

## The beginnings

The UNESCO-UNEP Congress on Environmental Education and Training (1987) agreed that 'Environmental Education should simultaneously attempt to create awareness, transmit information, teach knowledge, develop habits and skills, promote values, provide criteria and standards and present guidelines for problem-solving and decision-making.' Environmental Education (EE) can be a process which helps to develop the skills and attitudes needed to understand the relationships between human beings and their cultures and the biophysical world. All programmes of EE, therefore, need to include the acquisition of knowledge and understanding and the development of skills. Additionally, they should also encourage curiosity, foster awareness and lead to an informed concern that eventually leads to positive action.

The North American Association for Environmental Education defines EE as 'a process that helps individuals, communities, and organisations learn more about the environment, develop skills to investigate their environment and to make informed decisions about how they can help take care of it. It has the power to transform lives and society. It informs and inspires. It motivates action. EE is a key tool in creating healthier and more civically engaged communities.'

## Aims of Environmental Education

The objective of EE is to develop environmental literacy for all. It is a lifelong journey that begins at home and extends outward to communities, encouraging learners to make connections with their immediate surroundings. The awareness, knowledge and skills needed for local contexts provide a basis for understanding and addressing larger and broader issues. EE fosters skills and habits that people can use to understand environmental concerns throughout their lives. It cultivates the ability to recognise uncertainty, envision alternative scenarios, and adapt to changing conditions. EE facilitates the development of an active learning community where learners share

ideas and expertise, listen, consider, collaborate, and participate in the continued inquiry. With a focus on building learners' capacity to work both individually and cooperatively to improve environmental quality, social equity, and economic prosperity, EE supports efforts to address the Sustainable Development Goals (SDG).

An Environmentally Literate Person is someone who, both individually and together with others, makes informed decisions concerning the environment; is willing to act on these decisions to improve the well-being of other individuals, societies, and the global environment; and participates in civic life. Those who are environmentally literate possess, to varying degrees, the knowledge and understanding of a wide range of environmental concepts, problems, and issues; a set of cognitive and affective dispositions; a set of cognitive skills and abilities; and the appropriate behavioural strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental contexts.<sup>i</sup>

## Environmental Education and sustainable development

Environmental Education would benefit from being included in the perspective of education for the development of responsible societies, as inspired by the Treaty on Environmental Education for Sustainable Societies and Global Responsibility (Earth Council, 1992), thus, surpassing the somehow limited framework of sustainable development.

Studies conducted by Pande L (2002) and Hollweg (2007) have expressed the need for a new curriculum to effectively teach the necessary concepts and skills development in EE and sustainable development. Both opine that the

existing materials are often too broad in scope and difficult for students to relate to or understand, such as worldwide deforestation. Collaboration between teachers, ecologists, and community members is needed to develop a curriculum which Pande worked on, one that is geared toward promoting an increased student understanding of ideas through practical-skills development, idea exploration, and how these concepts relate to and interact with the village (community). According to Hollweg, the final consideration of the curriculum focuses on successful teacher development by using the curriculum as a way of practical and effective training.

### **Inclusion of EE in the Indian school curriculum**

In 1986, the Government of India decreed the importance of including EE in schools throughout the country. This decree was in response to an increased awareness of unsustainable practices throughout the country, particularly in agriculture. Realising that rural populations were unable to produce enough food to meet their yearly needs due to increased population growth coupled with a decrease in the land's carrying capacity, education and government officials introduced EE themes into the national curriculum (Pande, L, 2001). The government hoped to use EE programmes in schools and communities as a conduit to increase awareness about the environment and give citizens the knowledge and skills to respond to environmental issues (Ibid.).

Policy documents over the years have emphasised the protection of the environment and the creation of environmental awareness. The Mudaliar Commission Report (1952-53) made a passing mention of including the study of the natural environment, but it was not until the Chattopadhyay Committee Report (1983) that multiple references to environmental concerns were made. The report identified teachers' needs and mentioned, 'to sensitise the teacher to new areas impinging upon modern life, for example, population explosion, environmental hazards, deforestation, alternate source of energy, proliferation of nuclear weapons and so on.' The report also emphasised the need for in-service courses in EE, among others, and declared it a national need to do so.

The NCF 1988 included protection of the environment and conservation of natural resources as one of its curricular concerns for schools: 'The school curriculum should highlight the measures for protection and care of the environment, prevention

of pollution and conservation of energy. It should also highlight the interdependence between the material environment and the plant and animal (including humans) life for survival, growth and development. The significance of renewable and non-conventional energy resources should also form an important component of the curriculum.' Another suggestion was to include core concepts in language and EVS such that these subjects provide a medium to develop an appreciation of the world around the learner.

In classes I and II, the learner grasps and absorbs concepts primarily through concrete situations related to the immediate environment by getting the encouragement to observe and explore their environment and to enrich their experiences related to different aspects of it. At the primary stage, EE looked at the study of science and social science in classes III-V through the lens of Environmental Studies (EVS) by moving away from an informal and unstructured approach to systematically exposing the learners to a variety of objects, events and phenomena in the environment. In this process, the child should be encouraged to systematically observe and explore things and occurrences in his/her environment, formulate precise questions related to them, record and classify the observations systematically, collect information based on concrete experiences and analyse it, and draw conclusions, including those related to cause-and-effect relationship discovered through simple experiments, activities and demonstrations.

The NCF 2000, while speaking of diverse curricular concerns opined that on careful analysis of areas of learning, the ideas and concepts of EE needed to be approached as an integrated domain. Under this scheme of studies, EVS was placed as a subject for classes III-V. Teaching and learning of language and mathematics were to be woven around the environment of the learners, with environmental concerns integrated with the syllabus. The framework urged that all vocational education programmes stress the concept of sustainable development with a focus on fostering an awareness of key environmental concerns.

The NCF 2005 moved from the hazy inclusion of EE in the earlier documents to specific requirements of it in the four curricular stages (primary, upper primary, secondary and higher secondary). Science and social science were to be integrated as EVS at the primary level,

unlike before, and EVS was to have a thematic approach. Here again, as in the NCF 2000, the natural and social environment would be an integral part of languages and mathematics. The learners would be engaged in activities to comprehend the environment through illustrations from the physical, biological, social and cultural spheres. The Framework document says: 'For Classes III to V, the subject Environment Studies (EVS) will be introduced. In the study of the natural environment, emphasis will be on its preservation and the urgency of saving it from degradation. Children will also begin to be sensitised to social issues like poverty, child labour, illiteracy, caste and class inequalities in rural and urban areas. The content should reflect the day-to-day experiences of children and their life worlds'.

At the upper-primary and secondary stages, environmental concerns were restricted to content only in geography. The Framework document goes on to say (for upper-primary), 'Geography can help develop a balanced perspective related to issues concerning the environment, resources and development at different levels, from local to global. Subsequently, for the secondary stage, geography should be taught keeping in mind the need to inculcate in the child a critical appreciation for conservation and environmental concerns along with developmental issues.' However, the Framework did include a Focus Group Position Paper on *Habitat and Learning*, considered to be equivalent to EE. The paper focused on the alarming environmental degradation and the need for learners to realise the importance of their habitat and take care of it. The paper, hence, recommended infusing the components of EE through activities across the subjects. The framework also recommended that learners be engaged in undertaking environment-related projects, thereby, contributing to the body of knowledge that could help create a transparent public database on India's environment. Science teaching would have to engage the learners in acquiring methods and processes that would nurture their curiosity and creativity, particularly in relation to the environment. Awareness of environmental concerns must imbue the entire school curriculum.

The NCERT, to implement the guidelines of the NCF, endeavoured towards systematically infusing EE at all levels of school education, thereby increasing awareness among stakeholders of the importance

of EE implementation (Mehta, Menon). The infusion approach incorporated EE into the existing curricula of various subjects, as well as the development of project-based activities. The primary approach of the NCF was to make EE nurture and promote critical thinking and problem-solving, as opposed to rote learning of textbook content. The NCF's infusion paradigm is intended for multidisciplinary thinking and project-based learning to promote environmental understanding and related actions. Various programmes were instituted to develop materials to support teachers in the pedagogy of project-based learning (for example, *Paryavaran Mitra* by the Centre for Environment Education)

### NEP 2020 and EE

The NEP 2020 encourages the curricular integration of essential subjects, their skills and capacities: 'Concerted curricular and pedagogical initiatives, including the introduction of contemporary subjects, such as Artificial Intelligence, Design Thinking, Holistic Health, Organic Living, Environmental Education, Global Citizenship Education (GCED), etc. at relevant stages will be undertaken to develop these various important skills in students at all levels.' The policy envisions EE becoming an integral part of school curricula. To do so, it recommends the inclusion of the appropriate integration of environmental awareness and sensitivity towards its conservation and sustainable development in all B Ed programmes. To achieve a more holistic and multidisciplinary education, the policy suggests that a '...flexible and innovative curricula of all HEIs [Higher Education Institutions] shall include credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based education. Environment education will include areas such as climate change, pollution, waste management, sanitation, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living.'

### NEP 2020, EE and the school scenario

As of now, EE is included in subjects in the form of just a few chapters in the textbooks. It is integrated into core subjects, thus limiting the scope of discussion on environmental issues. Centralised textbooks do not address the contextual issues of specific regions. The restricted range for EE in pre-service teacher education could be a reason for the teachers' limited preparedness towards its nature and pedagogy. A lack of reference materials

on the state-specific environmental concerns and problems, and inadequate infrastructure in schools make it challenging for teachers to integrate EE into their teaching.

The following are some suggestions to address the challenges stated:

- Authentic reference materials could be sourced from various governmental and non-governmental organisations and provided to the school libraries. This would support the teacher in contextualising the environmental concerns of the state.
  - Information and Communications Technology (ICT) provided to schools would allow them easy access to digital resources and aid in creating awareness about environmental issues across the country and the globe.
  - Teachers of core subjects should be encouraged to provide attention to EE topics which are integrated with the content of other subjects. Modules, workshops and regular discussion forums would need to be organised to support the teacher in the classroom.
  - Periodic revision of the textbooks to enable the inclusion of contemporary environmental concerns should be carried out.
- EE teachers should share with the learners the state-specific examples of environmental issues and conservation practices.
  - As a part of pedagogy, case studies/field visits/nature walks/project works must be encouraged to develop a spirit of inquiry and exploration.
  - Collaborations of schools with other departments dealing with the environment would be useful.
  - Relevant, authentic and credible resource materials should be made available for use in the classrooms.
  - Compelling stories and evidence through case studies would support the understanding of EE approaches by fostering critical thinking, problem-solving and decision-making in real-world contexts.
  - Appropriate practices based on research and theory and authentic experiences, which are child-directed and inquiry-based could be developed.
  - The curriculum framework for environmental learning could include the development of environmental understanding, skills for understanding the environment, curiosity and questioning, and a personal sense of responsibility and caring.

#### Endnotes

- i Hollweg, K. S., Taylor, J. R., Bybee, R. W., Marcinkowski, T. J., McBeth, W. C., & Zoido, P. Developing a Framework for Assessing Environmental Literacy. 2011. Washington, DC: North American Association for Environmental Education. p. 2-3. <https://naaee.org/our-work/programs/environmental-literacy-framework>

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NCF 1988, 2000, 2005

NEP 2020

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