SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

GREEN EDUCATION AND THE SUSTAINABLE DEVELOPMENT GOALS IN THE SCHOOL CURRICULUM

Ms. Maitreyee Padhi[1], Dr.Nibedita Kar[2]
[1]*Research Scholar, Berhampur University*
[2]*Assistant Professor in Teacher Education, D.P.I.A.S.E, Berhampur*

Article DOI: https://doi.org/10.36713/epra28261
DOI No: 10.36713/epra28261

ABSTRACT
Sustainable development requires a generation of learners who understand environmental challenges and are equipped to transform societies. Green education embeds environmental awareness, climate change literacy, and sustainable practices across school curricula, aligning classroom learning with the United Nations' Sustainable Development Goals (SDGs). This chapter examines the theoretical foundations of Education for Sustainable Development (ESD), surveys global and Indian initiatives, and proposes strategies for integrating sustainability into various subjects. Drawing on cases from Finland's cross-curricular theme, Ontario's Eco Schools, Australia's Resource Smart program, New Jersey's climate-change standards, and India's National Curriculum Framework and eco-club movement, it illustrates how schools can move beyond isolated environmental lessons to achieve systemic change. The chapter discusses pedagogical approaches, such as project-based learning, fieldwork, and community partnerships, highlights teacher training needs, and analyses challenges related to time, resources, and assessment. It concludes by offering policy recommendations and a framework for evaluating impact.
KEYWORDS: *Green education; Sustainable Development Goals; Environmental education; Curriculum integration; India.*

1. INTRODUCTION

The United Nations' Sustainable Development Goals (SDGs) represent an ambitious agenda to eradicate poverty, protect the planet and ensure prosperity for all by 2030. Goal 4 aims to provide inclusive and equitable quality education, ensuring that all learners acquire the knowledge and skills necessary to promote sustainable development. Green education is a comprehensive approach in which environmental awareness, climate change education and sustainable practices permeate school curricula, pedagogy and culture. Rather than treating environmental issues as isolated topics, green education integrates ecological thinking and socio-economic understanding into teaching and learning, enabling young people to become change agents who can advance the SDGs. This chapter examines the conceptual foundations of Education for Sustainable Development (ESD), reviews global and Indian initiatives, and proposes a framework for integrating green education into various school subjects.

2. CONCEPTUAL FOUNDATIONS FOR GREEN EDUCATION

2.1 Education for Sustainable Development and Key Competencies

Education for Sustainable Development (ESD) emphasises transforming education, equipping learners with the competencies to act for sustainable futures. UNESCO's **Education for Sustainable Development Goals: Learning Objectives** identifies cross-cutting competencies that all learners should develop, including systems thinking (understanding complex interactions), anticipatory competency (envisioning future scenarios), normative competency (reflecting on values and justice), strategic competency (developing and implementing actions), collaboration, critical thinking, self-awareness and integrated problem solving (UNESCO, 2017). These competencies span cognitive, socio-emotional, and behavioural domains and require participatory, action-oriented pedagogy. ESD thus extends beyond knowledge acquisition; it fosters values, attitudes and motivation to participate in societal transformation.

2.2 Sustainable Development Goals and Target 4.7

The SDGs provide a comprehensive framework for sustainable development. Education intersects with all goals, but Target 4.7 specifically calls on countries to ensure that "all learners acquire the knowledge and skills needed to promote sustainable development" and "appreciation of cultural diversity and of culture's contribution to sustainable development." This target underscores the importance of integrating sustainability into the curriculum. Because environmental challenges are interlinked with social justice, economic equity and cultural practices, green education must address the 17 goals holistically rather than compartmentalising them.

2.3 Environmental Education and Climate Change Education

Environmental education traditionally focuses on ecological knowledge, awareness and conservation. Climate change education (CCE) extends this focus by integrating scientific understanding of climate systems with social, economic and political

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

contexts. CCE advocates for transformational education that empowers learners to act and collaborate, fosters critical and strategic thinking, and acknowledges emotional responses, such as eco-anxiety (Wals & Bofferding, 2019). Both environmental education and CCE recognise that addressing environmental crises requires interdisciplinary knowledge, ethical reflection and action.

3. GLOBAL INITIATIVES INTEGRATING GREEN EDUCATION IN SCHOOLS

3.1 Finland: Sustainability as a Cross-Curricular Theme

Finland embeds sustainable development as a cross-curricular theme in its national core curriculum. This theme must be included in all subjects and the operational culture of schools. Students are expected to understand the significance of protecting the environment, evaluate their and community practices and contribute to a sustainable future (Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005). The curriculum emphasises participation and building a sustainable future as a transversal competence, requiring schools to integrate sustainability into learning objectives and everyday practice. Climate change education in Finland is multidisciplinary and interdisciplinary, requiring students to comprehend scientific concepts alongside socio-economic and political dimensions, and encouraging transformative, holistic, and systemic thinking (Wals & Bofferding, 2019).

3.2 The Eco-Schools Program

The Eco-Schools program—active in nearly 70 countries—is both a program and an award scheme for schools that commit to long-term environmental action. It uses a seven-step framework involving pupil participation, environmental review, action planning, monitoring, curriculum linkage, informing and involvement and establishing an Eco-Code. Schools work on themes such as litter, energy, water, waste, transport, healthy living, outdoor learning, biodiversity, global perspective and climate change. The program emphasises whole-school participation and community involvement, with recognition through bronze, silver and Green Flag awards (Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005). Ambassador schools mentor others, and the program is adaptable to different educational stages, thus encouraging sustained behaviour change.

3.3 Ontario's Eco-Schools and Climate Change Education

Ontario's Eco-Schools program promotes environmental learning and certification across school operations. A thematic report on climate change learning found that climate change education was delivered across grade levels and subjects and that school Eco-Teams organised campaigns and workshops. However, teachers faced barriers, including limited time and difficulty integrating additional materials. The report recommended embedding climate change education beyond science into subjects such as social studies and arts, providing resources and funding, measuring outcomes and securing school board support (Ontario EcoSchools, 2017). These findings highlight the importance of curriculum flexibility, teacher professional development and institutional backing.

3.4 New Jersey: Cross-Subject Climate Standards

In 2020, New Jersey became the first U.S. state to mandate the integration of climate change content across all grade levels and subjects—including health, career readiness, computer science, social studies, arts and languages. Educators noted that cross-curricular integration empowers students to understand the relevance of climate change in all aspects of life and enables them to take action (NEA, 2020). This policy illustrates how standards can necessitate climate change education beyond science classes, promoting interdisciplinary approaches.

3.5 Resource Smart Schools in Australia

The Australian state of Victoria's Resource Smart Schools (RSS) program supports schools in embedding sustainability across their curriculum, infrastructure, and community partnerships. Case studies illustrate how schools implement the program:

- **Monbulk Primary School** established a student sustainability team, appointed sustainability leaders, reviewed curriculum integration, installed solar panels, reduced waste and partnered with the local council for tree planting (Resource Smart Schools, 2021).
- **Albert Park College** aimed to become carbon-negative by sourcing 100 % renewable energy, installing solar panels and implementing comprehensive waste management (ResourceSmart Schools, 2021).
- **Newham Primary School** dedicated a term to a whole-school "water" theme in which students examined climate change, social justice and the concept of sand dams across subjects (ResourceSmart Schools, 2021).
- **Camp Hill Primary School** integrated sustainability into multiple subjects and provided teacher professional development through the ResourceSmart Schools program (ResourceSmart Schools, 2021).

These examples show that hands-on projects, cross-disciplinary themes, and leadership support can transform school culture toward sustainability

3.6 Lessons from Global Case Studies

The **Practising Education for Sustainable Development: Case Study Guide for Educators synthesises** lessons from multiple case studies. It emphasises that supportive school leadership, community partnerships and translation of resources into local contexts are crucial for successful SDG projects. Teachers benefit from autonomy and time to explore sustainability in their

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

curricula, while quantifying benefits (e.g., cost savings) helps convince stakeholders (Research Journal of Humanities and Social Sciences, 2016). These lessons inform the framework developed later in this chapter.

4. INDIAN INITIATIVES FOR GREEN EDUCATION

4.1 History and Policy Context

In India, environmental education gained prominence following a 1991 Supreme Court directive that made environmental education compulsory at all levels of formal education. The National Council of Educational Research and Training (NCERT) implemented an **infusion** approach rather than introducing a stand-alone subject. For classes I–II environmental themes are integrated into core subjects such as reading, writing and mathematics; for classes III–V a separate subject titled Environmental Studies (EVS) combines science and social studies; for classes VI–X environment content is infused across subjects with 10 % marks allocated for environmental components; and for classes XI–XII students undertake project-based interdisciplinary work using project books(Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005). This approach combines environmental learning with real-life experiences, fostering critical thinking and problem-solving.

India's **National Education Policy (NEP) 2020** reinforces the integration of environment and sustainability principles into all levels of education. It mandates courses on environmental education that address climate change, pollution, waste management, and biodiversity conservation, and calls for community engagement and hands-on activities (Baskar & Baskar, n.d.). The **National Curriculum Framework (NCF) 2023** recommends environmental education as an interdisciplinary area infused across various subjects. Examples include science chapters such as "Forests: Our Lifeline," "Wastewater Story," "Our Environment", and "Biodiversity and Conservation," demonstrating how environmental concepts are embedded in textbooks (Government of India, 2023). Supplementary project books, teacher handbooks and national science exhibitions support practical learning (Government of India, 2023). The NEP and NCF thus provide policy backing for integrating green education into curricula.

4.2 Eco-Clubs and the National Green Corps

The **National Green Corps (NGC)** operates eco-clubs in schools across India. Each club comprises 50–60 students led by a teacher and organises hands-on activities such as waste management, tree planting, water conservation, and biodiversity projects. District and state committees provide training and oversight, and the program encourages observation, problem solving and independent thinking (National Green Corps, 2001). Eco clubs aim to cultivate environmental consciousness and responsibility by engaging students in community interaction and fostering a scientific temperament. Non-governmental organisations, such as the Bobay Natural History Society, have played an instrumental role in supporting eco-club initiatives and campaigns.

4.3 Mission LiFE and Lifestyle Changes

Mission LiFE (Lifestyle for Environment), launched by the Government of India, promotes sustainable living and encourages citizens to adopt behaviours like saving energy, conserving water, and reducing waste. While its digital portal contains interactive elements rather than textual guidelines, school eco-clubs increasingly align their activities with Mission LiFE, such as tree-planting campaigns ("Ek Ped Maa ke Naam") and awareness drives. Integrating Mission LiFE into school curricula reinforces the importance of individual and collective lifestyle changes that support the SDGs.

5. INTEGRATING SDGS INTO SCHOOL SUBJECTS

SDG-linked education requires connecting sustainability themes to the existing curriculum. This section proposes strategies for integrating environmental and sustainability content across disciplines.

5.1 Science and Mathematics

In science classes, teachers can explore topics such as ecology, biodiversity, ecosystems, climate systems, renewable energy, and pollution. Examples include studying local biodiversity, conducting water and air quality tests, modelling energy transfers and examining human impacts. Indian textbooks already feature chapters such as "Wastewater Story" and "Our Environment," encouraging students to investigate real-world environmental issues (Government of India, 2023). Students can calculate carbon footprints, analyse climate data, model population growth, and design experiments related to SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land). Mathematics lessons can incorporate statistics on greenhouse-gas emissions, graphs of temperature trends, optimisation problems for waste reduction, and budgeting for school sustainability projects.

5.2 Social Studies and Humanities

Social studies offer opportunities to examine human-environment interactions, environmental history, indigenous knowledge and climate justice. Topics include sustainable urban planning, resource distribution, environmental laws, environmental ethics and globalisation. Students can explore case studies of environmental movements, such as the Chipko movement in India, analyse the differential impacts of climate change on marginalised communities, and debate policies related to sustainable development. Integrating SDG 10 (Reduced Inequalities) and SDG 11 (Sustainable Cities and Communities) encourages learners to consider social dimensions of sustainability and fosters empathy and civic engagement.

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

5.3 Languages, Arts and Cultural Education

Language classes can incorporate literature addressing environmental themes—from indigenous folklore and eco-poetry to contemporary climate fiction. Students may write persuasive essays advocating environmental protection, translate local environmental stories, or produce podcasts. Arts education enables expression through eco-theatre, documentary filmmaking, environmental murals, and traditional crafts that utilise recycled materials. Such activities foster creativity and cultural appreciation while supporting Target 4.7's call to promote global citizenship and cultural diversity.

5.4 Physical and Health Education

Health and physical education can highlight the connections between personal well-being and the environment. Topics include nutrition and sustainable diets, clean air and water, the impacts of climate change on public health, and the benefits of outdoor activity. Teachers can organise school gardening, yoga in natural settings, or campaigns encouraging active transportation (walking, cycling) that reduce carbon emissions and promote healthy lifestyles.

5.5 Vocational and Technical Education

Vocational education should prepare students for green jobs. Modules can cover renewable energy technologies, sustainable agriculture, waste management and green entrepreneurship. Students might design solar-powered gadgets, practice organic farming in school gardens or learn about circular economy principles. Integrating SDG 12 (Responsible Consumption and Production) and SDG 7 (Affordable and Clean Energy) equips students with practical skills for sustainable livelihoods.

5.6 Digital and Computing Education

Digital literacy for sustainability involves utilising information and communication technologies to comprehend environmental issues and facilitate effective action. Activities can include programming data visualisations of climate trends, building citizen science apps, analysing satellite imagery or using virtual reality to explore ecosystems. Students should also discuss the environmental footprint of digital technologies and consider how innovations can support the SDGs.

6. PEDAGOGICAL APPROACHES FOR GREEN EDUCATION

6.1 Experiential and Project-Based Learning

Hands-on experiences deepen understanding and foster a sense of ownership. Field trips to forests, wetlands, agricultural fields, waste treatment plants and science museums expose students to real-world issues. School gardens, composting projects, rainwater harvesting systems and biodiversity audits enable learners to apply scientific concepts, practice observation and experimentation, and see tangible results. Project-based learning encourages students to identify local problems, conduct research, design interventions, and present their outcomes. For example, a project on plastic reduction might involve auditing school waste, educating peers, designing awareness campaigns and collaborating with local authorities.

6.2 Inquiry-Based and Problem-Based Learning

Inquiry-based learning encourages students to ask questions, formulate hypotheses and explore solutions. Problem-based learning presents authentic challenges—for instance, devising a plan to reduce the school's energy consumption or improve community water security. These approaches promote critical and creative thinking, aligning with UNESCO's recommended competencies (UNESCO, 2017).

6.3 Participatory and Collaborative Approaches

Student participation is central to programs like Eco-Schools, which require establishing Eco-Teams, conducting environmental reviews, and developing action plans (Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005). Collaborative learning fosters social skills and peer support, while cross-age mentoring enables older students to guide younger peers in sustainability projects. Partnerships with parents, local governments, non-profits and businesses strengthen community engagement and provide resources and expertise. Cultural activities, such as community clean-ups and environmental festivals, reinforce learning.

6.4 Integration of Digital Tools and Gamification

Digital tools can enhance engagement and reach. Educational games, simulations, interactive apps, online forums, and social media campaigns allow students to share experiences and coordinate actions. Teachers can utilise open educational resources (OERs), digital storytelling, and virtual labs to supplement lessons, thereby addressing barriers to access to physical resources.

7. TEACHER TRAINING AND CAPACITY BUILDING

Teachers play a pivotal role in effective green education. However, research from Ontario's EcoSchools indicates that time constraints and difficulties integrating extra material are significant barriers (Ontario EcoSchools, 2017). Teachers require professional development to understand sustainability concepts, design interdisciplinary lessons and facilitate action projects. Pre-service teacher education programs should include modules on ESD, climate science, environmental ethics and pedagogy. In-service training can include workshops, peer learning networks and mentoring. Localised resources should be translated into local languages

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

and contextualised (United Nations, 2015). Schools need to allocate time for teachers to collaborate and plan. Encouraging teacher autonomy and recognising innovations fosters motivation.

8. CHALLENGES AND BARRIERS

Implementing green education faces several challenges:

- **Curriculum overload and time constraints:** Teachers often struggle to incorporate additional content into dense curricula (Ontario EcoSchools, 2017). -Cross-curricular integration requires careful planning and institutional support.
- **Resource and funding limitations:** Many schools lack access to materials, laboratories or outdoor spaces for experiential learning. Programs like EcoSchools and ResourceSmart offer frameworks but require investment in infrastructure such as solar panels or rainwater harvesting systems (ResourceSmart Schools, 2021).
- **Teacher preparation:** Teachers may not feel confident teaching climate change or sustainability, especially if they lack a scientific background or training (Ontario EcoSchools, 2017).
- **Assessment difficulties:** Evaluating environmental literacy and sustainable behaviours is complex. Traditional exams may not effectively capture competencies such as systems thinking or collaboration.
- **Socio-cultural and economic factors:** In contexts with pressing social and economic challenges, sustainability may be perceived as a secondary priority. Overcoming cultural norms and encouraging behaviour change requires sensitivity and community engagement.
- **Emotional responses:** Climate change can evoke anxiety and helplessness, especially among young people. Teachers must provide support and emphasise agency and hope (Wals & Bofferding, 2019)

9. EVALUATION AND ASSESSMENT

Measuring the effectiveness of green education involves assessing knowledge, attitudes, skills and behaviours. Evaluation methods may include:

- **Portfolios and project reports:** Documenting student work, reflections and feedback from community partners.
- **Rubrics for competencies:** Using qualitative descriptors to assess systems thinking, collaboration and problem solving.
- **Performance tasks:** Real-world challenges (e.g., designing a water conservation plan) assessed through presentations and peer evaluation.
- **Surveys and interviews:** Gauging shifts in attitudes and behaviours, including household actions and participation in civic activities.
- **Environmental indicators:** Tracking quantifiable outcomes such as energy use reduction, waste generation or water consumption after school interventions.

Whole-school certification programs (e.g., EcoSchools, ResourceSmart) often require evidence of environmental improvements and student engagement, providing accountability and motivation.

10. CASE STUDIES

10.1 Eco-Clubs in Indian Schools

In Delhi and other Indian cities, eco-clubs have become hubs for environmental education. Students participate in activities such as tree planting, waste segregation, paper recycling, vermicomposting and awareness campaigns. The clubs encourage observation, community interaction and scientific temper. Collaboration with NGOs provides technical support, and clubs often extend learning beyond school through neighbourhood clean-ups and energy conservation drives. Some schools integrate eco-club projects into science or social studies assessments, encouraging interdisciplinary learning.

10.2 Monbulk Primary School, Australia

Monbulk Primary School in Victoria demonstrates how a comprehensive sustainability program can transform a school. The school created a student “Green Team” that led environmental audits and action plans. Solar panels and energy monitoring systems were installed, waste was reduced through composting and recycling, and students collaborated with local government to plant trees (ResourceSmart Schools, 2021. Sustainability themes were embedded across lessons, and the school celebrated achievements through “Green Days.” Teachers reported increased student engagement and a stronger sense of community.

10.3 Newham Primary School, Australia

Newham Primary School employed a whole-school theme of water to integrate sustainability across all subjects. Students studied water cycles and climate change in science, explored the social justice implications of water scarcity in social studies, created water conservation advertisements in language arts, and built models of sand dams in technology classes (ResourceSmart Schools, 2021). The thematic approach fostered coherent learning and deepened understanding of connections among SDGs.

10.4 New Jersey’s Cross-Curricular Climate Education

By mandating climate change content in all subjects, New Jersey enabled students to see the relevance of environmental issues across disciplines, from the arts to career readiness (nea.org). For instance, English classes analysed climate poetry, history

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

classes examined the environmental movement, health classes discussed heat waves and mental health, and vocational classes explored green jobs. Teachers collaborated across departments to develop integrated units, demonstrating how policy can drive innovation.

10.5 Ontario EcoSchools

Ontario's Climate Change Theme Year revealed that students and teachers are eager to engage with sustainability when given structured opportunities. EcoTeams organised school-wide campaigns, such as "Bike to School Week" and "Lights Out Lunch," hosted workshops, and created art installations. However, teachers noted that time to integrate climate topics was limited and recommended embedding climate change across subjects rather than confining it to extracurricular activities (Ontario EcoSchools, 2017). The province responded by developing curricular resources and professional development courses.

10.6 The National Green Corps and Mission LiFE

India's eco-clubs under the National Green Corps show how structured programs can empower students. Clubs typically organise weekly meetings, plan activities aligned with local environmental issues and celebrate days like Earth Day and World Environment Day. Students learn to measure environmental indicators and present findings at district or state conferences. Mission LiFE campaigns encourage students to adopt sustainable behaviours at home and school, such as planting trees and reducing single-use plastics.

11. POLICY RECOMMENDATIONS AND FUTURE DIRECTIONS

11.1 For Policymakers

- **Integrate ESD across curricula:** National and state curricula should mandate sustainability content across subjects, as seen in Finland and New Jersey(Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005). Policies must support cross-curricular learning and allocate time for interdisciplinary planning.
- **Provide resources and funding:** Schools require financial support for infrastructure (e.g., solar panels, rainwater harvesting), teaching materials and field experiences. Funding should also support teacher training, digital tools and community partnerships.
- **Develop assessment frameworks:** National assessment bodies should create tools to evaluate environmental competencies and sustainable behaviours, moving beyond rote exams.

11.2 For School Leaders

- **Embed sustainability in the school vision:** Leadership commitment is critical for successful SDG projects(files.unsdsn.org). Schools should establish eco-teams, integrate sustainability into their strategic plans, and celebrate achievements.
- **Foster community partnerships:** Collaborate with local governments, NGOs, universities, and businesses to access expertise and resources and implement community projects.
- **Encourage teacher collaboration:** Provide time for cross-departmental planning and professional learning communities to design integrated lessons.

11.3 For Teachers

- Adopt learner-centred pedagogies: Emphasise inquiry, project-based learning and reflection to develop competencies such as critical thinking and collaboration (UNESCO, 2017).
- **Localise content:** Tailor lessons to local environmental issues and cultural contexts(files.unsdsn.org). Use indigenous knowledge and local case studies to enhance relevance.
- **Leverage digital tools:** Use technology to access resources, connect with experts and share student projects. Encourage digital citizenship and awareness of the environmental footprint of technologies.

11.4 For Students

- **Act as change agents:** Participate in eco-clubs, propose sustainability initiatives, and advocate for school and community environmental policies.
- **Develop systems thinking:** Understand how environmental, social and economic systems interconnect and anticipate long-term consequences of actions.
- **Collaborate and reflect:** Work with peers, families and community members to implement solutions and reflect on learning experiences.

11.5 Future Research and Innovation

Further research is needed to assess the long-term impact of green education on behaviour and societal change, especially in diverse cultural contexts. Innovations such as citizen science programs, cross-border project collaborations and integration of artificial intelligence in environmental monitoring could enhance learning. Researchers should explore how to address eco-anxiety and develop pedagogies that balance awareness of global challenges with optimism and resilience.

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

12. CONCLUSION

Green education is fundamental to achieving the Sustainable Development Goals. Educators can nurture systems thinkers and responsible citizens by integrating environmental awareness, climate change education, and sustainable practices into school curricula. The examples from Finland, EcoSchools, New Jersey, ResourceSmart Schools and India's eco-clubs illustrate that when sustainability becomes a cross-cutting theme, students engage deeply, develop competencies and initiate change. Achieving this integration requires supportive policies, teacher training, community partnerships and robust assessment methods. As the climate crisis intensifies, schools must become laboratories for sustainable living, empowering learners to envision and build a just and resilient future.

REFERENCES

1. *Cadw. (2011). India's Natural and Cultural Heritage: A Modern Analysis.*
2. *EarthDay.org. (2021). A School's Guide to Climate Education: Lessons for teachers and community leaders. EarthDay.org.*
3. *Finland Ministry of Education and Culture. (2016). National Core Curriculum for Basic Education. Government of Finland.*
4. *Ghosh, S., & Goel, S. (2014). Environment education through Eco-Club activities in schools: Relevance in planning modern India. International Journal of Home Science Extension and Communication Management, 1(2), 152-158.*
5. *Government of India. (2020). National Education Policy 2020. Ministry of Human Resource Development.*
6. *Government of India. (2023). National Curriculum Framework for School Education. Ministry of Education.(Government of India, 2023)(Government of India, 2023).*
7. *Gujarat Ecological Education and Research Foundation & Centre for Environment Education. (2005). Compulsory Environmental Education in India. In the Global Environmental Education Partnership (GEEP) Case Study.(Gujarat Ecological Education and Research Foundation & Centre for Environment Education, 2005).*
8. *National Green Corps. (2001). Eco-Club: Handbook for Teachers. Ministry of Environment and Forests.cvs.edu.in.*
9. *NEA (National Education Association). (2020). Climate Change: New Jersey Sets the Standard.*
10. *Ontario EcoSchools. (2017). Climate Change Learning and Action in Ontario's Certified EcoSchools. ecoschools.ca.*
11. *Research Journal of Humanities and Social Sciences. (2016). Practicing Education for Sustainable Development: Case Study Guide for Educators.files.unsdsn.org.*
12. *ResourceSmart Schools. (2021). ResourceSmart Schools Case Studies – Environmental Sustainability in Schools www2.education.vic.gov.auwww2.education.vic.gov.auwww2.education.vic.gov.auwww2.education.vic.gov.au.*
13. *UNESCO. (2017). Education for Sustainable Development Goals: Learning Objectives unesco.at.*
14. *United Nations. (2015). Transforming Our World: The 2030 Agenda for Sustainable Development.*
15. *Wals, A. E., & Bofferding, L. (2019). Climate Change Education in Finland: From knowledge to empowerment. MDPI Encyclopaedia encyclopedia.pub.*
16. *Baskar, D. R., & Baskar, D. S. (n.d.). National Education Policy (NEP) 2020 and Environment Education. Green Educators' Network.*
17. *Akinsemolu, A.A., & Onyeaka, H.N. (2025). The role of green education in achieving the sustainable development goals: A review. Renewable and Sustainable Energy Reviews.*
18. *Chaudhary, A. (2026). Artificial intelligence-driven green education for sustainable development goals: A review. International Journal of Applied Resilience and Sustainability.*
19. *P, S. (2025). Technological Innovations in Education for Sustainable Development Goals: A Bibliometric analysis. Journal of International Commercial Law and Technology.*
20. *Sandoval-Hernández, A. (2023). A Monitoring Strategy for UNESCO's Sustainable Development Goals on Global Citizenship Education and Education for Sustainable Development. AERA 2023.*
21. *Ropiudin, A. (2023). Bringing Sustainable Development Goals into Classrooms: Digital Picture books as Resources for Education for Sustainable Development. Proceedings of the 3rd International Conference on Community Engagement and Education for Sustainable Development.*
22. *Singh, P.D., Manhas, A.S., & Gusain, S. (2020). QUALITY OF EDUCATION AND SUSTAINABLE DEVELOPMENT GOALS IN PAURI GARHWAL. Himalayan Journal of Social Sciences and Humanities.*
23. *Nielsen, C.S., Samuel, G.M., Vadim, P., Hartman, L., Hartzenberg, F., & Gerlach-Hansen, O. (2021). A Microtopia of Arts Education: International Sustainable Development Policy Brought to Life in an Educational Project Involving Institutions in South Africa and Denmark. Yearbook of the European Network of Observatories in the Field of Arts and Cultural Education (ENO).*
24. *Lunayach, A., & Khichar, V. (2024). INTEGRATING GREEN EDUCATION FOR SUSTAINABLE DEVELOPMENT: A STUDY OF INDIA'S EDUCATIONAL APPROACH. International Journal of Education, Modern Management, Applied Science & Social Science.*
25. *Adnyana, I.M., Mahendra, K.A., & Raza, S.M. (2023). The importance of green education in primary, secondary and higher education: A review. Journal of Environment and Sustainability Education.*
26. *Made, I., Mertha, D., Adnyana□, 1., Mahendra, K.A., & Meesam, S. (2023). The Importance of Green Education in Indonesia: An analysis of Opportunities and Challenges. Education Specialist.*
27. *Adnyana, I.M., & Sudaryati, N.L. (2022). The potency of green education-based blended learning in biology students at the Hindu University of Indonesia. BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan.*
28. *Abeyrathna, A. (2021). Green Education in a University Classroom: Benefits and Challenges. SSRN Electronic Journal.*
29. *Ahmad, N.L., Hassan, F., Khir, M.M., S. Ahmad, S., & Rahim, R.A. (2019). Conceptualizing Green Education Awareness in Primary School to Promote Sustainability.*
30. *Aithal, S., & Rao, P.S. (2016). Green Education Concepts & Strategies in Higher Education Model.*

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 11| November 2026 - Peer Reviewed Journal

31. *K. M., M., Aithal, P.S., & K. R. S., S. (2024). Green HRM and Teaching Sustainability in higher education Institutions: For Promoting Sustainable Education and Sustainable Development Goals. International Journal of Case Studies in Business, IT, and Education.*
32. *Kupper, H.E., Laurentzen, R., & Mulder, M. (2012). Recent Policy Developments in Green Education in the Netherlands. The Journal of Agricultural Education and Extension, 18, 121 - 139.*
33. *Hou, H.(., Lai, J.H., & Wu, H. (2023). Project-based learning and pedagogies for virtual reality-aided green building education: case study on a university course. International Journal of Sustainability in Higher Education.*
34. *Wu, G. (2011). A New Concept of Green Education: The Cultivation Model for Successful and Practical Talents.*
35. *Li, L., Li, G., Ozturk, I., & Ullah, S. (2022). Green innovation and environmental sustainability: Do clean energy investment and education matter? Energy & Environment, 34, 2705 - 2720.*
36. *Pereira Ribeiro, J.M., Hoeckesfeld, L., Dal Magro, C.B., Favretto, J., Barichello, R., Lenzi, F.C., Secchi, L., Montenegro de Lima, C.R., & Salgueirinho Osório de Andrade Guerra, J.B. (2021). Green Campus Initiatives as sustainable development dissemination at higher education institutions: Students' perceptions. Journal of Cleaner Production, 312, 127671.*
37. *Baharuddin S, A., Saihan, S., & Usriyah, L. (2025). Green School Initiatives: Cultivating Environmental Awareness in Elementary Education. Journal of Educational Research and Practice.*
38. *Puspita, B., Murtopo, A., & Dewi, K. (2024). Green School-Based Early Childhood Education: A Case Study at Kindergarten in Palembang. GENIUS Indonesian Journal of Early Childhood Education.*
39. *Chitra, S., & Gurung, M. (2021). The Concept of Green School in Bhutan for Holistic Education and Development. Rupkatha Journal on Interdisciplinary Studies in Humanities.*
40. *Yuan, X., Yu, L.E., Wu, H., She, H., Luo, J., & Li, X. (2022). Sustainable Development Goals (SDGs) Priorities of Senior High School Students and Global Public: Recommendations for Implementing Education for Sustainable Development (ESD). Education Research International.*
41. *Han, J., Kelley, T.D., & Knowles, J.G. (2022). Building a sustainable model of integrated stem education: investigating secondary school STEM classes after an integrated STEM project. International Journal of Technology and Design Education, 1 - 25.*
42. *Holst, J., Singer-Brodowski, M., Brock, A., & de Haan, G. (2024). Monitoring SDG 4.7: Assessing Education for Sustainable Development in policies, curricula, training of educators and student assessment (input-indicator). Sustainable Development.*
43. *Huang, R.X., Pagano, A., & Marengo, A. (2024). Values-Based Education for Sustainable Development (VbESD): Introducing a Pedagogical Framework for Education for Sustainable Development (ESD) Using a Values-Based Education (VbE) Approach. Sustainability.*
44. *Mogren, A., Gericke, N., & Scherp, H.A. (2019). Whole school approaches to education for sustainable development: a model that links to school improvement. Environmental Education Research, 25, 508 - 531.*
45. *Parihar, P., & Prasad, D. (2025). Integrated ELVDC Microgrid Modeling for Sustainable Education Centre. 2025 5th International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU), 1-6.*
46. *Sarmah, D.N., & Deka, D.S. (2023). SCHOOL BASED ENVIRONMENTAL EDUCATION PROGRAMMES IN THE SCENARIO OF ASSAM, INDIA: KEY TO SUSTAINABLE DEVELOPMENT. EPRA International Journal of Multidisciplinary Research (IJMR).*
47. *Vyas, K.K., & Vyas, S. (2019). A Paradigm Shift in Digital India for Sustainable Education System Part 4 – (SE Implementation,).*
48. *Murmu, D.R., Mohalik, S., & Behera, N.P. (2026). Awareness Towards Sustainable Development among Higher Secondary School Students in Odisha, India. Asian Journal of Education and Social Studies.*