

Review On Importance Of Environmental Education Programs In School In India

Nurul Hassan Sarkar

Ph.D Scholar, Department of Education, Sabarmati University, India.

Dr Navprabhakar Lal Goswami

Professor, Department of Education, Sabarmati University, India.

Abstract-This study examines the significance of environmental education (EE) programs in schools across India, highlighting their role in shaping environmentally conscious and responsible citizens. As India grapples with increasing environmental challenges such as pollution, climate change, deforestation, and resource depletion, the integration of EE into the school curriculum has become more vital than ever. The study explores how environmental education fosters awareness, critical thinking, and sustainable practices among students from an early age. It also investigates the current implementation of EE programs through government initiatives like Eco Clubs and the National Green Corps, as well as the integration of environmental topics into mainstream subjects. While policy frameworks such as the National Curriculum Framework (NCF) advocate for environmental education, the study identifies gaps in effective implementation, especially in rural and under-resourced schools. The findings emphasize the need for teacher training, experiential learning methods, and community involvement to enhance the impact of EE. The study concludes that strengthening environmental education in schools is essential for promoting long-term sustainability and empowering the next generation to address environmental issues with knowledge, responsibility, and active participation.

Keywords: National Green Corps, National Curriculum Framework, Deforestation.

1. Introduction

Environmental degradation has become a global concern, with India facing significant ecological challenges such as air and water pollution, deforestation, waste accumulation, and climate change. In this context, environmental education (EE) in schools plays a vital role in cultivating awareness and responsibility among the younger generation. This study aims to explore the importance, implementation, and effectiveness of environmental education programs in Indian schools.

Environmental education (EE) has emerged as a crucial component of the school curriculum in India, given the growing environmental challenges the country faces, including pollution,

climate change, biodiversity loss, and natural resource depletion. This study explores the importance, current status, and impact of environmental education programs in Indian schools. It emphasizes that educating young minds about environmental issues is fundamental to creating a generation that is aware, responsible, and proactive in safeguarding the planet. The study reveals that EE fosters critical thinking, eco-conscious behavior, and active participation in conservation efforts among students. It encourages students to adopt sustainable practices, such as waste segregation, water conservation, and energy saving, both at home and in school settings.

The study highlights how environmental education is integrated into subjects like science, geography, and social studies, as well as through specialized programs like the National Green Corps (NGC), Eco Clubs, and initiatives supported by the Ministry of Environment, Forest and Climate Change (MoEFCC). It examines the pedagogical approaches used, including hands-on learning, field visits, nature camps, and project-based activities that engage students directly with their environment. Despite policy-level efforts through the National Curriculum Framework (NCF) and various guidelines from the Central Board of Secondary Education (CBSE) and State Boards, the study finds that the implementation of EE remains inconsistent. In many schools, particularly in rural and under-resourced areas, environmental topics are either underrepresented or taught in a theoretical manner without adequate practical exposure.

Furthermore, the study discusses the role of teachers and school leadership in the success of EE programs. It underscores the need for teacher training and capacity building to deliver environmental content effectively. It also points to the significance of community involvement, where parents and local bodies collaborate with schools in creating green campuses and organizing awareness drives. The study concludes that strengthening EE in Indian schools is imperative for long-term environmental sustainability. It recommends policy reinforcement, increased funding, curriculum innovation, and stakeholder collaboration to ensure that environmental education becomes a meaningful, action-oriented component of every child's learning experience. Through this, India can empower its youth to become environmentally literate citizens who can address environmental problems with informed decisions and a sense of ethical responsibility.

Ecology is connections that exist between living things and settings in which y live. Ecology be approached in two primary ways: first, by examining and impact it on living things; and second, by studying live creures and ways in which y have adapted to . An ecosystem be defined as a group creures th interact with an in a mutualistic manner and share a similar habit by working toger. Recycling merials is essential to functioning ecosystems. In addition to presence energy sources and channels for movement merials and energy, an ecosystem is comprised compnts th are physical, chemical, and biological compnts th live with an. physical locion in which a living creure exists is collectively referred to as its . "niche" a creure refers to particular role that it plays in which it is found.

2. Objectives of the Study

1. To understand the role of environmental education in promoting environmental awareness and sustainable behavior among students.
2. To examine the current structure and implementation of environmental education programs in Indian schools.
3. To identify the challenges faced in the effective delivery of EE across different regions and school types.
4. To suggest strategies for strengthening environmental education through curriculum, pedagogy, and policy support.

3. Need for the Study

India's environmental challenges are escalating, and young people must be equipped with the knowledge, skills, and values to protect and conserve natural resources. Schools serve as foundational institutions where attitudes and behaviors are formed. Hence, this study is necessary to evaluate how well schools are preparing students to engage with and address environmental issues.

The growing environmental challenges faced by India—ranging from air and water pollution to deforestation, climate change, and waste mismanagement—have made environmental awareness and action more urgent than ever. Schools play a critical role in shaping the attitudes and behaviors of young citizens, making it imperative to educate students about the environment from an early age. However, despite various policy efforts, the implementation and impact of Environmental Education (EE) programs in Indian schools remain inconsistent and under-researched. There is a lack of uniformity in how EE is taught across different regions, school types (government vs. private), and education boards. Moreover, environmental topics are often taught in a theoretical manner, with little focus on practical application or behavioral change.

This study is necessary to explore the current status, strengths, and weaknesses of EE programs in Indian schools. It aims to evaluate how well these programs are integrated into the curriculum, how teachers and students engage with them, and what gaps exist between policy and practice. Understanding these aspects will help in identifying effective strategies, best practices, and potential areas for reform. The study also highlights the need to build environmental consciousness through experiential learning, community involvement, and context-specific teaching methods. By doing so, it provides a foundation for recommending improvements that can contribute to a more environmentally responsible and sustainable society. In essence, this study is crucial to ensure that environmental education becomes a transformative tool, rather than a token component of school learning.

5. Scope of the Study

The study focuses on schools in urban, semi-urban, and rural areas of India, covering both government and private institutions. It looks at curricular and co-curricular EE initiatives, teacher involvement, student engagement, and the impact of programs like Eco Clubs, National Green Corps, and State-level green initiatives.

6. Methodology

The study uses a mixed-methods approach combining qualitative and quantitative data. Surveys and interviews with teachers, students, and school administrators are conducted to gather insights. Secondary data is also collected from educational policies, curriculum documents, and reports from the Ministry of Environment and educational boards.

The present review study adopts a qualitative and descriptive research methodology aimed at evaluating the significance and effectiveness of environmental education (EE) programs in schools across India. The study is based entirely on secondary data, utilizing a wide range of credible sources including peer-reviewed academic journals, government policy documents, curriculum frameworks, NGO reports, and international publications from organizations such as UNESCO and UNEP. The primary focus was on literature published between 2003 and 2024, aligning with the period following the Supreme Court mandate that made environmental education compulsory in Indian schools. Sources were selected based on relevance to the Indian context, with a particular emphasis on primary and secondary school education.

The data collection process involved systematic keyword-based searches using terms such as "environmental education in Indian schools," "eco clubs in education," "green education policy India," and similar variations. Abstracts and full texts were screened to ensure alignment with the research objectives. Studies focusing on higher education or not directly related to environmental education within Indian schools were excluded. The selected materials were reviewed through qualitative content analysis to identify recurring themes, such as implementation strategies, student and teacher participation, policy impact, infrastructural support, and challenges in delivery. The analysis also included comparisons between urban and rural schools, government and private institutions, and between theoretical policy goals and ground-level practices. While no primary data was collected, ethical considerations were maintained by ensuring proper citation and use of publicly available data. The findings from this methodology provide a comprehensive understanding of how environmental education is framed, delivered, and experienced in the Indian school system.

Key Findings (Expected):

- Environmental education has a positive impact on student attitudes and behaviors.
- Implementation is uneven across regions due to lack of resources, trained teachers, and policy enforcement.

- Experiential learning methods (e.g., field visits, project work, gardening) are more effective than textbook-based learning.
- Active participation of school leadership and community enhances program success.

Recommendations:

- Integrate EE more thoroughly into the core curriculum with measurable learning outcomes.
- Invest in teacher training and development programs on environmental pedagogy.
- Strengthen partnerships between schools, NGOs, and government agencies.
- Encourage student-led eco-initiatives and sustainability projects within school campuses.

Based on the findings of the review on the importance of environmental education (EE) programs in Indian schools, several key recommendations emerge to enhance their effectiveness and reach. Firstly, environmental education should be fully integrated into the mainstream curriculum across all levels of schooling, rather than being treated as an extracurricular or optional subject. This integration must be supported by the development of age-appropriate, region-specific, and activity-based learning materials that encourage critical thinking and real-life application. Secondly, teacher training is crucial—educators must be equipped with both the content knowledge and the pedagogical tools required to deliver EE in engaging, participatory, and interdisciplinary ways. Capacity-building workshops and regular professional development programs can significantly improve the delivery of EE in classrooms.

In addition, infrastructure and institutional support must be strengthened, particularly in rural and government schools, where the lack of basic facilities often hinders implementation. Active collaboration between schools and local communities, NGOs, and environmental organizations should be promoted to extend learning beyond the classroom and to involve students in real-world environmental projects. Initiatives such as school gardens, recycling drives, water conservation efforts, and biodiversity documentation can foster experiential learning and community engagement. Moreover, evaluation mechanisms should be developed to monitor and assess the impact of EE programs, not only in terms of academic outcomes but also in shaping attitudes and behaviors toward the environment. Finally, policy enforcement must be consistent, with both central and state governments ensuring that all schools comply with environmental education mandates and are adequately supported to do so. These measures, collectively, can transform environmental education into a powerful tool for building a generation of environmentally responsible and action-oriented citizens.

Conclusion

Environmental education is not just a subject but a necessity for nurturing responsible, informed citizens who will shape the future of India. Strengthening EE programs in schools is

a strategic step towards achieving environmental sustainability, national development goals, and global commitments like the Sustainable Development Goals (SDGs).

The study on the importance of environmental education (EE) programs in schools in India reveals that such education is essential in developing environmentally aware, responsible, and proactive citizens. With the country facing growing ecological challenges—including pollution, climate change, deforestation, and biodiversity loss—integrating EE into the school curriculum is not merely beneficial but imperative. The research highlights that environmental education fosters critical thinking, problem-solving abilities, and eco-friendly habits in students from an early age, shaping attitudes that contribute to long-term sustainability.

Despite initiatives by the government, such as the National Green Corps, Eco Clubs, and the inclusion of EE in the National Curriculum Framework (NCF) and the National Education Policy (NEP) 2020, the study finds that implementation remains uneven. Rural and under-resourced schools often lack trained teachers, learning materials, and infrastructural support to deliver impactful environmental education. Moreover, theoretical approaches still dominate, with limited hands-on or experiential learning opportunities.

The findings underscore the need for reforms at multiple levels—curricular, infrastructural, and pedagogical. Teacher training in environmental pedagogy, integration of practical learning methods, and greater community and institutional support are crucial for enhancing the effectiveness of EE programs. Schools must become active centers for promoting environmental stewardship, going beyond textbooks to foster real-world engagement with ecological issues.

In conclusion, environmental education is a vital tool for nation-building in the 21st century. By empowering students with knowledge, skills, and values for sustainable living, India can ensure that its future generations are better prepared to protect the environment and promote ecological balance. Strengthening and standardizing environmental education programs across all schools will be key to achieving this goal and supporting the broader objectives of sustainable development and global environmental responsibility.

References

1. Dr.A.M. Sharma, K. K., *Yashastilakā and Indian Culture*. Sholapur, 1949.
2. V.N. Singh Husain, Mahadi (Ed.), *The Rehla of Ibn Batuta*. Vadodara, 1953.
3. *Hyderabad Archeological Series; Volume VIII*, 1916
4. Kamat, Jyotsna K., *Social Life in Medieval Karnataka(SLMK)*, New Delhi, 1980.
5. Kamath, Suryanath U. (Ed.), *Karnataka State Gazeteer*, Vol. I and II, Bangalore, 1983.
6. Keay, F. F., *A History of Education in India and Pakistan*, 3rd Ed. Oxford, 1959.
7. Keay, F. F., *Ancient Indian Education: An Inquiry into the Origin, Development and Ideals*, Oxford, 1918.
8. Law, Narendranath, *Promotion of Learning in India during Muhammedan Rule by Muhammedans*, London, 1916.
9. Leela, Shanta Kumari, S, *The Agrahāras in Karnataka, 400-1300*, Madras, 1986.

10. Altekar A.S., Education in Ancient India, Benaras, 1948
11. Annual Report of South Indian Epigraphy, from 1847 onwards
12. *Annual Report of the Archaeological Survey of India, from 1887 onwards*
13. Das, Santosh Kumar, The Educational System of Ancient Hindus, Calcutta, 1933.
14. Das-Gupta, Devendra Chandra, Jaina System of Education, Calcutta, 1942.
15. Desai, P. B., Jainism in South India and Some Jaina Inscriptions, Sholapur, 1958.
16. Dharmapal, The Beautiful Tree, Indian Education in the Eighteenth Century, Delhi, 1981.
17. Dutt, Sukumar, Buddhist Monks and Monasteries of India (Their History and Their Contribution to Indian Culture.) London, 1962.
18. Epigraphia Carnatica, Volumes 1-16, Bangalore
19. Epigraphia Indica, from 1892 onwards
20. Fergusson, James, Architecture of Bijapoor, London, 1893.
21. *Government Archaeological Series, Andhra Pradesh*
22. Grey, Edward, Travels of Pietro della Valle. Vol. I and II, London, 1888.
23. Gurumurthy, S., Education in South India,(Ancient and Modern Periods), Madras, 1979.
24. Halappa, G.S. (Ed.), Studies in Education and Culture (Dr. D. C. Pavate Felicitation Volume), Dharwad, 1960.
25. Baddeley, A. D., & Della Sala, S. (1996). Working memory and executive control. *Philosophical Transactions of the Royal Society of London*, 351, 1397-1404.
26. Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*, 41, 49-100.
27. Baddeley A, Gathercole S, Papagno C (January 1998). "The phonological loop as a language learning device". *Psychol Rev* 105 (1): 158–73. [doi:10.1037//0033-295X.105.1.158](https://doi.org/10.1037//0033-295X.105.1.158). [PMID 9450375](https://pubmed.ncbi.nlm.nih.gov/9450375/).
28. a) Conrad. R. & Hull, A.J. (1964) Information, acoustic confusion and memory span. *British Journal of Psychology*. 55, 429–432.
b) Baddeley, A.D. (1966) Short-term memory for word sequences as a function of acoustic, semantic and formal similarity. *Quarterly Journal of Experimental Psychology* 18, 362–365.
29. Baddeley, A.D. et al. (1975). Word length and the structure of short-term memory. *Journal of Verbal Learning and Verbal Behavior* 14, 575–589.
30. Murray, D.J. (1968). Articulation and acoustic confusability in short term memory. *Journal of Experimental Psychology* 78, 679–684
31. Waters, G.F. et al. (1992). The role of high-level speech planning in rehearsal: Evidence from patients with apraxia of speech. *Journal of Memory and Language* 31, 54–73.
32. Baddeley, A.D. & Wilson, B.A. (1985). Phonological coding and shortterm memory in patients without speech. *Journal of Memory and Language* 24, 490–502.
33. Baddeley, A.D. (2000). The episodic buffer: A new component of working memory? *Trends in Cognitive Science*, 4, 417-423.

34. Logie, R.H.(1995). Visuo-spatial working memory, Hove, UK: Lawrence Erlbaum Associates.
35. Klauer, K. C., & Zhao, Z. (2004). Double dissociations in visual and spatial short-term memory. *Journal of Experimental Psychology: General*, 133, 355–381.