

Addressing Climate Change in India: Public Policies, Challenges, and Opportunities

Mr Ajay Kumar Godara

Lecturer Political Science, Department of Education, Aarohi Model Senior Secondary School Ghirai Hisar Haryana India

Received 28-12-2024

Revised 29-12-2024

Accepted 27-01-2025

Published 28-01-2025



Copyright: ©2025 The Authors. Published by Publisher. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Abstract:

Climate change is a pressing global challenge, and India, as a developing nation with a significant population, faces unique challenges and opportunities in addressing it. This paper explores the public policies implemented by the Indian government to combat climate change, focusing on strategies for mitigation and adaptation. The study examines key policies, such as the National Action Plan on Climate Change (NAPCC), state-level initiatives, and India's commitments under international frameworks like the Paris Agreement. Additionally, it highlights the role of renewable energy, afforestation, and sustainable development practices in India's climate strategy. The paper concludes with an evaluation of policy effectiveness, identifying gaps and recommending measures to strengthen India's response to climate change.

Introduction:

Climate change poses severe threats to ecosystems, economies, and societies worldwide. In India, the impacts of climate change are particularly pronounced, with rising temperatures, erratic rainfall, and an increased frequency of extreme weather events threatening the livelihoods of millions. Given the country's reliance on agriculture, its burgeoning urban centers, and its rapidly growing energy demands, addressing climate change is both a necessity and a challenge.

India has recognized the urgency of this issue and has taken several measures to address it through public policies. These policies aim to balance economic growth with environmental sustainability, leveraging renewable energy, enhancing energy efficiency, and fostering community resilience to climate impacts. However,

the effectiveness of these measures and their implementation at local and regional levels remains a critical area of analysis. This paper delves into the specifics of India's climate change policies, evaluating their design, implementation, and outcomes.

Public Policies Addressing Climate Change in India:

1. National Frameworks and Initiatives

a. National Action Plan on Climate Change (NAPCC): Launched in 2008, the NAPCC is India's overarching framework for addressing climate change. It includes eight national missions, each targeting a specific area of climate action:

- **National Solar Mission:** Aims to promote the development and deployment of solar energy

technologies to achieve 100 GW of solar capacity by 2022.

- **National Mission for Enhanced Energy Efficiency:** Focuses on improving energy efficiency across industries and reducing energy intensity.
- **National Water Mission:** Seeks to ensure water conservation and sustainable management of water resources.
- **National Mission for a Green India:** Emphasizes afforestation and ecosystem restoration to enhance carbon sequestration.
- **Others:** Missions on sustainable agriculture, sustainable habitat, Himalayan ecosystem protection, and strategic knowledge for climate change.

b. State Action Plans on Climate Change (SAPCCs): To complement the NAPCC, individual states have developed SAPCCs tailored to their specific geographical and climatic conditions. These plans focus on localized actions for mitigation and adaptation, including disaster management and capacity building.

2. Renewable Energy Policies

India has emerged as a global leader in renewable energy production, with ambitious targets under the International Solar Alliance (ISA) and its commitment to achieving 500 GW of non-fossil fuel energy capacity by 2030. Key initiatives include:

- **Renewable Energy Development:** Subsidies and incentives for wind, solar, and biomass energy projects.
- **Energy Storage Solutions:** Development of battery storage systems to complement renewable energy sources.
- **Decentralized Renewable Energy Projects:** Promotion of off-grid solutions for rural electrification.

3. International Commitments and Partnerships:

India is an active participant in global climate negotiations and has committed to reducing its

carbon intensity by 33-35% from 2005 levels by 2030 under the Paris Agreement. It has also emphasized climate justice, advocating for equitable responsibility sharing based on historical emissions.

4. Afforestation and Ecosystem Restoration:

The **Green India Mission** under the NAPCC, along with initiatives like the National Afforestation Programme, aims to restore degraded ecosystems, increase forest cover, and improve biodiversity conservation. These efforts align with India's commitment to creating an additional carbon sink of 2.5-3 billion tonnes of CO₂-equivalent by 2030.

5. Policy Measures for Sustainable Agriculture:

Recognizing the vulnerability of agriculture to climate change, policies like the **National Mission for Sustainable Agriculture (NMSA)** focus on:

- Promoting climate-resilient crops.
- Expanding micro-irrigation and rainwater harvesting systems.
- Enhancing soil health through organic farming practices.

6. Urban Climate Policies:

Rapid urbanization has prompted India to adopt climate-resilient urban planning strategies. The **Smart Cities Mission** and the **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** aim to create sustainable urban environments through improved waste management, energy-efficient infrastructure, and public transportation systems.

Challenges in Policy Implementation:

Despite significant progress, several challenges hinder the effective implementation of climate policies in India:

1. **Financial Constraints:** Limited funding for climate projects, particularly in underdeveloped regions.
2. **Capacity Gaps:** Inadequate institutional capacity and technical expertise at local governance levels.

3. **Policy Integration:** Insufficient coordination between central and state-level policies.
4. **Public Awareness:** Limited awareness and participation among communities in climate action.

Recommendations:

To enhance the effectiveness of climate policies, India should:

1. Strengthen financial mechanisms by leveraging international climate finance and private sector investments.
2. Build capacity at local governance levels through training and knowledge sharing.
3. Foster multi-sectoral collaboration to integrate climate considerations into all developmental planning.
4. Increase public awareness campaigns to encourage community-driven initiatives.

Conclusion:

India's public policies on climate change reflect a comprehensive approach to balancing developmental needs with environmental sustainability. While the country has made

7.

commendable strides in renewable energy and afforestation, challenges in implementation and resource mobilization remain. Addressing these challenges through strengthened governance, innovative financing, and community engagement is crucial for India to achieve its climate goals and contribute meaningfully to global climate action.

References:

1. Ministry of Environment, Forest and Climate Change, Government of India. (2021). National Action Plan on Climate Change.
2. International Solar Alliance. (2023). Reports on Renewable Energy Development.
3. IPCC. (2021). Climate Change 2021: The Physical Science Basis.
4. World Bank. (2020). Climate Change and Development in India.
5. TERI. (2022). Renewable Energy and Climate Policy Framework in India.
6. UNFCCC. (2015). Paris Agreement: India's Nationally Determined Contributions (NDCs).