

Learning to Stay, Learning to Leave: Reimagining Environmental Education through Climate Adaptation and Displacement in India

Chandan Singh

Research Scholar,

Juhari Devi Girls' P. G. College, Kanpur,

Uttar Pradesh, India.

Prof. Alka Dwivedi

Head of Hindi Department,

Juhari Devi Girls' P. G. College, Kanpur,

Uttar Pradesh, India.

Dr. P. Ramakrishna Reddy

Assistant Professor (T),

Department of Political Science,

School of Arts, Humanities and Social Sciences,

Central University of Andhra Pradesh,

Andhra Pradesh, India.

Nawal Kishor Lodhi

Research Scholar,

Department of English and Modern European and Other Foreign Languages, Chhatrapati

Shahu Ji Maharaj University, Kanpur,

Uttar Pradesh, India.

nawal2523@gmail.com

 <https://orcid.org/0009-0005-0443-2024>

<https://doi.org/10.66376/galaxy.v15.n5.13>

Abstract:

Climate change is consistently shaping and transforming relationship between human population, habitation, livelihood, and education. It challenges the popular notion that sustainable livelihood means enabling communities to remain in their aboriginal spaces. The current work advocates the need for a transitional shift in environmental education in India from being centered on developing mere awareness based on theoretical learning to developing pedagogical frameworks concerning practical approaches, problem-solving skills, and positive attitudes necessary for climate adaptability and just future. Such a pedagogical framework should equip learners with indigenous ecological knowledge, anticipatory thinking, and the ability to make decisions regarding climate adaptation and mobility during calamities. Drawing attention to forced mobility and unequal provincial politics of climate-driven displacement, the

Article History: Submitted-06/09/2026, Revised-11/09/2026, Accepted-13/09/2026, Published-30/09/2026.

Copyright vests with the author. Licensing: Distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

study also examines the current status and challenges of environmental education in India regarding policy planning, implementation of suggestive measures, and community participation.

Keywords: Environmental Education, Climate Adaptation, Climate-Induced Displacement, NEP 2020, Climate Resilience, Environmentally Vulnerable Communities.

Introduction

Cultural traces of environmental education in India can be found even in prehistorical evidence (Swaroop and Verma 6–7). However, the intellectual roots of environmental education can be traced back to the 1960s only when scholars came together to define and develop pedagogy and subject matter on the environment and ecology. It gained popularity on a global scale in the 1970s with the establishment of IEEP (International Environmental Education Program), a joint initiative of UNESCO (United Nations Educational, Scientific and Cultural Organization) and UNEP (United Nations Environment Programme).

The Tbilisi Conference was held in Georgia in October 1977. This conference was the first-ever global-scale intergovernmental meeting on environmental education held in Georgia, part of the then Soviet Union or USSR. According to it, environmental education refers to a pedagogical framework which not only develops awareness about environmental issues but also inculcate values and problem-solving skills and attitude (Intergovernmental Conference 12). According to the United States Environmental Protection Agency, core elements of environmental education are: awareness, knowledge, caring attitude, problem-solving skills, and meaningful participation. Environmental education can transform human lives and civic engagement too. It can foster a sense of responsibility, sustainable use of resources, and care for human-nature relationships (“Importance and Challenges of Implementing Environmental Education in India”). It also establishes links with economic viability, social equality, harmony, and ecological survival. Modern environmental education contributes significantly to the

development of society in a dynamic manner, rather than promoting mere political or spatial viewpoints.

Climate-induced displacement refers to the forced movement of environmentally affected regions to a safer place due to sudden or gradual changes in the environmental conditions. Studies suggest that, by 2050, approximately 25 million to 1 billion people may have to migrate globally from one place to another due to environmental events like floods, landslides, tsunami, famine, cyclones, etc. People, who are so displaced, are called either ‘environment displaced persons’ or ‘climate migrants’ or ‘climate refugees’, if they move beyond a country’s border. Vulnerable communities are most affected due to such environmental events because they do not possess enough resources to adapt to local conditions (ICWA; UNHCR).

Climate adaptation refers to making required changes in tune with the actual or expected environmental conditions in a place in order to survive and minimise the impact. International organisations, governments and private entities, and civil societies play a significant role in climate change adaptation. Government institutions extend support in terms of policy planning and providing funds; private organisations leverage technology and skilled workforce; and civil societies offer leadership in engaging communities in such efforts at root level (Vij et al.). Both “learning to stay” and “learning to leave” form an integral part of adaptation to the regional climate. Learning to stay refers to enabling communities to live safely and sustainably within a geographical space. The framework not only encourages aboriginal people to remain in a vulnerable place but also enables them to navigate through environmental risks through developing awareness, practical skills, values, and the capacity to adapt to ongoing conditions. On the other hand, learning to leave prepares communities for when, why, how, and where to migrate if it becomes necessary (IPCC).

Literature Review

As ecology studies the relationship between living beings and their habitation surroundings, ecological discourses and environmental education must analyse the complicity between human exploitation of nature and its repercussions. Environmental education serves as a tool to build climate resilience by developing knowledge and requisite skills for ecological restoration, withstanding catastrophe, practising sustainable agriculture, and for the betterment of human-nature affinity (Damoah). In order to make India a climate-resilient state, there are two active projects at present, namely, “Building climate resilience in India by initiating the national adaptation plan process and scaling up adaptation finance” and “Enhancing Climate Resilience of India’s Coastal Communities” (“India | UNDP Climate Change Adaptation”). Other initiatives like “National Adaptation Fund for Climate Change (NAFCC)”, “Nagar Van Yojana”, “Aravalli Green Wall Initiative”, and other community-based micro-climate resilience in Gorakhpur, Uttar Pradesh, etc. also play a pivotal role in this regard.

Agriculture and public health are two areas most affected by environmental problems. Hence, it becomes quite important for India to tackle these problems at the earliest possible, as India is an agrarian economy, as around 46% of India’s workforce is employed in the agriculture sector (NITI Aayog). Major twenty-first century catastrophic events in India, like the Bhuj earthquake in Gujarat in 2001, the Indian Ocean tsunami in 2004, Cyclone Aila in West Bengal in 2009, and others (Goswami et al.), not only rendered millions of people homeless and forced them to migrate from one place to another. Flood situations in Bihar and Assam states, tsunamis in coastal areas of West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, and Kerala states, cyclones along the Eastern coast of India, landslides in Northeast Indian states, earthquakes in the Himalayan region, and other natural events like extreme weather conditions and famines have worsened the situation further (PTI; Blocher et al. 2-7). Already existing socioeconomic vulnerabilities like poor infrastructure, inadequate assessment, unequal regional politics,

bureaucratic failures, and lack of community support and awareness magnify the impact of such events even further (Moharaj et al.).

In the Indian education system of the pre-1980s time period, environmental literacy was covered within disciplines of science, rather than considering it as an interdisciplinary study. It was the National Policy of Education (1986) that formally introduced environmental concepts into the core curriculum of the Indian education system to develop environmental and ecological awareness. It was only in the early twenty-first century when the NCERT (National Council of Educational Research and Training) and the UGC (University Grants Commission) started covering environmental themes in humanity and social science courses too, including languages.

National Education Policy 2020, or NEP 2020, focuses on environmental education through the following sections: (i) Section 4.23 and Section 4.24 not only foreground the view that students must have a pool of subjects to choose as per their own interests, but also vouch for some generic subjects or skills to be learned by all learners. Environmental awareness is also one of them. (ii) Section 4.27 stresses the significance of the indigenous knowledge system in developing environmental awareness, (iii) Section 4.28 seeks to inculcate considerateness for the environment through values, (iv) Section 5.24 emphasizes environmental education as an integral part of school education through initial teacher education, (v) Section 11.8 seeks to develop it as holistic education through courses and projects (Ministry of Human Resource Development 15-37). The significance of such interpretation of NEP 2020 extends beyond the development of pedagogical frameworks and curriculum design as it concerns itself with the outcome of environmental education. We need to make learners able to identify ongoing ecological changes, make early predictions of such events, willing to adapt to the climate, participate in extending support to others, render respect to displaced communities, and understand displacement positively. However, the implementation of NEP 2020 at ground level

still remains uneven across different areas due to linguistic barriers and other constraints (Basu).

Moreover, studies also suggest that India does not have a specific policy at the national level on climate-induced forced displacement, nor does it possess explicitly defined legal frameworks to identify, protect, and rehabilitate displaced communities (Moharaj et al.; Bose; Kaul).

Methodology

The current research employs qualitative research approaches, including a critical interdisciplinary review mechanism, in order to analyse and reinterpret data collected from primary and secondary sources. Using the principles of constructive criticism and narrative review approach, the study employs textual analysis method to analyse relationship between environmental education, government reports, literary narratives, and other intellectual perspectives. The work is delimited to analysing the current status and significance of environmental education in developing skills and attitudes required for climate adaptation and minimising challenges faced during displacement caused by natural and anthropogenic disasters.

Discussion and Analysis

There were more than 5.4 million reported internal displacements in India, the highest number among South Asian countries, due to disasters during 2024 alone (IDMC 109-110). It underscores the seriousness of climate-driven problems. These displaced communities often prefer to relocate to nearby places or to metropolitan cities like Delhi, Mumbai, Bengaluru, etc. in order to manage their livelihood (Kaul). The capacity to manage climate change in India varies from state to state. States along the Himalaya mountains or coast are more prone to such

environmental events, which further leads to differences in political priorities. In this scenario, the unequal politics impacts more to vulnerable communities rather than the affluent class (Sahana). Monetary assistance extended by National Disaster Relief and State Disaster Relief funds is inadequate (Garg et al. 64).

The core challenges in developing environmental literacy are: (i) lack of longitudinal research covering long-term effects of educational initiatives and culturally adaptive methods; (ii) curricular integration of environmental studies beyond social sciences, specifically with Maths; (iii) indigenous knowledge systems and cultural heritage in relation to eco-literacy are understudied (Naila et al.). Aligning with the objectives of National Education Policy 2020, the University Grants Commission's *Guidelines and Curriculum Framework for Environment Education at Undergraduate Level*, published in June 2023, identifies environmental vulnerability and climate adaptability as prime concerns and links them to sustainable development goals. However, it still does not expressly reflect on climate-induced displacement (University Grants Commission 13). There is a need to move beyond the textbooks on environmental science and related literature to practical learning in a multifaceted environment. The change will result in better human-nature relations. Environmental science textbooks need to address social environments too, in addition to natural and physical environments. The same can be achieved through green classrooms, an environmentally friendly and sustainable learning space (Llopiz-Guerra et al.; Swaroop and Verma 9–11).

Lack of organisational support, lack of commitment, ineffective policy implementation, associated employment opportunities, rapid growth in infrastructural development, and underdeveloped training modules are some of the factors responsible for curtailing environmental awareness (Puri et al.). In order to achieve greater outcome, adaptation practices must integrate the latest technologies, indigenous knowledge systems, and community participation at large into planning and implementation of socioeconomic and environmental

policies (UNFCCC). Although socioeconomic and institutional factors like age, gender, education, market access, income, etc. also exert an influence on climate change adaptation strategies. Lack of region-wise research and scarcity of related field-specific literature are interrelated constraints to climate change adaptation efforts (Nivetha and Mohanraj).

There are national and state level climate adaptation policy models like NAPCC (National Action Plan on Climate Change), SAPCCs (State Action Plans on Climate Change), NICRA (National Innovations in Climate Resilient Agriculture) and community-based adaptation models like Watershed Organisation Trust (WOTR) in Maharashtra and Karnataka regions. The NAFCC (National Adaptation Fund for Climate Change) is the most important as it is a central sector scheme to extend monetary support to climate adaptation projects across Indian states and Union Territories (“National Adaptation Fund for Climate Change (NAFCC)”). These policy frameworks and community-led initiatives help societies and economies too in adjusting to changing climate conditions and environmental stresses, specifically the primary sector of the Indian economy. Although implementation of these frameworks has been successful in integrating climate discourses into public policy, it has varied speculations and reflects substantial failures in local climate adaptation, financial viability, cross-departmental coordination, and longitudinal assessment (Avasthi 859-865; “Parliament Question: - Nationally Determined Contributions”). Additionally, there are not many efforts put in by public and private institutions to disseminate knowledge about these policy frameworks, neither covered in higher education curricula nor in initial teacher education.

Transformation of support from discretionary assistance to legal rights can take place only through inclusive policy implementation at provincial and national level, in the context of climate migration. It will provide more relief to vulnerable and affected communities (Biju et al. 339).

Conclusion

Environmental problems not only disrupt the natural ecosystem but also pose a threat to human survival. Studies reveal that if these challenges are not addressed effectively, the human population will suffer in terms of loss of life, livelihood, habitation, displacement, and socioeconomic viability across the globe. India too has suffered several times in history. Although awareness of environmental concerns has always been part of the Indian culture and knowledge system since the prehistoric ages, it emphasized environmental education only in the latter half of twentieth century through development of specific courses and curriculum at different levels of education. Traditional environmental education puts greater emphasis on making communities learn to stay safe during natural events. It has been helpful to some extent but not sufficient in contemporary times, as climate-related risks often impact livelihood, habitation, and economic viability of affected places for a longer time. The analysis provided above explicitly proves that instability of place is not sufficiently addressed in Indian environmental education so far. Learners must be prepared to adapt to ever-changing environmental conditions and to leave the place of habitation in case of any natural event, in addition to being prepared to protect the environment. The need for transformation in Indian environmental education is thus to explicitly address issues related to climate adaptation and human displacement, in addition to developing awareness of foundational mechanisms of nature. Moreover, there is an urgent need in India to have a specific policy at national as well as state level in relation to climate-induced displacement, in addition to upgradation of the legal framework to extend relief to the needy ones.

Works Cited:

Avasthi, Pankaj. "Assessment of India's National Action Plan on Climate Change." *International Journal of Legal Science and Innovation*, vol. 6, no. 4, VidhiAagaz, Sept. 2024, pp. 859–65, <https://ijlsi.com/article/view/assessment-of-indias-national-action-plan-on-climate-change>.

Basu, Saikat K. "Importance and Challenges of Implementing Environmental Education in India." *Sikkim Express*, 23 Nov. 2025, <https://sikkimexpress.com/news-details/importance-and-challenges-of-implementing-environmental-education-in-india>.

Biju, Bincy Mariam, Ashbin V. Karim, and Yumna KP. "Climate Induced Displacement and the Right to Rehabilitation: A Socio-Legal Analysis." *International Journal of Law and Legal Research*, vol. 7, no. 5, 2025. *IJLLR*, 15 Oct. 2025, <https://www.ijllr.com/post/climate-induced-displacement-and-the-right-to-rehabilitation-a-socio-legal-analysis>

Blocher, Julia M., et al. *Hot, Wet, and Deserted: Climate Change and Internal Displacement in India, Peru, and Tanzania: Insights from the EPICC Project*. Potsdam Institute for Climate Impact Research, 2021. *Internal Displacement Monitoring Centre*, https://www.internal-displacement.org/global-report/grid2021/downloads/background_papers/background_paper-climatechange.pdf.

Bose, Sreyashi. "India Needs a Policy for Climate Change Refugees: A South Asian Perspective on Environmental Migrants as 'Refugees.'" *Responsible Leadership and Sustainable Management*, Springer Nature Singapore, 2025, pp. 149–61, https://doi.org/10.1007/978-981-96-1789-0_9.

Damoah, Benjamin. "Reimagining Climate Change Education as a Panacea to Climate Emergencies." *International Journal of Environmental, Sustainability and Social Science*, vol. 4, no. 4, PT Keberlanjutan Strategis Indonesia, July 2023, pp. 977–87, <https://doi.org/10.38142/ijesss.v4i4.590>.

Garg, Rishu, et al. *Climate-Induced Displacement and Migration in India: Case Studies from West Bengal, Maharashtra, Odisha, Uttarakhand & Bihar*. Climate Action Network South Asia (CANSAs), 2021.

Goswami, Saptarsi, et al. "A Review on Application of Data Mining Techniques to Combat Natural Disasters." *Ain Shams Engineering Journal*, vol. 9, no. 3, Sept. 2018, pp. 365–78, <https://doi.org/10.1016/j.asej.2016.01.012>.

ICWA. "Climate Migration and Displacement: Challenges and Responses - Indian Council of World Affairs (Government of India)." *Icwa.In*, 2024, https://www.icwa.in/show_content.php?lang=1&level=1&ls_id=10542&lid=6710.

Intergovernmental Conference on Environmental Education. *Intergovernmental Conference on Environmental Education: Final Report, Tbilisi (USSR), 14–26 October 1977*. UNESCO, 1978. ED/MD/49. *UNESCO Digital Library*, <https://unesdoc.unesco.org/ark:/48223/pf0000032763>

Intergovernmental Panel on Climate Change (IPCC). *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Edited by Hans-Otto Pörtner et al., Cambridge University Press, 2022. <https://doi.org/10.1017/9781009325844>

Internal Displacement Monitoring Centre (IDMC). *Global Report on Internal Displacement 2025*. Internal Displacement Monitoring Centre, 13 May 2025, <https://api.internal-displacement.org/sites/default/files/publications/documents/idmc-grid-2025-global-report-on-internal->

displacement.pdf?_gl=1*9z2xfs*_ga*MjAzNDAXNzc3MC4xNzg4NjA1MDE5*_ga_PKVS5L6N8V*czE3ODg2MDUwMTkkbzEkZzAkdDE3ODg2MDUwMTkkaYwJGwwJGgw.

Llopiz-Guerra, Karel, et al. "Importance of Environmental Education in the Context of Natural Sustainability". *Natural and Engineering Sciences*, vol. 9, no. 1, May 2024, pp. 57-71, doi:10.28978/nesciences.1473461.

Kaul, Vitasta. "India's Rising Tide of Climate Migration: A Crisis Without a Policy." *Frontline*, 12 June 2025, <https://frontline.thehindu.com/environment/climate-migration-india-floods-displacement-2024/article69686419.ece>.

Ministry of Human Resource Development, Government of India. *National Education Policy 2020*. Ministry of Human Resource Development, 2020. https://static.pib.gov.in/WriteReadData/userfiles/NEP_Final_English_0.pdf

Moharaj, Prasanta, et al. "Climate Induced Migration and Internal Displacement in Rural India." *Discover Environment*, vol. 3, no. 1, Springer Science and Business Media LLC, Oct. 2025, <https://doi.org/10.1007/s44274-025-00312-9>.

Naila, Ishmatun, et al. "Trend Research and Future Directions of Environmental Literacy Education in Elementary School: A Systematic Literature Review." *Multidisciplinary Reviews*, vol. 9, no. 5, Malque Publishing, Oct. 2025, p. 2026161, <https://doi.org/10.31893/multirev.2026161>.

NITI Aayog. *India's Services Sector: Insights from Employment Trends and State Level Dynamics*. Government of India, 2025. https://www.niti.gov.in/sites/default/files/2025-10/Indias_Services_Sector_Insights_from_Employment_Trends_State_level_Dynamics.pdf.

Nivetha, S., and Kanagaraj Mohanraj. "Climate Change Adaptation in India: A Systematic Review of Adaptation Strategies, Factors, Impacts, Barriers, and Future Research Directions." *Frontiers in Climate*, vol. 8, Frontiers Media SA, May 2026, <https://doi.org/10.3389/fclim.2026.1792955>.

PTI. "Natural Disasters Caused 2.5 Million Internal Displacements in India in 2022, Report Says." *National Herald*, 18 May 2023, <https://www.nationalheraldindia.com/national/natural-disasters-caused-25-million-internal-displacements-in-india-in-2022-report-says>.

Puri, Kanchan, et al. "Environment Education in India." *The Holistic Approach to Environment*, vol. 11, no. 4, Sept. 2021, pp. 122–27, <https://doi.org/10.33765/thate.11.4.3>.

Sahana, Mehebab. "Hindu Nationalism, Climate Reductionism, and the Political Ecology of Dalits on Char Islands: Does Caste Matter for Climate Resilience in India?" *Geoforum*, vol. 163, Pergamon, May 2025, p. 104298, <https://doi.org/10.1016/j.geoforum.2025.104298>.

Swaroop, M., and A. Verma. "National Education Policy, 2020 and Environment Education: Challenges and Opportunities." *NUJS Journal of Regulatory Studies*, vol. 7, no. 3, 2022, pp. 2–11. <https://doi.org/10.69953/nurs.v7i3.265>.

UNFCCC. "Adaptation and Resilience." *Unfccc.Int*, 2025, <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction>.

UNHCR. "How Climate Change Impacts Refugees and Displaced Communities." *Www.Unrefugees.Org*, 12 Nov. 2024, <https://www.unrefugees.org/news/how-climate-change-impacts-refugees-and-displaced-communities/>.

United States Environmental Protection Agency. “What Is Environmental Education?”

U.S. Environmental Protection Agency, 14 July 2026,

<https://www.epa.gov/education/what-environmental-education>.

University Grants Commission. *Guidelines and Curriculum Framework for Environment Education at Undergraduate Level*. June 2023,

https://www.ugc.gov.in/pdfnews/4111559_Environment_Guideline.pdf

Vij, Sumit, et al. “What Works, Where and How? A Systematic Literature Review of Climate Change Adaptation Measures in India.” *Current Research in Environmental Sustainability*, vol. 9, 2025, p. 100291, <https://doi.org/10.1016/j.crsust.2025.100291>.

“India | UNDP Climate Change Adaptation.” *Adaptation-Undp.Org*, 2010, <https://www.adaptation-undp.org/explore/india>. (Accessed 2 Sept. 2026).

“Importance and Challenges of Implementing Environmental Education in India.” *Sikkim Express*, 23 Nov. 2025, <https://sikkimexpress.com/news-details/importance-and-challenges-of-implementing-environmental-education-in-india>

“National Adaptation Fund for Climate Change (NAFCC).” *Pib.Gov.In*, 2022, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1795075®=48&lang=2>. (Accessed 25 Aug. 2026)

“Parliament Question: - Nationally Determined Contributions.” *Pib.Gov.In*, 2025, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2146355®=46&lang=1>. (Accessed 29 Aug. 2026)