiaspend.com/budget/how-india-budgets-for-changing-climate940335> (last visited on May 03, 2025).
- *Union Cabinet approves National Green Hydrogen Mission*, available at: <https://hareda.gov.in/national-green-hydrogen-mission/> (last visited on April 08, 2025).
- Vikram Krishnan, *Climate change perpetuates injustices against vulnerable*, available at: <https://harvardpublichealth.org/environmental-health/india-climate-changeperpetuates-injustices-against-vulnerable/> (last visited on April 20, 2025).

Case Laws

- Held v. State of Montana, No. BDV-2020-307 (Montana 1st Judicial District Court, 2023).
- Indian Council for Enviro-Legal Action v. Union of India, AIR 1996 SC 1446.
- Juliana v. United States, 947 F.3d 1159 (9th Cir. 2020).
- M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388.
- M.C. Mehta v. Union of India (Oleum Gas Leak Case), AIR 1987 SC 1086.
- M.K. Ranjitsinh & Others v. Union of India, 2024 SCC OnLine SC 334.
- Narmada Bachao Andolan v. Union of India, AIR 2000 SC 375.
- Ridhima Pandey v. Union of India, Special Leave Petition (Civil) No. 250/2020 (pending).

- Rural Litigation & Entitlement Kendra v. State of U.P, AIR 1985 SC 652.
- Subhash Kumar v. State of Bihar, AIR 1991 SC 420.
- Urgenda Foundation v. State of the Netherlands, ECLI:NL:HR:2019:2007.
- Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715.
