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India's Ambitious Climate Targets: A Critical Analysis of Environmental Law and Policy

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ABSTRACT :

India's commitment to achieving its climate goals, as outlined in the Paris Agreement, holds considerable importance in the broader global effort to address climate change. As the world's third-largest emitter of greenhouse gases, the country faces a complex balancing act between sustaining economic development and preserving environmental integrity. This paper provides a critical analysis of India's environmental legal framework and policy landscape in light of its strategies for climate change mitigation.

Key legislative instruments form the foundation of India's climate governance, including the Environment (Protection) Act, 1986, the National Green Tribunal Act, 2010, and various sector-specific statutes aimed at pollution control and renewable energy development.

The paper also explores pivotal judicial rulings—such as *M.C. Mehta v. Union of India* (1987), *Vellore Citizens Welfare Forum v. Union of India* (1996), and *Goa Foundation v. Union of India* (2014)—which have significantly shaped the interpretation and application of environmental laws. These decisions reflect the judiciary's proactive stance in advocating for sustainable development principles.

Despite a comprehensive legal structure, several obstacles hinder India's climate ambitions. These include inadequate enforcement mechanisms, fragmented institutional frameworks, limited financial capacity, and a general lack of public engagement in climate initiatives. This paper highlights these issues and proposes actionable strategies to strengthen legal and institutional capacities for more effective climate action.

Enhanced enforcement, improved coordination among agencies, and greater public awareness are crucial for advancing India's climate agenda. Ultimately, the study calls for a cohesive and integrated climate governance model that incorporates legal, financial, and institutional reforms to fulfill India's environmental commitments in a fair and sustainable way.

Keywords : Climate Change Mitigation, Environmental Law, Paris Agreement, Sustainable Development, Renewable Energy Policy, National Green Tribunal.

Introduction

India has ambitious climate goals, including a 33-35% reduction in carbon intensity by 2030 from 2005 levels and a significant increase in renewable energy capacity. As a signatory to the Paris Agreement³, India not only addresses its domestic climate challenges but also global climate action. These objectives, however, need more than political will; they need the establishment of an integral legal framework that enhances environmental protection, resource management, and long-term sustainability.

At the heart of India's climate policy are important legislative tools like the **Environment (Protection) Act of 1986**⁴, the setting up of the **National Green Tribunal (NGT)**, and various regulations at both the national and state levels to check pollution and encourage sustainable practices. These legislations have been at the core of determining the foundation of the country's climate change mitigation efforts. India continues to face major challenges, however, such as law enforcement weaknesses, fragmented institutional arrangements, and limited fiscal resources devoted to climate efforts.

This paper aims to provide an in-depth analysis of India's legal framework for responding to climate change, identifying key environmental laws and policies in the context of India's climate goals. It will also analyze the contribution of judicial rulings towards the evolution of environmental laws, determine enforcement challenges that undermine effective climate change action, and assess how India's legal framework is integrated with its Nationally Determined Contributions (NDCs) under the Paris Agreement and the **National Action Plan on Climate Change (NAPCC)**⁵. The paper will conclude

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³ Paris Agreement opened for signature April 22, 2016 U.N. Doc. FCCC/CP/2015/10/Add. 1.

⁴ Environment (Protection) Act, No. 29 of 1986, Gazette of India, 1986

⁵ National Action Plan on Climate Change, Ministry of Environment, Forests, and Climate Change, Government of India (2008).

by proposing steps to enhance India's legal and institutional framework, including enhancing law enforcement, encouraging better coordination among agencies, securing additional resources, and increasing public participation in environmental decision-making.

Background of India's Climate Change Commitments

India's climate policy has largely been driven by global climate conventions, notably the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC)⁶. Born out of the Rio Earth Summit in 1992, the UNFCCC provided the stage for subsequent climate treaties, such as the Kyoto Protocol and the Paris Agreement. India, as a developing nation, has always followed the policy of **Common but Differentiated Responsibilities (CBDR)** that accepts the reality that all nations are to contribute to addressing climate change⁷ but nations liable for past greenhouse gas emissions—the primarily developed nations—have to shoulder the lion's share⁸.

India's Nationally Determined Contributions (NDCs), which it submitted as part of its commitment to the Paris Agreement, outline the country's adaptation and mitigation commitments⁹. They are:

- Reduction in the carbon intensity by 33-35% in 2030 compared to the 2005 level¹⁰.
- Reaching 500 GW of renewable capacity by 2030, significantly raising the share of non-fossil fuels in India's energy basket¹¹.
- Efforts to boost carbon sequestration via afforestation activities and enhancing forest cover¹².

To further combat climate change, India launched the **National Action Plan on Climate Change (NAPCC)** in 2008¹³, a master strategy plan for guiding the nation's adaptation and mitigation efforts. NAPCC targets eight key sectors including energy efficiency, renewable energy, sustainable agriculture, and water conservation. The campaign was a response to increasing anxiety regarding climate change, offering a platform for attaining climate resilience alongside economic development.

Despite the gains by India in increasing its renewable energy capacity, there are still many challenges¹⁴. Its growing energy demand, its coal overdependence for power generation, and its¹⁵ technology transfer and financing issues still constrain it from achieving its NDC ambitions. India also still grapples with the challenge of balancing its development ambitions with the need to drastically reduce greenhouse gas emissions, thereby resulting in many instances of a development-climate action dilemma.

Legal Framework for Climate Change in India

India's legal approach to climate change is informed by a combination of constitutional values, statutory provisions, and its international obligations. All combined together constitute a strong basis for the nation's pledge towards sustainable development and environmental protection.

Constitutional Provisions:

India's Constitution has incorporated environmental protection as a primary concern into its overall governance system. Two of the constitutional provisions are especially significant:

- **Article 48A** directs the State to "endeavour to protect and improve the quality of the environment and to safeguard the forests and wildlife of India"¹⁶.
- **Article 51A(g)** codifies an elementary duty of all citizens to "protect and improve the natural environment, including forests, lakes, rivers, and wildlife"¹⁷.

These clauses of the constitution are the bedrock of India's environmental law by giving legal grounding to sustainable development. These articles are, however, vague in nature and do not contain express, enforceable provisions, and hence need elaborate legislation for enforcement and implementation.

Environmental Protection Legislation:

India has passed a series of significant enactments to advance environmental issues, particularly climate change:

⁶ D. Shindell et al., A Climate Policy Pathway for Near – and Long – Term Benefits, Science, 2017, at 493-494.

⁷ Zongwel Luo, GHG Emissions from the International Goods Movement by Ships and the Adaptation Funding Distribution, in Green Finance and Sustainability: Environmentally Aware Business Models and Technologies (Business Science Reference 2011).

⁸ David R. Morrow, Climate Sins of Our Fathers? Historical Accountability in Distributing Emissions Rights, 19 Ethics, Policy & Environment 335 (2016).

⁹ Maria Jernnas & Bjorn-Ola Linner, A Discursive Cartography of Nationally Determined Contributions to the Paris Climate Agreement, 58 Global Environmental Change 73 (2019).

¹⁰ Zhixiong Weng, Hancheng Dai, Zhongyu Ma, Yang Xie & Peng Wang, A General Equilibrium Assessment of Economic Impacts of Provincial Unbalanced Carbon Intensity Targets in China, 134 Resources, Conservation & Recycling 157 (2018).

¹¹ Maciej M. Sokolowski, When Black Meets Green: A Review of the Four Pillars of India's Energy Policy, 129 Energy Pol'y 60 (2019).

¹² Chadwick D. Rittenhouse & Adena R. Rissman, Forest Cover, Carbon Sequestration, and Wildlife Habitat: Policy Review and Modelling of Tradeoffs Among Land-Use Change Scenarios, 22 Env'tl. Sci. & Pol'y 94 (2012).

¹³ Gautam Raina & Sunanda Sinha, Outlook on the Indian Scenario of Solar Energy Strategies: Policies and Challenges, 24 Energy Strat. Rev. 331 (2019).

¹⁴ Reza Hafezi, David A. Wood, Amir Naser Akhavan & Saeed Pakseresht, Iran in the Emerging Global Natural Gas Market: A Scenario Based Competitive Analysis and Policy Assessment, 67 Resources Pol'y 101790 (2020).

¹⁵ Bruce G. Miller, Projections of Energy Use and Coal's Contribution to the Energy Mix, in Clean Coal Engineering Technology (Butterworth-Heinemann 2011).

¹⁶ National Environmental Legislation, in Environment UPSC (PMF IAS 2016).

¹⁷ Margaret Robertson, Rainwater Harvesting in Mumbai, in Sustainable Futures: Teaching and Learning: A Case Study (Acer Press 2007)

• **The Environment (Protection) Act, 1986:** The pioneering act empowers the central government to initiate measures for environmental protection. It allows the government to formulate standards of pollution, control industrial operations, and impose emission monitoring¹⁸. Although the Act is comprehensive, it has been criticized because of enforcement problems and the poor capacity of the regulatory agency to enforce compliance, which hinders its overall effectiveness.

• **National Green Tribunal (NGT) Act, 2010:** The NGT was formed to provide a specialized forum for the adjudication of environmental disputes¹⁹. The NGT has been at the forefront of addressing critical climate-related issues, including air pollution, water pollution, and forest conservation, and has passed a number of significant judgments that have impacted the country's environmental policies.

• **The Air (Prevention and Control of Pollution) Act, 1981 & Water (Prevention and Control of Pollution) Act, 1974²⁰:** These acts are the foundation of air and water pollution control²¹. They constitute a regulatory framework for the control of industrial and vehicle emissions, the most significant determinants of controlling greenhouse gases (GHGs) like carbon dioxide (CO₂)²².

Energy Conservation Act, 2001: For maximizing energy usage efficiency in the industrial, commercial, and residential methane (CH₄), and nitrous oxide (N₂O), which lead to climate change. Sectors, the Act creates the Bureau of Energy Efficiency (BEE), which formulates energy standards and implements conservation measures. As important as the Act is, issues prevail, especially with India's persistent use of coal and the requirement for advanced energy storage technology.

International Responsibilities:

India's climate policy is also subject to its role as a member of global climate regimes like the UNFCCC and the Paris Agreement. International regimes influence domestic legislation and policies in accordance with international climate goals.

One of the core tenets India's policy is premised on is Common but Differentiated Responsibilities (CBDR), which considers variations in capacities and past emissions of nations. The tenet enables India to ask for financial and technological assistance from developed countries while striving to attain its climate goals.

India's Nationally Determined Contributions (NDCs), submitted as part of the Paris Agreement, provide a strategic framework for integrating climate change issues into national policy²³. However, the objectives are difficult to attain given challenges like funding gaps, technology transfer limitations, and interagency coordination challenges.

Analysis of Key Environmental Laws in India

India's legal infrastructure on environmental law is comprehensive but in many instances is hampered by limited enforcement. The present laws, while having strong frameworks for action on climate change, are frequently bogged down in practical applications.

The Environment (Protection) Act, 1986

The Environment (Protection) Act, 1986 is the bedrock of environmental protection policy in India. It gives the central government the power to set standards for pollution control and control the release of polluting substances into the air, water, and land. The Act also makes it mandatory for industrial projects having major environmental effects to seek environmental clearance prior to going ahead.

Despite the wide-ranging provisions, though, the Act has been criticized with respect to enforcement. The Central Pollution Control Board (CPCB), being the body for ensuring compliance, frequently suffers from resource constraints as well as difficulties in coordination between states. Such deficiencies have resulted in poor implementation of pollution control standards, consequently diminishing the effectiveness of the law overall in achieving India's mitigation objectives for climate.

National Green Tribunal (NGT)

The creation of the National Green Tribunal (NGT) in 2010 was a major step towards enhancing environmental governance. The Tribunal was created to speed up the settlement of environmental cases and to offer a specialized platform for environmental litigation. The NGT has made significant contributions over the years by dealing with matters like air pollution, industrial operations, and forest conservation.

Notwithstanding its achievements, the NGT has continued to face longstanding challenges. It tends to be overburdened with a heavy case load, and this causes undue delays in deciding on urgent environmental matters. The delays reduce the Tribunal's capacity to act timely on issues paramount to addressing climate change, and this defeats the purpose of having it as an instrument for strong climate governance.

India's Climate Policy: Ambitions and Challenges

India's climate policy integrates national actions with international commitments. Even though the National Action Plan on Climate Change (NAPCC), initiated in 2008, represents a significant milestone in addressing climate change, India has several barriers to fulfill its ambitious climate objectives.

Important Policies and Missions under the NAPCC

The NAPCC encompasses eight major missions to mitigate and adapt to climate change in different sectors:

¹⁸ Sara R. Rinfret & Michelle C. Pautz, Contextualizing Environmental Policy, in *Us Environmental Policy in Action: Practice and Implementation* (Palgrave Macmillan US 2014).

¹⁹ Emma Lees & Jorge E. Viñuales, Chapter 10: India, in *The Oxford Handbook of Comparative Environmental Law* (Oxford University Press 2019).

²⁰ Harvinder Singh & Srini R. Srinivasan, *Mall Management* (Tata McGraw-Hill 2012).

²¹ Robert F. Gorman, December 17, 1963 Clean Air Act Grants Federal Authority to Regulate Air Pollution, in *Great Events From History: The 20th Century, 1941-1970* (Salem Pr Inc 2007).

²² Frederick K. Lutgens & Edward J. Tarbuck, Carbon Dioxide, Trace Gases, and Climate Change, in *Essentials of Geology* (Prentice Hall 2012).

²³ Alexandre Gajevic Sayegh, Moral Duties, Compliance and Polycentric Climate Governance, 20 *Int'l Env'tl. Agreements: Politics, L. & Econ.* 483 (2020).

1. National Solar Mission (NSM): The NSM aims to position India as a world leader in solar power, with an initial goal of 20 GW of solar power by 2022, subsequently changed to 100 GW by 2030²⁴. Although India has progressed considerably, issues like land acquisition, funding, and infrastructure development continue to act as obstacles to the realization of these objectives.

2. National Mission on Enhanced Energy Efficiency (NMEEE): It is a mission aimed at enhancing energy efficiency in industries and commercial establishments²⁵. One of the major initiatives under NMEEE is the Perform, Achieve, and Trade (PAT) program, under which industries are motivated to achieve energy saving targets²⁶. In spite of certain positive results, the program has faced tardy implementation and challenges in tracking compliance.

3. National Mission on Sustainable Habitat: The mission seeks to curb urban emissions by having energy-efficient buildings, sustainable transport, and improved urban planning. Still, the high rate of urbanization and lack of infrastructure mean it is difficult to implement these policies on a wide scale.

4. National Mission on Water: The mission aims to tackle water scarcity and ensure sustainable water management practices, essential in light of threats to water resources from climate change and over-exploitation. The issue of enhancing water management practices, however, particularly in agriculture and urban sectors, still poses a major challenge.

5. National Mission on Sustainable Agriculture: This mission aims at encouraging climate-resilient agriculture practices, including water-use efficiency and soil health. India's reliance on conventional farming practices and its susceptibility to climate-related events, like floods and droughts, make it challenging to implement this mission successfully.

6. National Mission on Strategic Knowledge for Climate Change: The mission is to develop research and capacity to comprehend and deal with the impacts of climate change better. It will enhance the capability of government institutions, the private sector, and educational institutions to respond to the risks of climate change effectively.

Challenges to Policy Implementation

India has various challenges in implementing its climate policies into tangible outcomes:

1. Heavy Rely on Coal: Coal still dominates India's energy portfolio, contributing more than 60% of electricity production²⁷. The country's reliance on coal is a major hurdle to emissions reduction even as clean energy sources such as solar and wind power gain acceptance. There needs to be a large-scale shift to cleaner energy technologies if India is to meet its climate ambitions.

2. Institutional Coordination: Efficient implementation of climate policies demands smooth coordination among multiple national and state-level organizations. Fragmented institutional frameworks, though, ensure inconsistent enforcement and insufficient synergies in policy implementation. State governments tend to focus more on short-term economic returns than long-term environmental goals, making it difficult for regional policies to be aligned with national climate policy targets.

3. Financial Limitations: Securing the transition to a low-carbon economy is India's largest challenge²⁸. Substantial investment is required to scale up renewable energy infrastructure, increase energy efficiency, and adjust to climate effects. Although international financing instruments, including climate funds and green bonds, have been investigated, these remain insufficient to cover India's enormous climate finance needs.

4. Technological and Capacity Gaps: The use of renewable energy technologies such as wind and solar needs sophisticated infrastructure and manufacturing capacity. Although India has been successful in lowering the cost of solar power, scalability, reliability, and local manufacturing capacity issues still exist, preventing the deployment of clean energy technologies at scale.

5. Political Will: Political considerations tend to determine the prioritization of climate policies in India²⁹. Short-term political interests, like the need for economic growth and job creation in carbon-intensive industries like coal, tend to dominate long-term climate objectives. The political economy of energy transitions continues to be a major barrier to the complete application of effective climate policies.

Case Laws and Judicial Interpretations

India's judiciary has played a central role in defining environmental governance and tackling climate change. Through pathbreaking judgments, the courts have had an impact on the environmental policies of the country and their enforcement. Following is an analysis of major cases which have made a critical contribution to India's climate change and environmental protection legislation.

1. M.C. Mehta v. Union of India (1987) [Taj Trapezium Case]

In this historic case, the **Supreme Court** dealt with the pollution due to industrial emissions impacting the **Taj Mahal**, a UNESCO World Heritage Site. The Court reiterated that the right to a clean environment is an integral part of the right to life under **Article 21** of the Indian Constitution³⁰. It also directed industries within the **Taj Trapezium Zone** to implement cleaner technologies to reduce the environmental degradation of the Taj Mahal. This decision was an early one wherein the Court equated environmental protection directly with the right to life, paving the way for a constitutional right to a healthy environment.

2. Vellore Citizens Welfare Forum v. Union of India (1996)

²⁴ Raymond A. Meyers ed., *Encyclopedia of Sustainability Science and Technology*, Part 2: L-W (2013).

²⁵ Komali Yenneti, Riya Rahiman, Adishree Panda & Gloria Pignatta, *Smart Energy Management Policy in India—A Review*, 12 *Energies* 3214 (2019).

²⁶ OECD, *Sectoral Consumption*, in *Understanding Energy Challenges in India: Policies, Players and Issues* (IEA 2015).

²⁷ Martin J. Bush, *The Power Sector*, in *Climate Change and Renewable Energy: How to End the Climate Crisis* (Palgrave Macmillan 2019).

²⁸ Ben McNeil, *The Future Shock*, in *The Clean Industrial Revolution: Growing Australian Prosperity in a Greenhouse Age* (2000).

²⁹ Natalia Ciecierska-Holmes, Kirsten Jörgensen, Lana Laura Ollier & D. Raghunandan, *Factors Shaping the Climate Policy Process in India*, in *Environmental Policy in India* (Routledge 2020).

³⁰ Eva Brems & Charles Olufemi Adekoya, *Human Rights Enforcement by People Living in Poverty: Access to Justice in Nigeria*, 54 *J. Afr. L.* 258 (2010).

The **Vellore Citizens Welfare Forum** case brought the **precautionary principle** into Indian environmental law³¹. The Court reiterated that development has to be done sustainably, in such a manner that economic development will not take a toll on the health of the environment. The case also settled the **polluter pays principle**, that industries which harm the environment should take responsibility for its prevention³². This decision was pivotal in changing India's environmental management to one with a focus on sustainable development.

3. Goa Foundation v. Union of India (2014)

This case handled illegal mining and the environmental outcomes of uncontrolled mining in **Goa**³³. The **Supreme Court** invalidated many mining leases which were granted without **Environmental Clearance**³⁴. The Court reaffirmed the need to carry out **Environmental Impact Assessments (EIA)** prior to implementing large-scale ventures³⁵. This judgment underlined transparency and responsibility in projects with large environmental impacts.

4. Narmada Bachao Andolan v. Union of India (2000)

The **Narmada Bachao Andolan** case emphasized the environmental and social consequences of the **Sardar Sarovar Dam** project³⁶. The petitioners claimed that the dam would be displacing thousands of people and damaging fragile ecosystems. The Supreme Court granted the permission to proceed with the project but strongly stressed the need for carrying out comprehensive **Environmental Impact Assessments (EIA)** and offering reasonable compensation to the displaced persons. This case showed the delicate balance between large-scale development and environmental concern³⁷.

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

This landmark case witnessed the implementation of the **polluter pays principle** in Indian law. The **Supreme Court** held that the cost of pollution cleaning and damage compensation should be borne by the industries that have caused environmental pollution. This decision has had a strong impact on India's environmental policies, asserting that industries have to take the leading role in protecting the environment in addition to the government.

6. Other Key Cases

- **Indian Farmers Fertilizer Cooperative Ltd. v. Narmada Bachao Andolan (2010)**: This case dealt with the environmental impact of chemical fertilizers and the state's role in preventing their negative impact on agriculture and groundwater.

- **Dehradun Valley Litigation (1987)**: The Supreme Court held that forest land cannot be diverted for non-forestry purposes without proper legal process, stressing the need for forest conservation.

These landmark decisions demonstrate how India's judiciary has proactively addressed environmental issues, helping shape the country's environmental legal landscape and balancing development with sustainability.

Critical Analysis of India's Environmental Legal Framework

India's environmental legal system is robust, but a number of problems hinder its efficiency. Despite having played a critical role in promoting climate action, enforcement, institutional coordination, financing, and public participation have been problematic areas. Bridging these loopholes is important in order for India to realize its ambitious climate targets and attain sustainable development.

Enforcement Challenges

The environmental laws of India are robust on paper but are challenged by persistent enforcement. Organisations like the Central Pollution Control Board (CPCB) and state pollution control boards suffer from understaffing, poor financial means, and lack of proper technology³⁸. These conditions hinder the effective monitoring of industries, especially small-scale ones in rural settings. Additionally, industries also take advantage of loopholes in legislation to postpone or disregard compliance, undermining the effectiveness of laws meant to safeguard the environment. Even with stringent controls, poor implementation has arrested the move towards desired environmental outcomes.

Institutional Coordination

There should be coordinated action at the national, state, and local level of governments for effective climate governance³⁹. India's climate policies are frequently incoherent because ministries, state governments, and local governments are not well coordinated. For example, although the Ministry of Environment, Forests, and Climate Change (MOEFCC) concentrates on climate policies⁴⁰, other ministries, like the Ministry of Power, can have higher priorities, like energy access and affordability, over reducing emissions. Such fragmentation leads to uneven policy implementation and poor synergies between sectors. To combat climate change successfully, India needs to embrace a more integrated strategy that encourages inter-ministerial coordination and aligns sector-specific policies with national climate goals.

Financial Constraints

³¹ Shashikant Yadav, Gopal K. Sarangi & M.P. Ram Mohan, Hydraulic Fracturing and Groundwater Contamination in India: Evaluating the Need for Precautionary Action, 37 J. Energy & Nat. Resources L. 47 (2019).

³² Stefan Gössling & Paul Upham, Aviation and Climate Change: Assessment of Policy Options, in Climate Change and Aviation: Issues, Challenges and Solutions (Earthscan Publications Ltd. 2009).

³³ Bonnie Campbell, Revisiting the Interconnections Between Research Strategies and Policy Proposals: Reflections from the Artisanal and Small-Scale Mining Sector in Africa, 3rd World Thematics: A TWQ Journal 165, 165-83 (2016).

³⁴ Anupama Roy & Michael Becker, The Indian Human Rights System, in Dimensions of Constitutional Democracy: India and Germany 167, 167-82 (Springer Singapore 2020).

³⁵ M. Husain Sadar & William J. Stolte, An Overview of the Canadian Experience in Environmental Impact Assessment (EIA), 14 Impact Assessment 215, 215-28 (1996).

³⁶ Sharad Sabnis, Environmental Overview of the Sardar Sarovar Project, 17 Int'l J. Water Resources Dev. 99, 99-107 (2001).

³⁷ David Walters & Linda Brown, The City, in Design First (Routledge 2004).

³⁸ Basanta Kumara Behera & Ram Prasad, Air Pollution and Controlling Measures, in Environmental Technology and Sustainability: Physical, Chemical and Biological Technologies for Clean Environmental Management (Elsevier Science Publishing Co Inc 2020).

³⁹ National Research Council, Roles of Governmental and Other Institutions, in Adapting to the Impacts of Climate Change (National Academies Press 2010).

⁴⁰ Mohammad Oves, Mohammad Zain Khan & Iqbal M.I. Ismail (eds.), Recommendations and Conclusion, in Modern Age Environmental Problems and their Remediation (Springer International Publishing 2018).

Financial constraint is a major impediment to successful climate action. Major initiatives, like the expansion of renewable energy infrastructure and the execution of climate adaptation measures, need considerable funding. Regrettably, India's national budget and current climate finance structures are not sufficient to address the country's climate objectives. Though external funding and technology transfer have been considered, these sources tend to offer limited funds with particular conditions. In order to counter this obstacle, India needs to seek alternative forms of financing and enhance domestic sources of funding for climate action.

Gaps in Public Participation

There is more public awareness about climate change, but important gaps persist in terms of public involvement, especially in marginalized groups. Such groups may not have any voice when making decisions regarding climate change and the governance of the environment. Ensuring all the groups are equipped to be part of the policy-making process is key to framing more inclusive and locally applicable environmental policies. Greater public engagement consolidates the legitimacy of climate policies and enhances their prospects of success. In order to improve governance, India's environmental legislations should have more effective mechanisms for public participation, ensuring that decision-making is transparent, accountable, and representative of varied needs.

Conclusion and Recommendations

India has taken notable leaps forward in its climate policy and legal response to climate change. India's ambitious targets for reducing greenhouse gas emissions, especially those it signed up to under global agreements such as the Paris Agreement, reflect its determination to confront global environmental issues. Yet, despite these advances, the core challenges of enforcement gaps, fragmented institutional arrangements, resource constraints, and weak public engagement remain to undermine the effective implementation of climate policies. While India's judiciary has been the driving force for promoting environmental protection, greater action is needed both at the policy and institution levels to address the gaps in place and fast track climate action.

To get over these limitations and improve the country's response to climate, the following is suggested:

Recommendations

1. Strengthening Enforcement Mechanisms

In order to enhance the efficacy of environmental regulations, India needs to invest in the technological competence of its regulatory agencies⁴¹. This involves modernizing pollution monitoring infrastructure and improving data collection systems, especially in industrial centers and rural areas. Further, enhancing the severity of penalties for non-compliance would act as a deterrent to industries from evading environmental standards, with more effective enforcement.

2. Encouraging Institutional Coordination

Effective enforcement of climate policies requires enhanced coordination among different government levels and ministries⁴². India must set up **inter-ministerial committees** to allow for enhanced coordination of policies and actions. The committees would ensure that climate objectives are mainstreamed into the agendas of different ministries, including the **Ministry of Power** and the **Ministry of Environment, Forests and Climate Change (MOEFCC)**, in order to create synergies that facilitate effective policy implementation across sectors and regions.

3. Encouraging Public Participation

Public participation in decision-making processes related to climate should be encouraged through transparent consultative approaches. Having marginalized and vulnerable communities' voices heard during the making and implementation of climate policies will enhance both the efficacy and equity of such policies. Moreover, more vigorous public awareness campaigns and community outreach programs will ensure that local insights are included in climate solutions, maximizing equity and overall effect.

4. Scaling up Climate Finance Support

India must diversify financing sources to achieve its climate goals. This encompasses tapping international climate finance instruments like green bonds and multilateral climate fund financing. Domestically, the government can create innovative financing instruments such as low-cost loans and public-private partnerships to mobilize private sector investment. A priority on increasing financing for renewable energy projects and energy efficiency measures will facilitate the shift to a green economy while easing financial pressures.

By responding to the challenges enumerated and taking these suggestions, India has the potential to enhance its policy and legal structure to better complement its climate targets. Constructing climate resilience will need sustained efforts from all parties involved—when strategies are aligned with environmental, economic, as well as social dimensions. By taking such inclusive and concerted action, India will be able to meet its climate pledges while supporting sustainable development as well as a more secure future for its people.

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⁴¹ Zongwei Luo, Promoting Technological Environmental Innovations, in *Green Finance and Sustainability: Environmentally-Aware Business Models and Technologies* (Premier Reference Source) (Business Science Reference 2011).

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