



Climate Change Litigation in India: Emerging Trends and Landmark Cases

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Abstract

Climate-related litigation has increasingly emerged as a powerful tool for advancing environmental accountability and influencing policy reform in India. This study traces the evolution of climate litigation within the Indian legal framework, charting its shift from traditional environmental public interest petitions to cases that directly address climate change concerns. It analyses key judicial pronouncements, including the landmark **M.K. Ranjitsinh v. Union of India**, in which the Supreme Court recognised a constitutional right to be protected against the adverse effects of climate change, as well as the continuing proceedings in **Ridhima Pandey v. Union of India**, where governmental inaction on climate issues has been challenged.

Through a detailed review of case law, statutory frameworks, and emerging judicial trends, the study demonstrates how Indian courts have progressively expanded constitutional protections to address climate-related harm, while remaining attentive to the country's developmental imperatives. It further considers the persistent challenges of implementation, the tension between economic growth and environmental preservation, and the likely trajectory of climate litigation in the world's largest democracy. Overall, the analysis underscores that judicial intervention particularly through public interest litigation has become a central avenue for pursuing climate justice in India, transforming abstract constitutional guarantees into enforceable environmental duties.

Introduction

The phenomenon of climate change presents one of the most formidable challenges confronting humanity in the twenty-first century. Rising global temperatures, extreme weather events, melting glaciers, and disrupted monsoon patterns have transformed climate change from an abstract scientific concept into a tangible reality affecting millions of lives. India, home to over 1.4 billion people, stands particularly vulnerable to climate impacts due to its geographical diversity, agrarian economy, and dense population centers. The consequences of climate change in India manifest through intensified heatwaves, erratic rainfall patterns, coastal erosion, glacial retreat in the Himalayas, and increased frequency of natural disasters.

Against this backdrop, climate change litigation has emerged as a critical mechanism for demanding governmental accountability and enforcing constitutional obligations to protect the environment. The Indian judiciary, with its tradition of robust environmental jurisprudence developed over four decades, has begun to explicitly engage with climate change as a distinct legal and constitutional issue. Unlike many jurisdictions where climate litigation remains nascent or faces procedural barriers, Indian courts have demonstrated remarkable willingness to entertain climate-related petitions through the vehicle of public interest litigation.

The evolution of climate litigation in India represents a natural progression from the country's established environmental jurisprudence. Beginning with landmark pollution cases in the 1980s and 1990s, Indian courts have consistently expanded the scope of fundamental rights under Article 21 (right to life) and Article 14 (right to equality) to encompass environmental protection. What distinguishes contemporary climate litigation is its explicit invocation of climate science, carbon budgets, international commitments under the Paris Agreement, and principles like intergenerational equity to challenge specific governmental actions or inactions.

The year 2024 marked a watershed moment in Indian climate jurisprudence with the Supreme Court's decision in *M.K. Ranjitsinh v. Union of India*, which for the first time recognized a distinct constitutional right to be free from the adverse effects of climate change. This judgment has provided a powerful constitutional foundation for future climate litigation, transforming abstract environmental concerns into justiciable fundamental rights. Subsequently, the Supreme Court's decision in February 2025 to seriously engage with the *Ridhima Pandey* appeal has signaled the judiciary's recognition of the inadequacies in India's existing environmental legal framework to address climate change comprehensively.

This research paper examines the trajectory of climate change litigation in India through multiple analytical lenses. First, it establishes the constitutional and statutory foundations that enable climate litigation. Second, it traces the historical evolution from implicit climate considerations in environmental cases to explicit climate-focused litigation. Third, it provides detailed analysis of landmark cases that have shaped Indian climate jurisprudence. Fourth, it explores emerging trends, litigation strategies, and the unique characteristics of Indian climate public interest litigation. Finally, it critically assesses implementation challenges, future directions, and the role of courts in balancing climate action with developmental aspirations.

The central argument of this paper is that climate litigation in India, though still evolving, has already demonstrated significant potential to drive policy reform, ensure accountability, and establish enforceable standards for climate action. The Indian judiciary's proactive stance, combined with liberal rules on standing and willingness to issue continuing mandates, positions climate litigation as an essential complement to legislative and executive action on climate change.

Constitutional and Legal Framework for Climate Litigation

Constitutional Foundations

The Indian Constitution, established in 1950, initially lacked clear clauses for the safeguarding of the environment. Nonetheless, via evolving judicial interpretation, especially from the 1980s onward, environmental rights have been incorporated into the fundamental rights provided by the Constitution. This constitutional development forms the foundation on which climate change lawsuits are built.

Article 21: Right to Life and Personal Liberty

Article 21 of the Indian Constitution ensures that no individual can be deprived of life or personal freedom except through a procedure set by law. The Supreme Court has continually understood the right to life broadly to encompass the right to a dignified existence, which includes the right to an unpolluted and healthy environment. In various rulings, the Court has determined that environmental degradation adversely affects the quality of life and infringes upon the essential right established by Article 21.

The implementation of Article 21 concerning climate change is based on the recognition that climate effects such as severe heat, air pollution worsened by climate change, water shortages, and displacement from rising sea levels pose direct threats to human life and dignity. The 2024 M.K. Ranjitsinh ruling clearly acknowledged that the right to be safeguarded from the negative impacts of climate change derives from Article 21, defining climate protection as a core constitutional duty.

Article 14: Right to Equality

Article 14 ensures equality under the law and equal legal protection. This clause has been understood to prevent capricious state actions and necessitate logical categorization in laws and policies. In the context of climate, Article 14 has been referenced to contest policies that treat current and future generations unequally or that place excessive climate burdens on at-risk communities.

The Ranjitsinh ruling creatively utilized Article 14 concerning climate change by acknowledging that climate effects impact various populations unevenly, with disadvantaged communities shouldering greater burdens even though they contribute the least to emissions. This aspect of climate rights recognizes the inequitable distribution of injustices caused by climate change and necessitates that the government implement policies that safeguard at-risk groups.

Article 48A and Article 51A(g): Directive Principles and Fundamental Duties

The Constitution (Forty-Second Amendment) Act, 1976 added Article 48A to the Directive Principles of State Policy and Article 51A(g) as a Fundamental Duty. Article 48A requires the State to strive to enhance and preserve the environment while protecting forests and wildlife. Article 51A(g) places a responsibility on all citizens to safeguard and enhance the natural environment, encompassing forests, lakes, rivers, and wildlife.

Although Directive Principles cannot be enforced directly, courts have utilized them to interpret and broaden the scope of fundamental rights. Article 48A's obligation to safeguard the environment has been

interpreted alongside Article 21 to require the state to implement positive measures that actively prevent environmental deterioration, which encompasses climate action.

Statutory Framework

In addition to constitutional mandates, a range of statutory enactments establishes the formal legal structure for environmental governance and climate-related litigation in India.

The Environment (Protection) Act, 1986

Implemented after the Bhopal gas disaster, the Environment Protection Act grants extensive authority to the central government to implement actions aimed at safeguarding and enhancing environmental quality. The Act allows the government to establish emission standards, control hazardous materials, and impose penalties on offenders. Although not directly related to climate issues, the Act's expansive wording has been understood to encompass greenhouse gas emissions and regulations associated with climate

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

This legislation sets up State Pollution Control Boards and grants them authority to oversee and regulate air pollution. Although its primary objective is to address local air quality concerns, its scope extends to pollutants linked to climate change, such as carbon dioxide, methane, and other greenhouse gases. The judiciary has relied on this statute to direct emission reductions and promote cleaner fuel alternatives, notably in the vehicular pollution matters brought before the courts by M.C. Mehta.

The National Green Tribunal Act, 2010

The National Green Tribunal (NGT) was established to provide specialized environmental adjudication and ensure speedy disposal of environmental cases. The NGT has jurisdiction over civil cases involving environmental protection, including matters arising from the Environment Protection Act, Air Act, Water Act, and Forest Conservation Act. While the NGT has entertained several climate-related petitions, its reluctance to engage deeply with climate issues has often necessitated appeals to the Supreme Court.

Forest (Conservation) Act, 1980

This Act regulates deforestation and mandates prior approval for diversion of forest land for non-forest purposes. Climate litigation has invoked this Act to challenge projects that cause deforestation and consequently increase carbon emissions. The Act's requirement of compensatory afforestation also creates carbon sinks, contributing indirectly to climate mitigation.

International Legal Instruments

India's international commitments provide additional foundations for climate litigation by establishing binding obligations and normative standards.

United Nations Framework Convention on Climate Change (UNFCCC)

India ratified the UNFCCC in 1993, committing to the framework's objectives of stabilizing greenhouse gas concentrations and preventing dangerous anthropogenic interference with the climate system. While the UNFCCC itself imposes limited binding obligations on developing countries, it establishes common but differentiated responsibilities and respective capabilities as guiding principles.

Paris Agreement, 2015

India ratified the Paris Agreement in 2016 and submitted its Nationally Determined Contributions (NDCs), setting out its voluntary climate commitments. In its original NDC, India committed to reducing the emissions intensity of its GDP by 33–35% from 2005 levels by 2030, ensuring that 40% of its cumulative installed electric power capacity would come from non-fossil fuel sources by the same year, and creating an additional carbon sink of 2.5–3 billion tonnes of CO₂ equivalent through afforestation.

At COP26 in Glasgow in 2021, India strengthened these pledges under the “Panchamrit” initiative, raising the emissions intensity reduction target to 45% by 2030 and increasing the share of non-fossil fuel-based electric power capacity to 50% by 2030. These international undertakings have since been cited in climate-related litigation to contend that domestic policies should be consistent with India’s commitments under the Paris Agreement.

Sustainable Development Goals (SDGs)

India's commitment to the United Nations' 2030 Agenda for Sustainable Development, particularly SDG 13 (Climate Action), provides normative guidance for climate policy. Courts have referenced SDGs to interpret the scope of environmental obligations and assess the adequacy of governmental climate measures.

Evolution of Environmental Jurisprudence to Climate Litigation

Foundational Environmental Cases: Building Blocks of Climate Litigation

Indian climate litigation cannot be understood without examining the foundational environmental jurisprudence that preceded it. Beginning in the 1980s, the Supreme Court developed a robust body of environmental law through public interest litigation, establishing principles and remedies that would later be adapted for climate cases.

M.C. Mehta v. Union of India (Multiple Cases, 1980s-2000s)

The litigation initiated by environmental advocate M.C. Mehta marked a turning point in Indian environmental jurisprudence, laying down principles that continue to shape climate-related cases. Through these proceedings, the Supreme Court demonstrated its readiness to issue detailed and ongoing directions to safeguard the environment.

In the **M.C. Mehta v. Union of India (Taj Trapezium Zone case)**, filed between 1996 and 2000, the petitioner approached the Court over air pollution threatening the Taj Mahal due to emissions from nearby industries. The Court directed such industries either to transition from coal and coke to cleaner natural gas or to relocate outside the notified Taj Trapezium Zone. This decision underscored the judiciary’s willingness to compel fuel shifts in the interest of environmental preservation an approach that resonates strongly with climate mitigation strategies.

The **M.C. Mehta v. Union of India (Delhi Vehicular Pollution case)** (1998–2002) reflected an even deeper level of judicial engagement with environmental governance. In this matter, the Court addressed alarming levels of air pollution in Delhi caused by vehicular emissions. It issued a series of binding orders requiring the conversion of the entire public transport fleet to compressed natural gas (CNG), the phased removal of aging commercial vehicles, and the enforcement of stricter emission standards. The Delhi

administration was further directed to develop the necessary CNG infrastructure and adhere to firm compliance timelines. Collectively, these rulings affirmed that courts could require a transition away from polluting fuels and impose structured emission-reduction measures principles that now underpin much of India's evolving climate litigation landscape.

Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh (1985)

This early case established the principle that environmental protection could justify restrictions on economic activities. The Court ordered closure of limestone quarries in the Mussoorie hills to prevent ecological damage, demonstrating that developmental activities must yield to environmental imperatives when ecological harm is severe. This balancing approach continues to characterize Indian climate jurisprudence.

Indian Council for Enviro-Legal Action v. Union of India (1996)

This case established the "polluter pays" principle in Indian law, holding that industries causing environmental damage must bear the costs of remediation. The Court ordered polluting industries to compensate affected communities and restore damaged environments. This principle has been invoked in climate litigation to argue that major emitters should bear the costs of climate adaptation and mitigation.

Development of Environmental Principles

Through these cases, Indian courts articulated several environmental principles that form the doctrinal foundation for climate litigation.

Precautionary Principle

The precautionary principle, recognized in *Vellore Citizens' Welfare Forum v. Union of India (1996)*, holds that lack of scientific certainty should not be used as a reason to postpone measures preventing environmental degradation. This principle is particularly relevant to climate change, where long-term impacts may not be immediately observable but scientific evidence indicates high risks.

Public Trust Doctrine

The public trust doctrine, borrowed from American environmental law, holds that certain natural resources air, water, forests are held in trust by the government for public use and cannot be alienated. In *M.C. Mehta v. Kamal Nath (1997)*, the Supreme Court held that the state has a duty to protect natural resources for public benefit and future generations. This doctrine has been explicitly invoked in climate litigation to argue that the atmosphere and climate system are public trust resources requiring governmental protection.

Intergenerational Equity

The principle of intergenerational equity recognizes that present generations hold the environment in trust for future generations and must not deplete natural resources or degrade environmental quality in ways that compromise future generations' needs. This principle, articulated in various environmental judgments, is central to climate litigation, which inherently involves protecting future generations from climate harms caused by present emissions.

Sustainable Development

Indian courts have recognized sustainable development as a fundamental principle requiring balance between economic growth and environmental protection. However, the judiciary has consistently held that when the conflict is irreconcilable, environmental protection must take precedence to ensure long-term sustainability.

From Implicit to Explicit Climate Litigation

The evolution from traditional environmental litigation to explicit climate litigation occurred gradually through the 2000s and 2010s, with several cases showing increasing judicial awareness of climate change.

Implicit Climate Phase (2000-2015)

During this period, cases addressing air pollution, forest conservation, and renewable energy had climate co-benefits but did not explicitly frame arguments in climate change terms. For instance, cases promoting solar energy or restricting coal mining produced climate benefits as collateral advantages, but petitioners did not center climate science or international climate commitments in their arguments.

Transitional Phase (2015-2020)

Following the Paris Agreement in 2015, climate considerations began appearing more explicitly in environmental litigation. Petitions challenging thermal power plants or coal mining projects started referencing India's NDCs and climate commitments. However, courts generally addressed these cases within traditional environmental frameworks without recognizing climate change as a distinct legal category.

Explicit Climate Phase (2020-Present)

The current phase is characterized by litigation that explicitly invokes climate change, relies on climate science, references carbon budgets and emission reduction targets, and seeks remedies specifically designed for climate mitigation or adaptation. Cases like *Ridhima Pandey v. Union of India* and *M.K. Ranjitsinh v. Union of India* exemplify this explicit climate litigation approach, where climate harm is treated as a distinct constitutional injury requiring specific judicial remedies.

Landmark Climate Change Cases in India

M.K. Ranjitsinh v. Union of India (2024): Constitutionalizing Climate Rights

Background and Context

The case originated from concerns about the near-extinction of the Great Indian Bustard (GIB), a critically endangered bird species found in the grasslands of Gujarat and Rajasthan. The primary threat identified was collision with overhead high-voltage power transmission lines, particularly those associated with renewable energy projects in the region. The case thus presented a complex dilemma: how to balance renewable energy development (essential for climate mitigation) with biodiversity conservation.

Legal Arguments

The petitioners argued that the decline of the Great Indian Bustard represented not merely a wildlife conservation issue but a broader failure to protect ecological integrity essential for human survival. They invoked constitutional provisions under Articles 21, 48A, and 51A(g), along with statutory protections

under the Wildlife Protection Act. Significantly, petitioners linked biodiversity loss to climate change, arguing that ecological disruptions and species extinctions are both causes and consequences of climate instability.

The case also raised questions about the prioritization of renewable energy projects without adequate environmental impact assessments. While acknowledging the importance of renewable energy for climate mitigation, petitioners argued that poorly planned projects that cause severe ecological harm ultimately undermine climate goals by destroying carbon sinks and disrupting ecosystems that provide climate resilience.

Supreme Court's Judgment (March 21, 2024)

The Supreme Court, in a judgment authored by Chief Justice D.Y. Chandrachud, delivered what has been described as India's most significant climate judgment to date. The Court made several groundbreaking holdings:

Recognition of Constitutional Climate Right

For the first time in Indian jurisprudence, the Supreme Court explicitly recognized that the right to be free from adverse effects of climate change is a fundamental right flowing from Articles 21 and 14 of the Constitution. The Court held:

"The right to be free from adverse effects of climate change is a fundamental right implicit in the right to life and equality under Articles 21 and 14 of the Constitution. Climate change impairs the right to life by threatening survival, health, dignity, and the very possibility of a fulfilling life for present and future generations."

This formulation is significant for several reasons. First, it establishes climate protection not as a policy preference but as a constitutional mandate. Second, it recognizes that climate harm violates both the right to life (Article 21) and the right to equality (Article 14), acknowledging that climate change disproportionately affects vulnerable populations. Third, it explicitly extends protection to future generations, incorporating intergenerational equity into constitutional doctrine.

Balancing Development and Environment

Recognizing the complexity of climate action in a developing country, the Court emphasized the need to balance renewable energy development with biodiversity conservation. The judgment did not categorically prohibit overhead power lines in Great Indian Bustard habitats but directed that priority areas for GIB conservation should use underground cabling, while other areas could use bird diverters and other protective technologies.

This balanced approach reflects the Court's awareness that climate litigation in India must navigate the tension between development imperatives and environmental protection. Unlike some Western jurisdictions where climate litigation focuses primarily on emission reductions, Indian climate jurisprudence must address poverty alleviation, energy access, and economic development alongside climate goals.

State Obligations for Climate Action

The Court articulated specific obligations that flow from the constitutional right to climate protection. These include the duty to implement mitigation measures to reduce greenhouse gas emissions, adopt adaptation measures to protect vulnerable populations from climate impacts, ensure that development projects undergo rigorous climate impact assessments, and coordinate across government departments to ensure coherent climate policy.

Impact and Significance

The Ranjitsinh judgment has provided a powerful constitutional foundation for climate litigation in India. By recognizing climate protection as a fundamental right, the judgment enables petitioners to challenge government policies and projects that contribute to climate change as violations of constitutional rights. This significantly lowers the threshold for judicial intervention in climate matters.

The judgment has already influenced subsequent cases, with petitioners in various environmental matters now explicitly invoking the constitutional right to be free from climate change. Legal scholars anticipate that Ranjitsinh will catalyze a new generation of climate litigation targeting specific emission sources, inadequate climate policies, and governmental failures to implement climate commitments.

Ridhima Pandey v. Union of India (2017-ongoing): Challenging Climate Inaction

Background

In 2017, nine-year-old Ridhima Pandey, through her father, filed a petition before the National Green Tribunal challenging the Government of India's inadequate action on climate change. The petition argued that governmental failure to take sufficient steps to combat climate change violated domestic environmental laws and India's international commitments under the Paris Agreement.

The petition represented India's entry into the global trend of youth-led climate litigation, exemplified by cases like *Juliana v. United States* in America and similar cases in Europe. Ridhima's petition argued that children and future generations would bear the brunt of climate inaction, making inadequate climate measures a violation of intergenerational equity.

Arguments Before NGT

The petition invoked multiple legal grounds. First, it argued that India's existing climate policies were inadequate to meet the country's Paris Agreement commitments and failed to address the magnitude of climate risk facing India. Second, it invoked the public trust doctrine, arguing that the atmosphere is a common resource held in trust by the government, which has a duty to protect it for present and future generations. Third, it claimed violations of fundamental rights under Articles 14 and 21, arguing that climate inaction threatens life and imposes unequal burdens on vulnerable populations.

NGT Dismissal (January 2019)

The National Green Tribunal dismissed the petition, holding that the issues raised were already covered under existing environmental regulations and policies. The Tribunal stated there was "no reason to presume" that climate concerns were not reflected in existing frameworks. This dismissal reflected the NGT's reluctance to engage with climate change as a distinct legal issue requiring judicial intervention beyond existing regulatory structures.

Critics of the NGT's approach argued that the Tribunal failed to grasp the systemic nature of climate change, which cannot be adequately addressed through fragmented pollution control regulations designed for local environmental problems. The dismissal also ignored the gap between India's stated policies and actual implementation, as well as the inadequacy of policies to meet stated climate goals.

Appeal to Supreme Court

Following the NGT dismissal, Ridhima Pandey appealed to the Supreme Court in 2019. The case remained pending at the pleadings stage for several years, with minimal movement. However, the landscape changed dramatically following the Ranjitsinh judgment in March 2024, which established the constitutional right to be free from climate change.

Supreme Court's Evolving Engagement (2025)

On February 21, 2025, the Supreme Court issued a procedural order that signaled serious judicial engagement with climate governance. The Court made several key observations that transformed the case from a routine environmental petition to a potentially landmark climate adjudication .

The Court acknowledged "the inadequacies of extant legal framework" in addressing climate change challenges. This acknowledgment directly contradicted the NGT's finding that existing regulations were sufficient. The Court recognized that piecemeal environmental statutes designed for specific pollution problems cannot address the systemic, intergenerational nature of climate change.

The Court highlighted the necessity to reassess existing Indian environmental statutes to incorporate "climate-centric enforceable mandates." This suggests judicial recognition that India requires a comprehensive climate law rather than relying on general environmental regulations to address climate change.

Significantly, the Court noted that effective climate action "is contingent upon the robustness and synchronisation of an institutional framework" across various ministries including environment, energy, power, and development. The Court identified the need for "inter-ministerial coordination" to shift away from the current siloed approach. This observation recognizes that climate change requires whole-of-government action rather than isolated departmental responses.

The Court warned of "accountability deficit" and "operational ineffectiveness" in the absence of proper institutional frameworks. This suggests the Court may mandate establishment of specific institutional mechanisms for climate governance as part of its eventual judgment.

Amicus Curiae and Expert Assistance

The Supreme Court appointed two amici curiae (friends of the court) to assist in technical and legal aspects of climate litigation. This appointment signals the Court's recognition that climate cases require specialized scientific and policy expertise beyond traditional legal analysis.

In July 2025, the Court directed the Ministry of Power, Central Electricity Authority, and Central Electricity Regulatory Commission to file a joint affidavit outlining a national carbon reduction roadmap for the power sector within four weeks. This directive represents the Court's most detailed intervention in operational climate governance to date.

The amicus submissions in July 2025 quantified emissions from India's power sector and highlighted the clustering of coal-fired power plants near population centers, raising concerns about both local air quality

and greenhouse gas emissions. This scientific evidence provides the factual foundation for potential judicial mandates on emission reductions.

Potential Implications

The Ridhima Pandey case, still pending final judgment, has the potential to become India's most consequential climate litigation. Possible outcomes include a judicial declaration that India's current climate policies are inadequate to meet constitutional obligations, mandates for enhanced climate targets aligned with climate science and India's fair share of the global carbon budget, orders to establish institutional frameworks for coordinated climate governance across ministries, and specific emission reduction mandates for high-emitting sectors like power generation.

Given the Court's February 2025 observations, it appears likely that the final judgment will impose enforceable obligations on the government to strengthen climate action, potentially transforming India's climate governance landscape through judicial intervention.

Other Significant Climate-Related Cases

Hanuman Laxman Aroskar v. Union of India (2019)

This case challenged the dilution of environmental clearance procedures for coal mining projects. Petitioners argued that expedited clearances without adequate environmental impact assessment would increase coal production and greenhouse gas emissions, violating India's climate commitments. While the court addressed procedural aspects of environmental clearances, it did not directly engage with the climate dimensions of the case, illustrating the judiciary's earlier reluctance to intervene in energy policy based on climate considerations.

Leo Saldanha v. Union of India (Various Cases)

Environmental activist Leo Saldanha has filed multiple petitions challenging infrastructure projects with significant climate impacts, including highways through ecologically sensitive areas and expansion of coal-fired power plants. These cases have progressively incorporated climate arguments, referencing carbon emissions, deforestation, and India's Paris commitments. While specific remedies have varied, these cases have contributed to the normalization of climate considerations in environmental impact assessments.

Sharma v. India (Communication before UNCRC, 2019)

Though not a domestic court case, this communication filed before the United Nations Committee on the Rights of the Child by Indian children (along with children from other countries) argued that inadequate climate action by governments violates children's rights under the Convention on the Rights of the Child. The communication highlights the international dimensions of India's climate obligations and has influenced domestic climate litigation by emphasizing the rights of children and future generations.

Emerging Trends in Indian Climate Litigation

Strategic Evolution: From General to Specific Challenges

Early climate-related litigation in India took a general approach, challenging overall governmental climate inaction or inadequacy of national climate policies. The Ridhima Pandey petition exemplifies this broad approach, seeking systemic judicial intervention to compel enhanced climate action across all sectors.

However, recent trends indicate a shift toward more targeted, project-specific climate litigation. This evolution reflects several strategic considerations. First, targeted challenges to specific projects or policies have higher likelihood of success because they involve concrete, reviewable administrative decisions rather than broad policy choices traditionally considered within executive discretion. Second, project-specific cases allow petitioners to demonstrate direct, immediate harm rather than diffuse, future climate impacts. Third, successful challenges to individual high-emission projects can establish precedents that cumulatively transform climate policy.

Anticipated areas for future targeted litigation include challenges to new coal-fired power plant approvals, arguing their incompatibility with India's net-zero commitments and constitutional climate rights; challenges to forest clearances for infrastructure projects, emphasizing loss of carbon sinks and biodiversity; challenges to inadequate environmental impact assessments that fail to account for greenhouse gas emissions and climate impacts; and challenges to specific sectoral policies, such as coal mining expansion or inadequate fuel efficiency standards for vehicles.

Institutional and Procedural Developments

Judicial Capacity Building

Recognition of the technical complexity of climate litigation has prompted initiatives to enhance judicial capacity on climate science and policy. The Climate Justice Project, in collaboration with environmental law organizations, is building networks of judges and scientists to advance climate science education for the judiciary. These capacity-building efforts aim to ensure judges can evaluate scientific evidence, understand climate modeling and carbon budgets, and craft informed remedies in climate cases.

Expert Assistance and Amicus Curiae

The Supreme Court's appointment of amici curiae in the Ridhima Pandey case reflects growing recognition that climate litigation requires specialized expertise. Future cases are likely to see increased use of scientific experts, climate policy analysts, and technical committees to assist courts in understanding complex climate issues.

Continuing Mandamus and Monitoring

Indian courts have developed the practice of continuing mandamus, where judgments are not final disposals but ongoing processes with courts monitoring implementation over time. This approach is particularly suitable for climate litigation, where remedies require sustained action over years or decades. The M.C. Mehta vehicular pollution cases, where the Supreme Court issued orders over a decade to transform Delhi's public transport, provide a model for climate cases requiring long-term judicial supervision.

Expanding Legal Arguments

Carbon Budget Approach

Emerging litigation is beginning to invoke the concept of carbon budgets the total amount of CO₂ that can be emitted while limiting global warming to specific thresholds (1.5°C or 2°C). Petitioners argue that India's fair share of the remaining global carbon budget should determine its emission reduction obligations, and policies inconsistent with this carbon budget violate constitutional climate rights. This approach requires sophisticated climate science analysis but provides an objective, scientific foundation for assessing policy adequacy.

Climate Justice and Equity

Recent cases increasingly emphasize climate justice, arguing that climate change disproportionately harms marginalized communities low-income populations, indigenous groups, agricultural workers who have contributed least to emissions. This framing invokes Article 14 (right to equality) and requires courts to consider distributive impacts of climate policies and ensure that adaptation measures protect vulnerable populations.

Loss and Damage

Emerging litigation may begin to address loss and damage irreversible climate impacts that cannot be mitigated or adapted to. This includes permanent loss of land due to sea-level rise, extinction of species, and destruction of cultural heritage. Loss and damage arguments could support claims for compensation from major emitters and mandate enhanced adaptation funding for affected communities.

Challenges to Specific Sectors

Power Sector Litigation

India's power sector accounts for approximately 49% of national CO₂ emissions, with coal-fired plants as the primary source. The Supreme Court's July 2025 directive to power sector authorities to prepare a carbon reduction roadmap signals potential for extensive power sector litigation. Future cases may challenge approval of new coal plants, inadequate retirement schedules for old plants, and insufficient renewable energy targets.

Transport Sector

Following the precedent of M.C. Mehta's vehicular pollution cases, transport sector litigation may challenge inadequate fuel efficiency standards, slow electric vehicle adoption, and insufficient public transport infrastructure. The transport sector's significant contribution to urban air pollution and greenhouse gas emissions makes it a likely target for climate litigation.

Industrial Emissions

Cement, steel, and chemical industries are high-emission sectors that have received limited attention in climate litigation. Future cases may challenge outdated industrial processes, inadequate emission standards, and lack of carbon pricing mechanisms that would incentivize cleaner production.

Distinctive Features of Indian Climate Litigation

Liberal Standing Requirements

One of the foundational features that has enabled climate litigation in India is the doctrine of public interest litigation (PIL), characterised by relaxed rules of standing. Unlike jurisdictions that require a petitioner to demonstrate direct and personal injury, Indian courts permit individuals or organisations to approach the judiciary on behalf of those who are unable to do so themselves.

Developed through environmental and social justice jurisprudence beginning in the 1980s, this liberal standing doctrine has proved indispensable for climate claims. Climate change produces diffuse and long-term harms that affect entire communities, future generations, and natural ecosystems none of which can easily satisfy traditional standing requirements. Without PIL, many climate challenges would be procedurally barred. India's framework, however, enables environmental groups, concerned citizens, and even young petitioners such as in **Ridhima Pandey v. Union of India** to question governmental inaction on climate policy.

The Supreme Court has justified this expansive approach by emphasising that environmental degradation and climate change implicate collective constitutional rights, particularly the right to life and dignity. Where the rights of vulnerable communities are threatened, the Court has maintained that procedural technicalities should not obstruct access to justice.

Judicial Activism and Continuing Mandamus

Indian courts especially the Supreme Court have also adopted an interventionist posture in environmental governance, setting them apart from more restrained judicial models elsewhere. A key innovation in this regard is the practice of continuing mandamus, through which the Court issues initial directions and then retains jurisdiction to supervise compliance, pass additional orders, and adjust remedies over time.

The environmental proceedings in **M.C. Mehta v. Union of India (Delhi Vehicular Pollution case)** illustrate this model, as the Court monitored Delhi's transition to compressed natural gas over an extended period. Applied to climate litigation, continuing mandamus offers a structural tool for overseeing long-term emission reductions, tracking progress toward climate commitments, and addressing implementation failures. It helps bridge the gap between conventional litigation often focused on past violations and the forward-looking, sustained action that climate governance demands.

This proactive judicial role remains contested. Critics view continuing mandamus as an encroachment upon domains reserved for the legislative and executive branches. Supporters argue, however, that when the State fails to safeguard fundamental constitutional rights, sustained judicial supervision becomes an essential mechanism for ensuring accountability and meaningful enforcement.

Integration of International Law

Indian courts have demonstrated a consistent openness to drawing upon international environmental principles in domestic adjudication. The Supreme Court has observed that international conventions ratified by India may inform domestic law, provided they do not conflict with existing statutory provisions.

This interpretative approach has strengthened climate litigation by allowing petitioners to rely on global climate frameworks and scientific consensus.

For instance, litigants have invoked India's commitments under the Paris Agreement, cited findings from Intergovernmental Panel on Climate Change (IPCC) assessment reports, and referenced evolving international best practices. In *Ridhima Pandey v. Union of India*, the petitioner relied extensively on the Paris framework to argue that domestic climate policies must reflect India's declared international commitments.

Yet uncertainty persists regarding the enforceability of Nationally Determined Contributions (NDCs). Because NDCs are voluntary pledges lacking direct international enforcement, Indian courts must determine whether such commitments translate into binding domestic obligations. The final resolution of the *Ridhima Pandey* proceedings may offer greater clarity on this question.

Socio-Economic Context and the Development Balance

Climate litigation in India operates within a markedly different socio-economic landscape than in many industrialised nations. Alongside mitigation imperatives, the country must address poverty alleviation, energy access, employment generation, and infrastructure development. Courts are therefore required to navigate competing constitutional values.

The Supreme Court's approach in *M.K. Ranjitsinh v. Union of India* reflects this calibrated balancing. While recognising a constitutional right against the adverse impacts of climate change, the Court sought to harmonise biodiversity protection with the expansion of renewable energy infrastructure, demonstrating that climate protection and development need not be mutually exclusive.

Indian climate jurisprudence has consequently evolved a distinctive "climate justice" orientation. This framing emphasises differentiated responsibilities, prioritises adaptation for vulnerable communities, promotes renewable energy access for energy-poor populations, and integrates equity considerations into climate governance.

Critical Assessment: Challenges and Limitations

1. Implementation Gap

A central obstacle confronting climate litigation in India is the gap between judicial directives and effective execution. Environmental orders have often encountered bureaucratic delay, limited resources, fragmented institutional responsibilities, and political hesitation.

Climate governance requires coordination across ministries, state governments, and regulatory agencies. Even well-crafted judicial orders may falter without sustained administrative follow-through. Judicial mechanisms such as contempt proceedings exist but are sparingly invoked against governmental authorities. Recent judicial observations have acknowledged the risk of accountability deficits and emphasised the need for stronger institutional coordination frameworks.

2. Judicial Capacity and Technical Expertise

Climate adjudication involves complex scientific and economic assessments ranging from carbon budgeting and climate modelling to technological feasibility and cost implications. Judges typically rely on expert committees and *amici curiae* to bridge this knowledge gap, yet concerns remain about courts' institutional capacity to evaluate competing scientific claims and long-term policy trade-offs.

Some commentators advocate judicial restraint in highly technical policy domains, arguing that elected branches possess greater expertise. Others maintain that where executive inaction threatens constitutional rights, judicial intervention is justified despite technical complexity.

3. Environment–Development Tensions

Conflicts between environmental protection and economic development remain pronounced. India's continued reliance on coal and carbon-intensive industries complicates rapid decarbonisation efforts. Judicial restrictions on fossil fuel expansion may provoke resistance from affected workers, industries, and regional economies.

Courts must reconcile environmental duties with constitutional commitments to livelihood and economic progress. While a contextual balancing approach allows flexibility, critics argue that it may dilute the urgency of climate imperatives. Conversely, environmental advocates contend that long-term economic stability depends on proactive climate action, as unchecked climate impacts threaten agriculture, public health, and infrastructure.

4. Political and Institutional Resistance

Climate litigation inherently challenges governmental and corporate interests. Institutional hesitation, particularly at tribunal levels, may limit bold intervention. Supreme Court engagement, though influential, is constrained by docket pressures and competing constitutional matters.

Moreover, adverse judicial pronouncements may trigger political pushback, including legislative responses or administrative delays, thereby complicating enforcement.

5. Structural Limits of Judicial Remedies

Courts can articulate rights, require policy formulation, and halt environmentally harmful activities. However, they cannot enact comprehensive climate legislation, establish nationwide carbon pricing systems, or independently mobilise financial resources. Climate litigation is therefore reactive and case-specific, whereas effective climate governance demands systemic and forward-looking frameworks.

Judicial intervention can catalyse reform but cannot substitute for coordinated legislative and executive action.

Future Trajectory of Climate Litigation in India

Increase in Project-Specific Challenges

Building upon the constitutional foundation articulated in *M.K. Ranjitsinh v. Union of India*, future litigation is likely to focus on specific high-emission projects. Petitioners may contest approvals for new coal mines, thermal power plants, or carbon-intensive infrastructure on the ground that such projects undermine constitutional protections and India's long-term climate commitments.

Additional anticipated developments include demands for climate-inclusive environmental impact assessments, enforcement of sectoral carbon accountability, adaptation-based claims by climate-vulnerable communities, and potential corporate liability actions. These emerging trends will test whether Indian courts are prepared to translate constitutional recognition of climate rights into concrete and enforceable mitigation and adaptation mandates.

In sum, Indian climate litigation stands at a formative yet consequential stage. It has established constitutional foundations and procedural innovations that empower accountability, yet it must overcome implementation gaps, institutional constraints, and political resistance to achieve transformative impact.

Climate-Inclusive EIA Requirements

Litigation may compel mandatory greenhouse gas accounting and climate impact assessment in environmental impact assessments. Current EIA processes inadequately address climate change, focusing on local environmental effects rather than cumulative emissions. Future cases may mandate that project approvals consider climate impacts and demonstrate consistency with national emission reduction goals.

Sectoral Carbon Budgets

Following the Supreme Court's July 2025 directive to power sector authorities, litigation may seek court-mandated carbon budgets for high-emission sectors. Petitioners could argue that India's overall emission reduction commitments require sectoral allocation of carbon budgets, with judicial enforcement to ensure sectors remain within allocated limits.

Adaptation and Resilience Litigation

While mitigation-focused litigation has dominated to date, future cases may emphasize adaptation and climate resilience. Coastal communities threatened by sea-level rise, farmers affected by changing rainfall patterns, and mountain communities facing glacial retreat may bring claims demanding government action to protect them from unavoidable climate impacts. The Supreme Court's acknowledgment in *Ranjitsinh* that climate rights include protection from climate harms provides a foundation for adaptation-focused litigation.

Corporate Liability Cases

Emerging global trends in climate litigation include cases against major fossil fuel corporations for deceptive practices regarding climate change or failure to disclose climate risks. While such cases have not yet emerged significantly in India, future litigation may target corporate actors for climate harms, particularly as attribution science improves the ability to link specific emissions to climate damages.

Potential Legislative Response

The Supreme Court's observations in *Ridhima Pandey* regarding inadequacies of existing legal frameworks suggest the Court may call for comprehensive climate legislation. Possible legislative responses include enactment of a Climate Change Act establishing emission reduction targets, institutional frameworks, and enforcement mechanisms; carbon pricing legislation implementing carbon taxes or cap-and-trade systems; climate disclosure requirements mandating corporate reporting of climate risks and emissions; just transition legislation providing support for workers and communities affected by transitions away from fossil fuels; and climate adaptation legislation establishing frameworks for adaptation planning and funding.

Such legislation, while addressing many challenges identified in climate litigation, would face political challenges given India's development priorities and diverse stakeholder interests. Climate litigation may play a catalytic role by creating pressure for legislative action and establishing baseline standards that legislation must meet.

Role of Civil Society and Public Engagement

Climate litigation's success depends significantly on civil society engagement. Environmental organizations provide legal representation, technical expertise, public advocacy, and sustained monitoring of implementation. Youth movements, exemplified by Ridhima Pandey's petition, bring energy and moral urgency to climate litigation.

Public awareness of climate litigation remains limited in India. Broader engagement requires translating complex legal and scientific arguments into accessible narratives, demonstrating connections between climate litigation and everyday concerns like air quality and water availability, and building coalitions across environmental justice, public health, and development communities.

International Dimensions

Indian climate litigation exists within a global context of climate cases in jurisdictions worldwide. International developments influence Indian litigation through sharing of legal strategies and arguments, provision of comparative precedents, and influence on international climate negotiations. Successful climate litigation in other countries provides models for Indian cases. For instance, the Urgenda case in the Netherlands, which required the government to enhance emission reductions, has been cited in Indian climate petitions as precedent for judicial intervention to strengthen climate policy.

Conversely, Indian climate jurisprudence, particularly the constitutional recognition of climate rights in *Ranjitsinh*, contributes to global climate law development. As one of the world's largest democracies and most climate-vulnerable nations, India's judicial approaches carry significant influence in international climate discourse.

Conclusion

In conclusion, climate change litigation in India has moved from indirectly addressing climate concerns within broader environmental disputes to directly invoking constitutional principles to demand governmental accountability for climate action. The recognition of a fundamental right to be protected from the adverse effects of climate change in *M.K. Ranjitsinh v. Union of India* marks a decisive turning point, elevating climate protection from a matter of policy aspiration to an enforceable constitutional obligation.

Indian climate litigation reflects the country's distinct legal culture and socio-economic realities. Liberal rules of standing allow public interest petitions to be filed on behalf of vulnerable communities and future generations. The device of continuing mandamus enables courts to retain supervisory jurisdiction over complex and long-term environmental issues. Courts have also drawn upon international climate commitments as interpretative guides when assessing the adequacy of governmental action. Importantly, Indian jurisprudence seeks to reconcile environmental protection with developmental priorities, recognising that meaningful climate justice must address poverty, inequality, and access to resources alongside emission reductions.

The ongoing proceedings in *Ridhima Pandey v. Union of India* may further shape the contours of enforceable climate governance by moving beyond declaratory rights toward concrete institutional and regulatory directives. Recent judicial observations indicate a growing willingness to scrutinise systemic gaps in India's climate response, potentially prompting significant legal and policy shifts.

At the same time, notable constraints remain. There is often a gap between judicial directives and their effective implementation. Courts face limitations in navigating the technical and scientific complexities of climate policy. Political and economic pressures can also temper the scope of ambitious environmental

orders. Ultimately, litigation cannot replace comprehensive legislative frameworks and coherent executive policymaking.

Looking ahead, Indian climate litigation is likely to encompass targeted challenges to fossil fuel projects, demands for climate-sensitive environmental impact assessments, enforcement of sectoral carbon responsibilities, adaptation-based claims from climate-affected communities, and possibly actions addressing corporate accountability. These developments will test whether courts are prepared to translate constitutional principles into concrete emission reduction and adaptation mandates.

Climate litigation, however, is only one component of a broader climate governance framework. Its success depends on complementary legislative reform, effective administrative implementation, active civil society participation, international collaboration, and sustained public engagement. While the judiciary's recognition of climate-related rights opens important avenues for progress, meaningful transformation will require coordinated action across institutions.

As India confronts the intertwined challenges of climate change and socio-economic development, judicial oversight offers a vital mechanism of accountability. It ensures that constitutional guarantees are not subordinated to short-term economic priorities and reinforces the obligation of the State to honour its climate commitments. The years ahead will reveal whether the constitutional right against the adverse impacts of climate change evolves from a powerful judicial affirmation into tangible protection for present and future generations.

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