

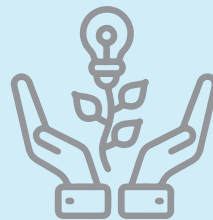
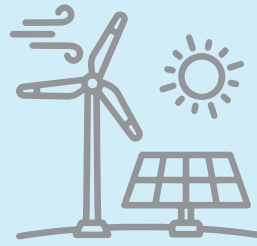
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Report

# LEARNING FOR TOMORROW: TRANSFORMING CLIMATE ACTION THROUGH EDUCATION

Looking Back to Look Forward:  
Insights and Gaps from State  
Action Plan on Climate Change



## Background

India is among the countries most vulnerable to the impacts of climate change. More than 80% of India's population face extreme vulnerability to extreme weather events<sup>1</sup>. A survey by Down to Earth finds that 94% of youth in India have faced impact due to climate change<sup>2</sup>. Rising temperatures, erratic monsoons, and extreme weather events threaten the country's agricultural productivity, water security, and overall socioeconomic stability. Addressing these challenges requires not only mitigation and adaptation strategies but also the inclusion of climate education as a core component. Climate education is a transformative tool to build resilience, foster awareness and enable people to comprehend as well as respond effectively to climate risks.

This report explores the climate education landscape in India through an analysis of the State Action Plan on Climate Change (SAPCCs) of Karnataka, Tamil Nadu, Maharashtra, West Bengal, and Delhi. The reason for the selection of Tamil Nadu, Maharashtra, West Bengal, and Delhi is due to findings from a report on young voters in these four states regarding their perception of climate education<sup>3</sup>.

In the study, 64% of respondents agreed on climate education being an effective strategy to tackle the climate crisis. Additionally, 83% of respondents in the same study said they find the significance of incorporating climate education in learning systems as important.

Karnataka is selected as it is the state where the report is being launched and it allows for local relevance with the stakeholders. This report will particularly focus on the plans of integrating climate education as an adaptation tool in the states.

National Action Plan for Climate Change (NAPCC) is also assessed to provide a baseline understanding of India's commitment to integrating climate education to broader frameworks. This report offers actionable recommendations to embed climate education as an integral part of India's education system and climate action agenda.

## Objective

The primary objective is to identify and analyse gaps in the climate action plans of the selected states, with a particular focus on the integration of climate education. This analysis will provide actionable recommendations to policymakers for enhancing the role of climate education in climate adaptation strategies.

## Findings

### Assessment of National Action Plan for Climate Change (NAPCC)

The National Action Plan on Climate Change (NAPCC) is a policy framework developed by the Government of India (GoI) in 2008 to address the challenges of climate change while promoting sustainable development<sup>4</sup>. It outlines measures for climate adaptation and mitigation and focuses on key sectors and areas critical to India's development. From the study, we find that coverage of climate education within the NAPCC is relatively limited. The NAPCC includes references to raising public awareness and building capacity on climate change issues – in reference to the various missions – National Mission on Sustainable Agriculture (NMSA), the National Water Mission (NWM), and the National Mission on Strategic Knowledge for Climate Change (NMSKCC). The NMSKCC is most directly related to climate education – it targets higher education and research, focusing on climate science and professional capacity, but lacks emphasis on school curricula or public education. Overall, the NAPCC discusses the need for broad public outreach to spread awareness of climate change and sustainable practices, but does not mention any particular strategy or outline to achieve these needs.

<sup>1</sup> [ceew-study-on-climate-change-vulnerability-index-and-district-level-risk-assessment.pdf](https://www.ceew.ac.in/wp-content/uploads/2014/04/ceew-study-on-climate-change-vulnerability-index-and-district-level-risk-assessment.pdf)

<sup>2</sup> <https://www.downtoearth.org.in/climate-change/94-indian-youth-feels-impacted-by-climate-change-survey>

<sup>3</sup> <https://thecen.in/cdn/uploads/Final-Report-Perception-Survey-on-First-Time-Voters.pdf>

<sup>4</sup> <https://ncdc.mohfw.gov.in/wp-content/uploads/2024/04/27505481411548674558.pdf>

As such, here are some recognisable gaps in the NAPCC with respect to climate education:

- The plan largely overlooks the role that schools and universities can play in fostering a climate-conscious generation.
- There is no emphasis on teacher or educator training even for awareness building activities.
- Climate education is not prominently positioned as a tool for climate adaptation within the NAPCC.
- There is emphasis on research, professionals, and policy makers but it is not extended to schools, educators, and grassroots educational initiatives that could empower communities to adapt more effectively.

### Assessment of State Action Plans on Climate Change

State Action Plans on Climate Change (SAPCCs) are state-level strategies in India designed to address the impacts of climate change and promote sustainable development, aligned with the broader framework of the National Action Plan on Climate Change (NAPCC). These plans provide localised, context-specific approaches to mitigate and adapt to climate change impacts within each state's unique geographical, economic, and social conditions. In this section, we look at the existing SAPCCs of five states – Karnataka, Tamil Nadu, Maharashtra, West Bengal and Delhi – and analyse the coverage and gaps in them with respect to climate education as a climate action tool.

#### Karnataka

The Karnataka State Action Plan on Climate Change (KSAPCC) was initially formulated in 2015 as part of India's national effort to address climate changes identified in the NAPCC<sup>5</sup>. The plan has undergone subsequent revisions to incorporate updated strategies and actions that reflect evolving climate dynamics and the state's development goals. The latest revision was released in 2021, enhancing its focus on adaptation and mitigation measures. In this section, we will explore the coverage of climate education within the updated plan.

The plan includes climate education and awareness as follows:

- The 'Assessment of Vulnerability' section highlights 'literacy' as a driver, emphasising the need for climate change education to improve awareness and develop coping mechanisms for climate change.
- The "Maguvigonda Mara Shalegonda Vana" scheme aims to raise ecological awareness among school children by encouraging tree planting, providing seedlings to educational institutions, and involving students from primary to university levels in planting activities.
- The plan underscores the significance of public awareness campaigns to educate communities about climate change impacts and mitigation strategies. Initiatives like the Nitte Climate Action Plan aim to inspire environmental responsibility among students by conducting programs in schools to create awareness about environmental protection.
- The KSAPCC also encourages engaging local communities in climate action through awareness programs. For instance, the Biodiversity, Environment, and Agriculture Study Centre (BEAS) conducted awareness programs on climate change to make students understand the impact of climate change on biodiversity and agriculture practices.

<sup>5</sup> <https://empri.karnataka.gov.in/storage/pdf-files/CCC/KSAPCC%20.pdf>

## Tamil Nadu

The Tamil Nadu SAPCC was initially formulated in 2015, based on the NAPCC. The plan underwent revisions to include updated strategies, culminating in the Tamil Nadu Climate Change Mission document, which was released in 2022<sup>6</sup>. In this section, we will be looking at the coverage of climate education in the updated plan of 2022.

The plan mentions a section on Strategic Knowledge Management for Climate Change, which covers aspects of incorporating climate education in the following ways:

- Centre for Climate Change and Disaster Management (CC&DM) of Anna University looks at climate change research activities. This includes developing regional climate scenarios, sectoral impact and vulnerability assessments, and framing adaptation strategies using the Intergovernmental Panel on Climate Change (IPCC) scenarios.
- M.S. Swaminathan Research Foundation (MSSRF) emphasises on a participatory research with vulnerable communities, particularly in rural India, in order to enhance their capacity to cope with climate change induced calamities.

The plan also mentions awareness building for schools through eco clubs. But it does not tell in detail what that entails. On other aspects, the activities mentioned with schools and students were related to disaster management and around conservation.

## Maharashtra

The Maharashtra SAPCC was initially released in 2014 and later updated in 2021. The updated SAPCC incorporates revised priorities and strategies to address emerging climate challenges and align with newer frameworks and global commitments like the Paris Agreement. However, due to unavailability of finding the report, we will be assessing the 2014 plan and look at the coverage of climate education<sup>7</sup>.

The plan mentions involving educational institutions in climate action. However, the way of engagement is limited through tree plantation drives and other environmental initiatives which would fall under extra curricular activities and not be integrated or be a part of the curricula. The plan also talks about public awareness campaigns and rightly points out that educating the public is crucial for building resilience and adapting to climate impacts.

## West Bengal

The West Bengal SAPCC was first formulated and adopted in 2012 under the guidelines of the NAPCC. It was later revised in 2017 to address emerging challenges, particularly focusing on water security, agriculture, forestry, and disaster risk reduction<sup>8</sup>. The plan aims to enhance resilience to climate impacts, particularly in vulnerable regions like the Sundarbans and the Himalayan foothills. In this section, we will be looking at the coverage of climate education in the revised plan.

The revised plan has no mention of climate education involving youth and children. There are only loose mentions of awareness campaigns in the context of mangrove plantations, disease prevention, and water conservation.

## Delhi

The Delhi SAPCC was finalised and submitted to the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2019<sup>9</sup>. While drafts had been in development since the mid-2010s, incorporating inputs from stakeholders and experts, the final version aligned with the NAPCC and addressed critical issues like air pollution, urban heat islands, and water scarcity.

<sup>6</sup> <https://environment.tn.gov.in/assets/images/0e6625edea51bfbc9a7b779baae92584.pdf>

<sup>7</sup> <https://moef.gov.in/uploads/2017/09/Maharashtra-Climate-Change-Final-Report.pdf>

<sup>8</sup> [http://www.environmentwb.gov.in/pdf/WBSAPCC\\_2017\\_20.pdf](http://www.environmentwb.gov.in/pdf/WBSAPCC_2017_20.pdf)

<sup>9</sup> [https://environment.delhi.gov.in/sites/default/files/environment/generic\\_multiple\\_files/delhi\\_sapcc\\_06022019.pdf](https://environment.delhi.gov.in/sites/default/files/environment/generic_multiple_files/delhi_sapcc_06022019.pdf)

In terms of the coverage with respect to climate education or awareness programs, the SAPCC:

- Mentions the importance of public awareness and education campaigns as a tool to encourage sustainable practices, which are at a very broad level rather than structured educational programs.
- References to involving schools in environmental initiatives – promoting urban agriculture and planting trees/maintaining green spaces. These rely heavily on the extracurricular activities of the schools rather than integrated in educational curricula.
- Mentions of short workshops and conferences to educate the public on energy conservation and environmental issues, waste management, and pollution reduction, promoting the use of Compact Fluorescent Lamps (CFLs) and Light Emitting Diodes (LEDs).

## Recognisable Gaps in the SAPCCs:

- There is no mention of integrating a climate lens into the existing curricula.
- There is no plan for long-term public engagement and awareness building.
- The plans cannot adequately address the connection between climate education and action.
- The plans essentially explore ideas for sustainable education which looks at the issues from an individual standpoint. Incorporating ideas from the perspectives of climate education will require a systemic approach and viewpoint of the crisis and actions.
- Specific to West Bengal, the SAPCC does not mention climate education, literacy or awareness building as part of its plan. Climate education is not seen as a probable solution to climate change.
- In terms of Tamil Nadu, the SAPCC has not mentioned large-scale awareness of climate change for the general public. Education should not be limited to formal spaces but opened up to a larger section of the population who will be facing this crisis in the coming years.
- In Karnataka, while the SAPCC has mentioned climate change education as an adaptation tool, it has limited its scope to formal education spaces only, neglecting opportunities for engaging communities through informal education like community centers, libraries, etc

## Areas of Improvement for the States:

- Embed a climate change lens into the curricula to inculcate a systemic understanding of the problem.
- Integrate climate education into schools and colleges, making them key players in the respective state's climate strategy.
- Design and embed climate education within the existing teacher professional development calendar in each state.
- Develop a climate education strategy for schools.
- Expand community education programs on climate change.
- Increase public awareness campaigns related to climate issues.

## Learnings from Other Countries for Integration of Climate Education

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Countries like Singapore, China, and Cambodia offer valuable insights into integrating climate education into national strategies, combining innovative policies, curriculum design, and stakeholder involvement. Their approaches highlight effective methods to embed climate education across various levels of formal and informal learning, which India can adapt to its unique context.

- **National Climate Education Frameworks:** Develop comprehensive national plans like Singapore's Green Plan 2030, setting clear, time-bound sustainability and climate education goals.
- **Subject Integration Across Curriculum:** Embed climate education across multiple subjects — such as geography, science, and social studies — to ensure students develop a holistic understanding of climate change.
- **Dual Perspective Approach:** Teach climate change through both local and global lenses, fostering a sense of global citizenship alongside local responsibility.
- **Community and Family Involvement:** Extend climate education beyond classrooms by involving families and local communities through collaborative initiatives. This reinforces learning through shared responsibilities and community engagement.
- **Localised Curriculum Design:** Tailor climate education to address regional challenges. For example, include water conservation in drought-prone areas, disaster preparedness in flood-prone regions, and sustainable urban planning for metropolitan areas.
- **Integration in Higher Education:** Encourage universities to offer interdisciplinary courses on climate science, resilience strategies, and sustainable development.
- **Holistic Capacity Building:** Train educators extensively to teach climate education effectively, equipping them with tools to convey both the science and socioeconomic aspects of climate change.
- **Cross-Sector Collaboration:** Establish inter-ministerial coordination to align educational initiatives with broader climate policies. This ensures cohesion in climate action efforts across education, environment, and development sectors.
- **Public Awareness Campaigns:** Complement formal education with large-scale awareness drives, leveraging media and community outreach to engage the general public in climate literacy.
- **Monitoring and Evaluation Systems:** Set up mechanisms to assess the implementation and impact of climate education initiatives.
- **Sector-Specific Programs:** Integrate climate education topics relevant to specific sectors or communities, such as agriculture, urban planning, and biodiversity conservation, to ensure practical and actionable learning.

# Recommendations

## 1. National Climate Education Framework

- a) Develop a National Climate Education Framework with clear, time-bound goals to integrate sustainability and climate education across all education levels. This plan can set targets for climate literacy, sustainability practices in schools, and the inclusion of environmental topics in curricula.
- b) Strategic Policy Support: This framework should receive strategic backing at the national and state level (e.g. NEP, SEP, etc), similar to China's top-down approach, ensuring that climate education is seen as a priority across ministries and state education bodies.

## 2. Allocation of Budget for Climate Education

- a) Ensure a specific allocation in the state budget for climate education initiatives under the SAPCC. These funds can be used to ensure:
  - i) Development of curriculum materials
  - ii) Capacity building and teacher training for educators
  - iii) Implementing awareness campaigns and establishing non-formal education spaces for facilitating climate education
- b) Introduce financial incentives or grants for schools to motivate them to implement a robust climate change education into their systems.

## 3. Integration Across Subjects

- a) Subject Integration: Embed climate education across multiple subjects like geography, science, and social studies, allowing students to understand the multidimensional nature of climate change — from scientific causes to social impacts and policy responses.
- b) Localized Content: Design subject-specific modules that reflect local environmental challenges. For instance, focus on water conservation in drought-prone regions like Rajasthan or disaster preparedness in flood-prone areas like Assam.

## 4. Plural Perspectives

- a) Dual Perspective Approach: Ensure that climate education includes both local and global perspectives. Students should learn about global climate trends as well as India-specific climate challenges such as the impact on agriculture, monsoons, and biodiversity. This will help foster a sense of global citizenship and local responsibility.

## 5. Community Involvement and Multi-Stakeholder Collaboration

- a) School-Family-Community Collaboration: Establish climate education programs that actively involve families and communities. Schools should host community-based environmental projects and encourage family participation in sustainability initiatives. This will extend climate education beyond the classroom and embed it in everyday life.
- b) Sectoral Collaboration: Create an inter-ministerial body or dedicated climate education task force to coordinate efforts between the Ministry of Education, Ministry of Environment, Ministry of Agriculture, and others. This will ensure that climate education efforts are cohesive and integrated into broader national policies.

## **6. Capacity Building for Educators**

- a) Strategic Plan for Educators: Provide extensive training programs for educators, enabling them to effectively teach climate change topics. This can include professional development on the science of climate change, climate resilience strategies, and methods to integrate climate education into diverse subjects.

## **7. Higher Education and Research**

- a) Integration with Higher Education: Integrate topics of climate change in tertiary education by encouraging universities to offer specialised courses, research opportunities, and interdisciplinary programs.
- b) Climate Research Centers: Promote the establishment of climate research centers in collaboration with academic institutions to facilitate research on India-specific climate issues and create pathways for innovation.

## **8. Monitoring and Evaluation**

- a) Develop a monitoring system to track progress on climate education goals, assess the effectiveness of curriculum changes, and ensure that all schools, including rural and marginalised areas, are involved.
- b) Public Reporting: Like Cambodia's Climate Change Strategic Plan, regularly publish progress reports to maintain transparency and adjust strategies based on what is working and what needs improvement.

## **9. Public Awareness Campaigns**

- a) Launch nationwide public awareness campaigns to complement in-school climate education. Use mass media, social media, and community outreach to educate the public on climate issues, especially in regions most vulnerable to climate change impacts.