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# INTEGRATION OF SUSTAINABLE DEVELOPMENT IN INDIA'S SCHOOL EDUCATION CURRICULUM

**Kushmeeta Chettri**
Assistant Professor, Department of Education, Nakshalbari College
Email: kushmeetach@gmail.com

## ABSTRACT
Integrating Sustainable Development concepts in the school educational modules is an important activity. This trains students on the problems related to the environment in the contemporary world. Various educational systems in India like the Central Board of Secondary Education (CBSE), the Indian Certificate of Secondary Education (ICSE) and different state syllabuses, sustainability education is taught through subjects like Environmental Science, Social Studies and the natural sciences. Students acquire the knowledge, skills and ethics necessary to contribute to positive change in society actively through interdisciplinary approaches, hands on learning experiences and value-based education. This paper features the significance of sustainability education in encouraging environmental awareness, social responsibility and ethical consciousness among students. This study attempts to examine how Sustainable Development practices and principles are dealt with in the school curriculum in Indian society. The investigator has adopted an analytical framework and comparative review method in examining the curriculum guidelines. The core objectives of the study are to understand, compare and find the gaps in integrating Sustainable Development education as a part of the Curriculum Frameworks in India. The investigator has studied the Curriculum Frameworks of CBSE, ICSE and selected state boards of India at different school levels and found that there is a considerable focus on awareness and social responsibility among the students. The findings also indicate that integration of sustainable development education across the boards is uneven.

***Keywords:*** Integration, Sustainable Development, Curriculum, Environmental Awareness.

## INTRODUCTION
Sustainable Development is important because of many interrelated factors in India (UNESCO, 2021). India faces many environmental challenges like pollution, deforestation, water scarcity and climate change (MoEF&CC, 2020). These issues affect health, livelihood conditions and wellbeing of people (World Health Organisation, 2018). Integrating Sustainable Development in the curriculum can help raise awareness about environmental conservation and responsibility for natural resources (United Nations Environment Programme, 2017). India is characterised by social inequalities and disparities in access to education, healthcare and basic amenities (United Nations Development Programme, 2019). Sustainable Development aims to address these inequalities by promoting inclusive growth, social justice and equal opportunities for all (World Bank, 2020). Schools encourage values like compassion, understanding and brotherhood by integrating the ideals of equity and social justice in the curriculum. This will

contribute to an equitable society (United Nations Children's Fund, 2021). Sustainable Development focuses on the need for balanced development which is eco-friendly and socially cohesive (UNDESA, 2015). In India, rapid industrialisation and urbanisation have raised issues like environmental degradation, resource depletion and social exclusion (NITI Aayog, 2018). The responsibility of preparing the future generations to participate and contribute to the sustainable economy also lies with the schools. By educating students about sustainable economic practices, utilising clean and renewable energy sources, adopting green technology and implementing regenerative economic practices the schools perform these responsibilities (Ministry of Education, 2020).

The identity and national pride of India is connected to the cultural diversity of the country (INTACH, 2020). Preservation and promotion of cultural heritage, traditional knowledge and indigenous practices are encouraged by Sustainable Development (UNESCO, 2019). Schools have to inculcate pride and respect for cultural diversity. Incorporating cultural outlook in the curriculum will help in this regard. This will encourage greater social cohesion and mutual understanding (NCERT, 2021). India, a rapidly globalising nation, is key in managing pressing worldwide concerns like climate change, biodiversity loss and social inequality (Ministry of External Affairs, 2021). Sustainable Development education can enable students to develop knowledge, skills and values that are required of a global citizen who is capable of understanding, analysing and handling complex global issues (UNESCO, 2016). Schools can empower students to participate in international efforts to achieve the Sustainable Development Goals (United Nations, 2020).

Sustainable practices are essential for holistic development. They address pressing environmental, social, economic and cultural challenges while promoting a vision of a just, inclusive and sustainable future for all (National Action Plan on Climate Change, 2008). Integrating Sustainable Development in the curriculum can help empower learners to understand and shape the challenges of an interrelated and complex world. (National Education Policy, 2020).

## REVIEW OF LITERATURE

The existing scholarly work on the inclusion of Sustainable Development concepts in school-based learning examines how the pedagogic framework has evolved over a period of time at various levels of school education. The concept and interpretation of Sustainable Development are essential to understand its significance in the educational context. Accordingly, the review of literature has been done for the study on the themes: i) Sustainable Development: Definition and key principles, ii) Integrating Sustainable Development in the school curriculum: global practices, iii) Sustainable Development in the school educational curriculum in India. It will cover the scholarly works done on understanding Sustainable Development as a concept and its implementation in India.

### Sustainable Development: Definition and Key Principles

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'Sustainable Development' is explained as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). It features the importance of balancing economic, social and environmental dimensions. This ensures long term sustainability and wellbeing for both current and future generations. It recognises the interrelated nature of these systems stressing on the need for an integrated and holistic approach to decision making (WCED, 1987). It also promotes equity and social justice. This guarantees that every individual can access resources, opportunities and benefits irrespective of their socio-economic backgrounds (WCED, 1987). The main goal of sustainable development is to address the depletion of natural resources, air pollution and destruction to the habitat so that the biodiversity and ecosystems are protected (WCED, 1987).

Sustainable Development encourages formulation of policies and implementation of the initiatives by involving various stakeholders like local communities, business groups, government authorities and civil society organisations (UN, 2015). It adopts a careful approach to risk management. It recognises the ambiguities and potential implications of human activities on the environment and society (UN, 2015). Thus, Sustainable Development seeks to achieve economic development, social equality and environmental integrity (UNDP, 2015).

Sustainable Development is vital in protecting the environment. It helps to mitigate the negative impacts resulting from human activities on the planet. Embracing practices which would help in the reduction of pollution, conservation of natural resources and protection of ecosystems will be helpful (UN, 2019). It promotes responsible management of natural resources including water, energy and biodiversity for the present and future generations. Sustainable Development practices help in safeguarding these resources for the long-term use in agricultural, industrial and urban planning sectors (UNDP, 2019). It gives emphasis on the social equity so that all the sections of the people have access to basic facilities including education, health and livelihood opportunities. It also looks into the welfare of the present and future generations by focusing and managing socio economic inequalities as well as promoting social justice (World Bank, 2020).

Sustainable Development is an important tool in controlling the adverse effects of climate change. The climate related risks can be addressed by the reduction of greenhouse emissions, expansion of renewable energy consumption and climate adaptation approaches (Intergovernmental Panel on Climate Change, 2018). As the actions of the present generations have negatively impacted the environment, the responsibility of protecting the right of the future generations to live on a healthy planet also lies on the present generation where the students will play an important role. Sustainable development is thus vital for the present and future generations (WCED, 1987). Sustainable Development is vital for the present and future generations as it promotes environmental preservation, responsible resource management, social equity, climate change mitigation and intergenerational equity (UN, 2015).

**Integration of Sustainable Development Principles in the School Curriculum: Global Practices**

Education on Sustainable Development provides a holistic approach to curriculum (UNESCO, 2005). Through these curriculum schools offer students a clear understanding of the interrelated global issues and also train them to become responsible citizens (UN, 2017). Sustainable Development teachings acultivate critical thinking and problem-solving capacities to analyse complex socio environmental issues and develop innovative solutions (UNESCO, 2014). Students apply this knowledge to face sustainability challenges in their neighbourhood through inquiry based learning and projects (UNICEF, 2019). These teachings raise environmental awareness among students and encourage a sense of accountability for the natural world (UNEP, 2017). This will help the students to develop an appreciation for the environment and motivate them to protect it. They learn about ecological principles, biodiversity conservation and climate change mitigation (UNESCO, 2009). Sustainable Development education promotes values of social responsibility, equity and respect for diversity (UNESCO, 2015). Through discussions on human rights, sustainable consumption and global citizenship, students learn to respect cultural differences, advocate for social justice and participate actively in democratic processes (UN, 2016).

Sustainable Development teachings prepare students for future challenges and opportunities by empowering them with knowledge, skills and values to adapt and thrive. (UNESCO, 2019). By integrating topics such as green technology, renewable energy and sustainable business practices into the curriculum, schools empower students to contribute to Sustainable Development Goals and shape a more resilient and equitable future (UNDP, 2020). They are relevant in the school curriculum as they promote holistic education, critical thinking, environmental awareness, citizenship education and preparation for the future (UNESCO, 2021).

When we look into the Australian Curriculum has a cross curriculum priority area on sustainability, which is infused with subjects like science, geography and history. Students learn about environmental sustainability, social justice and economic prosperity through interdisciplinary projects and inquiry based learning (Australian Curriculum, n.d.). In Canada, provinces such as British Columbia have implemented sustainability focused Curriculum Frameworks that focuses environmental stewardship, social responsibility and economic viability. For example, the British Columbia Ministry of Education's Environmental Learning and Experience curriculum encourages hands on outdoor learning experiences and community based projects that promote sustainability (British Columbia Ministry of Education, n.d.). The national curriculum in Finland focuses interdisciplinary learning and holistic education, focusing on Sustainable Development. Through subjects such as environmental studies, social studies and technology, Finnish students learn about sustainability issues and build critical thinking and problem solving skills to tackle them. (Finnish National Agency for Education, n.d.). The Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan promotes Education for Sustainable Development through the implementation of ESD guidelines and initiatives in schools. The curriculum integrates sustainability principles across subjects such as science, social studies and home economics, with a focus on environmental conservation, disaster preparedness and community engagement (MEXT, n.d.). Similarly, in

the United Kingdom, the National Curriculum for England includes a statutory requirement for schools to teach about sustainability and environmental issues across different subjects. For example, students learn about Sustainable Development in geography, biology and citizenship education, focusing on understanding the interrelatedness of social, economic and environmental structures. (Department for Education, n.d.). In the United States, several states have adopted environmental literacy standards and sustainability focused Curriculum Frameworks. For instance, the Next Generation Science Standards (NGSS) integrate sustainability practices into science education, focussing on topics like climate change, energy conservation and ecosystem dynamics (NGSS Lead States, 2013).

These examples demonstrate how countries around the world are integrating Sustainable Development into their academic programmes to meet the twenty first century demand and prospects. Each country's approach reflects its unique cultural, social and environmental context, but all share a common goal of promoting environmental stewardship, social responsibility and economic prosperity through education.

**Sustainable Development in the school educational curriculum in India**

The National Curriculum Framework, developed by the NCERT, provides guidelines for curriculum enhancement in India. The NCF focuses the integration of Sustainable Development across subjects and grade levels (NCERT, 2005). In the environmental science curriculum for primary grades, students learn about the importance of water conservation through activities such as measuring water usage at home and exploring methods to reduce water wastage (NCERT, 2018). Environmental Studies (EVS) is a compulsory subject in Indian schools, which aims to encourage environmental awareness and sustainability practices among students. The EVS curriculum covers topics such as biodiversity, conservation and waste management (CBSE, 2020). In EVS classes, students engage in tree plantation drives and waste segregation activities to understand the importance of biodiversity conservation and waste reduction (CBSE, 2020). The curriculum in Indian schools focuses on learning through projects and field trips to enhance students' understanding of Sustainable Development concepts (MOE, 2020). Students participate in eco clubs and nature walks to local parks or conservation areas, where they observe and learn about local ecosystems, biodiversity and the importance of environmental conservation (MOE, 2020). Sustainable Development concepts are integrated across various subjects, including science, social studies and languages, for a holistic understanding of environment, society and economic issues (NCERT, 2005). In social studies classes, students learn about sustainable agriculture practices and rural development initiatives, connecting concepts of Sustainable Development with local community development (NCERT, 2005). Schools in India encourage community engagement activities that promote Sustainable Development practices and civic responsibility among students (NCERT, 2013). Students participate in community clean-up drives, awareness campaigns on water conservation and initiatives to promote renewable energy adoption in their neighbourhoods, encouraging a sense of environmental stewardship and social responsibility (NCERT, 2013).

Sustainable Development is integrated into the curriculum of school education in India through the National Curriculum Framework, Environmental Studies, experiential learning approaches, integration across subjects and community engagement activities. These initiatives strive to prepare students with the essential competencies and ethics needed to address the challenges and support sustainability.

## RESEARCH GAP

While there exists literature on global practices and the importance of Sustainable Development in school education, including India, there remains a significant gap in understanding how effectively the sustainable principles and development practices are integrated and operationalised in the school curriculum across different boards, i.e. CBSE, ICSE, State syllabi, etc. The existing studies also lack the comparative analysis of the sustainability related contents in the school modules across the board. This study attempts to fill this gap.

## RATIONALE OF THE STUDY

Sustainable Development has become an essential component of the educational curriculum in contemporary times. As countries have recognised the complex environmental, socioeconomic and development challenges and are attempting to address these challenges, they are also train school children with knowledge, values and skills. Accordingly, the integration of Sustainable Development content in India's School curriculum through policy documents like the National Curriculum Framework, recommendations from the Ministry of Education, etc, has focussed the integration of Sustainable Development practices in the school education. However, as identified in the research gap, there is limited research on how the principles are embedded across the CBSE, ICSE and State boards. The study is therefore necessary to bridge the gap in analysing the Sustainable Development concept adopted by various boards and different educational levels, including the curriculum content, approaches and implementation practices. Understanding these dimensions is important for strengthening Sustainable Development principles in education and improving the curriculum to meet the Sustainable Development Goals prescribed by the United Nations.

## RESEARCH OBJECTIVES

The core objectives of this paper are as follows:

- To examine the extent to which the Sustainable Development principles are included in the curriculum of CBSE, ICSE and state boards.
- To analyse the pedagogic approaches used to Sustainable Development content across subjects and levels.
- To compare Sustainable Development practices integrated across the different Curriculum Frameworks.

## METHODOLOGY

The study has used a qualitative research design with a descriptive and comparative framework. This study depended upon the data collected from the NCERT, CBSE, ICSE and state boards Curriculum Frameworks. The secondary sources are gathered from USESCO, UNDP, NEP 2020, etc and have done a content analysis of the curriculum development policy frameworks. A thematic analysis has also been done on sustainability related topics across subjects at various levels. The documents are publicly available and no personal interviews are required.

## THE SCOPE OF THE STUDY

The study has given focus to examining the integration of Sustainable Development principles in school curriculum among the major educational boards, i.e. CBSE, ICSE and selected state boards, including Maharashtra, Karnataka, Kerala, Tamil Nadu and Telangana. It analyses Curriculum Frameworks and pedagogy at various levels. The study is limited to documentary and comparative analysis. Though the global examples of curriculum for Sustainable Development are provided to understand the diverse context, the core scope of the study is confined to the Indian school curriculum only.

## DISCUSSIONS

Sustainable Development education is incorporated without moving the essence, differently across CBSE, ICSE and State boards in India, reflecting varied curriculum structures. The different boards have adopted their specific approaches to deal with sustainability issues. The following discussions have outlined the various school boards and various levels to provide a comprehensive picture of how Sustainable Development is dealt with in the school curriculum.

### Sustainable Development concept in the CBSE curriculum

Sustainable Development principles are integrated into the curriculum of the CBSE board in India. This board mandates Environmental Studies (EVS) as a compulsory subject in primary and middle school. The EVS curriculum covers topics such as biodiversity, conservation practices, climate change concerns and sustainability (CBSE, 2020). In these classes, students study about the concept of Sustainable Development. They read about cases of eco-friendly practices in agriculture, energy and waste management. They are taught the value of a stable environment and its social and economic effects for long term wellbeing (CBSE, 2020).

As the CBSE board encourages interdisciplinary approach to education, Sustainable Development concepts are integrated across different subjects like science, social studies and languages (CBSE, 2014). In science classes, students learn about renewable energy sources like solar, wind and hydro power in mitigating the climate changes. They also study the principles behind renewable energy technologies and discuss their environmental benefits of such technologies and how it is better than the use of fossil fuels (CBSE, 2014). Project Based Learning (PBL) as a pedagogical strategy is used by the CBSE board. It engages students in real world sustainability activities. As a teaching pedagogy PBL encourages students to investigate sustainability issues, propose solutions and implement action plans (CBSE, 2020). Students undertake PBL initiatives such as designing rainwater harvesting systems for their

schools, conducting energy audits to identify energy saving opportunities and organising awareness campaigns on causes of pollution in their communities (CBSE, 2020). CBSE education encourage the development of ethical values, social responsibility and environmental leadership among students. Sustainable Development principles are incorporated into the curriculum to promote affinity, cooperation and respect to nature, (CBSE, 2020). Students participate in tree plantation drives, cleanliness campaigns and community service projects aimed at promoting sustainable living practices and social inclusivity (CBSE, 2020).

The contents of the syllabus related to Sustainable Development in the CBSE curriculum is identified across various levels and classes. EVS is introduced as a compulsory subject at the primary level which covers classes from 1 to 5. The subject covers basic concepts related to environment including awareness about it, conservation of nature and the essence of sustainability. Students are required to learn about topics like plants, animals, water, air and the importance of protecting the environment. EVS continues to be a compulsory subject at the middle level i.e. from classes 6 to 8. In this level, more advanced topics related to environmental science, Sustainable Development and human environment interactions are being taught to the students. They explore issues like pollution, management of natural resources, climate change and conservation of biodiversity. However, at the secondary level, i.e., from classes 9 to 10, environmental concepts are taught through science subjects like Biology, Physics and Chemistry. Interdisciplinary approaches are introduced where students are made to analyse environmental issues from scientific, social and economic perspectives. Social Sciences, English and Mathematics also reflects topics related to environmental sustainability. At the senior secondary level (Classes 11 to 12), Environmental Science becomes an elective subject. In this level the curriculum delves into topics like environmental management, Sustainable Development strategies, environmental policies and conservation biology. Students are given the opportunity to do fieldwork, research projects and practical activities in their area of choice.

Thus, the syllabus contents related to Sustainable Development are gradually integrated into the curriculum across different levels and classes in the CBSE system. Beginning from the primary sections and continuing through secondary and senior secondary levels the curriculum trains students in dealing the various issues related to the Sustainable Development. This approach ensures that students receive a comprehensive education on environmental awareness, conservation and sustainability as they progress through their academic journey.

**Sustainable Development concept in the ICSE curriculum**

The ICSE curriculum has also integrated Sustainable Development topics in its educational framework. Environmental Science as a compulsory subject covers topics related to environmental awareness, conservation and sustainability (CISCE, n.d.). In the classes related to environmental science, students learn about ecosystem, biodiversity conservation and the effects of human activities on the nature. They also explore various case studies related to Sustainable Development initiatives and participate in environment related projects to find solutions local environmental issues (CISCE, n.d.). Like the CBSE board, the ICSE board also

adopts an interdisciplinary approach. This approach is visible in the integration of Sustainable Development concepts in different subjects like science, social studies and languages (CISCE, n.d.). Students study about renewable energy sources, climate change and mitigation strategies. In science classes they conduct experiments to explore the concepts like solar energy conversion and investigate the effect of different energy sources on the environment. Social and economic dimensions of sustainability, including Sustainable Development goals and environmental policies are studied in social studies classes (CISCE, n.d.). Field trips and projects that provide hands on learning experiences related to Sustainable Development are part and parcel of ICSE school curriculum. These activities are undertaken with an intension to allow the learners to engage with real world environmental issues and develop practical solutions (CISCE, n.d.). Students also visit local ecosystems such as forests or wetlands to know about the prevailing biodiversity and the ecological processes. Schools having access to rivers and lakes are also given the opportunity to conduct water quality assessment to have an in depth understanding of water pollution and to explore conservation methods (CISCE, n.d.). Participation in community service projects, environmental awareness drives and campaigns is encouraged by the ICSE curriculum. These activities are promoted to develop a sense of environmental responsibility and civic engagement among students (CISCE, n.d.).

Hence, one can observe that the ICSE board curriculum in India incorporates Sustainable Development principles through various means. Sustainable development principles transacted through subjects like environmental science, sciences, social sciences and also through different activities like field trips, projects and community based education initiatives. All these efforts are undertaken with the sole aim to train students to become capable to address environmental and social challenges and to build a sustainable future.

On close perusal of the ICSE board curriculum, teaching of Sustainable Development principles are segregated as per stages and class levels. At the primary level, from classes 1to 5, basic concepts related to environmental awareness and sustainability are taught through subjects like Environmental Studies or General Science. They read about basic ecological principles, conservation practices and the importance of protecting the environment. In classes 6 to 8, environmental science becomes a more structured subject at the middle level, where students are exposed to topics like biodiversity, pollution and climate change. We can see the implementation of interdisciplinary approaches as environmental concepts are also taught through subjects like Science, Social Studies and Geography. Environmental Science continues to be a compulsory subject with a focus on more advanced topics and practical applications at the secondary level (classes 9 to 10). Sustainability issues in greater depth, resource management, Sustainable Development strategies and environmental policies are taught to the students at this level. Once the students enter the Senior Secondary Level (Classes from 11 to 12), Environmental Science is offered as an elective subject. They are given the freedom to specialise in their areas of interest and can cover broad areas like ecology, conservation biology, or environmental management. At this level the curriculum may include fieldwork, research projects and internships to provide experiences in Sustainable Development practices.

Apart from environmental science, subjects like science, social science, geography and economics also cover contents on Sustainable Development. Hence, it can be said that ICSE board curriculum emphasises a holistic approach to sustainable education.

**Sustainable Development concept in the state level curriculum**

Most of the states in India have its own educational board that caters to the curriculum of schools within its jurisdiction. It is observed that many state syllabuses include Environmental Science as a compulsory subject at various levels of education. This subject covers topics like environmental awareness, conservation and Sustainable Development (Government of India, 2005). The Maharashtra State Board schools include Environmental Studies as a compulsory subject from primary to secondary levels. Topics such as natural resources, pollution and conservation methods are taught to the students (Government of Maharashtra, n.d.). State syllabuses usually adopt an interdisciplinary approach to learning. This is done by integrating Sustainable Development concepts across different subjects such as Science, Social Studies and Languages (Government of India, 2005). In Karnataka State Board schools, Sustainable Development principles are merged into subjects like Science, Geography and Economics. Students learn about environmental issues, sustainable agriculture practices and the importance of biodiversity conservation (Government of Karnataka, n.d.). There are other state board syllabuses which focus on problem-based learning approaches that enable students to explore sustainability issues and propose solutions (Government of India, 2005). The students studying under the Tamil Nadu State Boards undertake projects on topics like water conservation, renewable energy and waste management. They conduct research, collect data and present their findings to raise awareness and promote sustainable practices in their communities (Government of Tamil Nadu, n.d.).

State syllabuses suggest for incorporating field trips and practical activities in order to provide hands on learning experiences (Government of India, 2005). In Kerala State Board schools, students take part in field trips to ecological reserves, organic farms and renewable energy installations. They are also engaged in activities like tree planting, soil testing and preparing compost. These activities help them to learn about environmental conservation and sustainable living practices (Government of Kerala, n.d.). State syllabuses often promote education that develop ethical values, social responsibility and environmental stewardship among students (Government of India, 2005). In Telangana State Board schools, value based education initiatives focus on instilling values such as empathy, cooperation and respect for nature. Students are motivated to participate in community oriented service projects and environmental awareness campaigns (Government of Telangana, n.d.).

Different states have varying approaches to teach Sustainable Development principles in the curriculum. At the primary level (classes 1 to 5), foundational concepts related to environmental awareness and sustainability are generally introduced through Environmental Studies or General Science. Through these subjects' students learn about basic ecological principles, conservation practices and also become aware of the need to preserve the environment. In other states, Environmental Science or Environmental Studies becomes a

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separate subject at the middle level, i.e., classes 6 to 8. Students acquire knowledge on topics like biodiversity, pollution, climate change and Sustainable Development. Interdisciplinary approaches may be employed to integrate environmental concepts into subjects like Science, Social Studies and Geography. Environmental Science continues to be a compulsory subject at the secondary level, from class 9 to 10, in some states. The curriculum focuses on more advanced topics and practical applications of Sustainable Development principles, including resource management, Sustainable Development strategies and environmental policies. Some states offer Environmental Science or related subjects as elective courses at the senior secondary level. Students may have the opportunity to specialise in areas such as ecology, conservation biology, environmental management, or Sustainable Development. Practical activities, fieldwork and projects may be included to provide hands on experience in Sustainable Development practices. The summary of findings has been put forward in the following table.

**Table 1: Sustainable Development Integration in CBSE, ICSE and State Boards**

| Level | CBSE | ICSE | STATE BOARDS |
|---|---|---|---|
| **Primary (Classes 1–5)** | EVS compulsory; focus on basic environmental awareness, water, air, plants, animals and conservation. | EVS/General Science includes foundational ecology, conservation and environmental hygiene. | EVS or Environmental Studies in most states; focus on local ecology, basic conservation and natural resources. |
| **Middle (Classes 6–8)** | EVS continues: advanced topics like pollution, biodiversity, climate change; interdisciplinary integration. | Structured Environmental Science with a deeper focus on pollution, biodiversity, SD concepts; interdisciplinary links with Geography/Science. | Environmental Science has been introduced or expanded in many states; topics include climate change, ecosystems and sustainable agriculture. |
| **Secondary (Classes 9–10)** | Sustainability concepts integrated into Science (Biology/Physics/Chemistry) and Social Science; SD themes linked to socio economic issues | Environmental Science compulsory; strong focuses on practical learning, experiments and environmental impacts. | Varies by state—some include Environmental Science as a compulsory subject; others integrate SD into Science, Social Science and Geography. |

| | | | |
|---|---|---|---|
| **Senior Secondary (Classes 11–12)** | Environmental Science offered as an elective; covers SD strategies, environmental laws, management, conservation biology; fieldwork encouraged. | Environmental Science elective; advanced study of ecology, resource management, environmental policy, field trips and research projects | Some states offer Environmental Science or related electives (e.g., ecology, agriculture, environmental management); implementation varies significantly. |

Overall, Sustainable Development is integrated into the curriculum of state syllabuses in India through subjects like Environmental Science, interdisciplinary approaches, project based learning, field trips, practical activities and value based education initiatives.

**Implications of the study**

The study has identified that there is a stronger and consistent integration of Sustainable Development principles across all school boards of the country. It also features the requirement of experimental, practical based learning to improve students' understanding of Sustainable Development issues. The study also suggests that Sustainable Development education is essential for building social responsibility among students from their early stages of learning, for which there is a need for interdisciplinary teaching, linking environmental, political and socioeconomic dimensions of Sustainable Development teachings. The report also presses upon the need for incorporating Sustainable Development education as part of the teacher training programmes so that the same can be transmitted to students in the classroom environment. This study also underscores the need for the integration and adoption of best practices from international experiences in teaching learning activities in the Indian education system. The study argues that Sustainable Development education can be helpful in developing lifelong eco friendly behaviour and responsibility among students so that environmental consciousness can be built and social responsibility can be inculcated among the future citizens of India.

**Conclusion**

The CBSE, ICSE and state syllabuses show a systematic effort to prepare the students for the challenges and opportunities of the 21$^{st}$ century. Educators seek to nurture environmentally aware learners, socially responsible, ethically conscious individuals capable of contributing to a sustainable future.

Sustainable Development concepts in Environmental Science, Social Studies, Science and Geography underscores the interdisciplinary nature of Education for Sustainable Development. Various pedagogies like experiential learning, project work and community engagement enables the students to connect theory and its practical implications.

It is observed that focus is given to value-based education. Promotion of ethical values, environmental awareness and civic responsibility among students are given more weightage.

The teachers aimed to develop values such as empathy, cooperation, respect for nature, environmental consciousness and social commitment in the younger generation.

Although, many variations were detected in the implementation of sustainable development education across different educational systems and states, the overall goal seems to be consistent. All educational boards wanted to prepare students with the essential competencies and values required to become active agents of change at the local level and beyond. Educators focused on training students with a strong foundation in Sustainable Development principles. They aimed to inspire an everlasting commitment to environmental conservation, social equity and economic prosperity through education. Sustainable Development Education in Indian schools shows aspiration to deliver academic knowledge and cultivate a deeper understanding of how environmental, social and economic systems work. The educational system strives to make the students responsible and act as an agency to create a better world for present and future generations.

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