

COMMENTARY

INNOVATIVE APPROACHES FOR PROMOTING ENVIRONMENTAL EDUCATION IN INDIA

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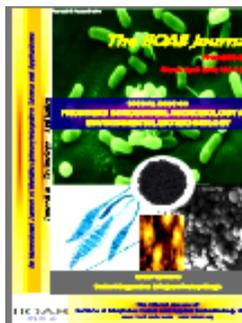
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ABSTRACT



Environmental education system needs intervention, communication and education through short or long term courses to enhance skills and capacity building to improve higher education system. Environmental management issues in higher education by providing information, running events, developing cases and guidance materials, and other means like identifying and disseminating best practice is a good tool for evaluation. Developing the capacity of staff with environment-related responsibilities to achieve positive environmental change within their institutions through action workshops and other means is important. Teachers do have a relatively broad conceptualization of environmental education (EE) but that the perceived link between EE and school improvement is not strong. Environmental education can be improved through various means of communication and media tools. For establishing a sustainable society that realizes sound economic development with reduced environmental loads while maintaining a healthy and productive environment, providing a basic principle on environmental conservation activities, encouragement of willingness for environmental conservation and environmental education, clarifying the responsibilities of citizens and private bodies etc., the State, local governments, establish a basic policy and other necessary matters to encourage their willingness for environmental conservation and promote environmental education, thereby contributing to ensure healthy and cultured living for both the present and future generations of the nation. There is a need to develop sensitivity in population. Some innovative approaches are- Use of Various Media and Technology, Promote partnership and cooperation among non-government organizations, promote Research and exchange visits, Progression towards greener curricula etc. we all (NGOs, schools, and other community groups) must all work together to ensure the future success of environmental education campaigns ranging from the global to the local level.

Key words: Environmental education; higher education; exchange visits; greener curricula; capacity building

[1] INTRODUCTION

Human populations have significant impact on the natural environment. As the global population continues to rise, humans place more and more pressure on a finite number of resources and degrading environment [1]. However, In India, The National Conservation Strategy and Policy Statement has emphasized the importance of Environmental Education (EE) and there are some efforts which emphasized environmental education in India. A Supreme Court of India order has required the University Grants Commission to prescribe courses on the environment in higher education system. The Prayavaran

Vahini Scheme is underway to create environmental awareness. In-service and pre-service training are provided to teachers and civil servants on different aspects of environment. The ENVIS (Environmental Information System) has been established to collect, retrieve and disseminate environmental information in the country. A National Environmental Awareness Campaign (NEAC) has been initiated for public awareness and some 3500 eco-clubs are actively run across the country for Grades 6 to 10 [2]. But, they are not sufficient because there are so many problems which hinder the work.

Recent research on the impacts of the environmental education program [3] suggests that an EE-based curriculum, properly implemented, may indeed positively impact student

achievement. A positive relationship between EE and school improvement (i.e., improvements in teaching and student learning) has been shown in other studies, including a nationwide study conducted by the State Education and Environment Round table [4]. Two separate open-ended conceptual content cognitive map (3CM) tasks [5] were used to assess each participant's conceptualization of "environmental education" and "school education system improvement." The 3CM method is a means of assessing mental models – that is, how an individual or group thinks about, or conceptualizes, a particular topic on environment. Data obtained through a 3CM task provide information on the factors an individual perceives to be relevant to a topic and the relationships among these factors. The technique is particularly effective in measuring people's understanding of abstract issues and hence is suitable for the investigation of teachers' conceptualizations of EE and "school improvement."

Therefore, important parameter/ factors before researchers and academic community are causes which prevent promotion of environmental education and the way of transit environmental education in best way to recipient. EE is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action [6]. The causes prevalent in environmental education are -

1.1. Formulation of national policy

Except few countries such as the Philippines, Australia and Thailand, no country has formulated a national policy on (EE). No coherent plan provides a link from the kindergarten to university levels. As a result, EE receives no priority action, no allocation of resources, no budget and no support, and thus is marginalized from the national mainstream. Because of this, even those countries that have initiated EE programs show inconsistencies and discontinuities in implementing EE programs and activities. There is no evidence of serious efforts being made towards building institutional capacity in EE.

1.2. Unbiased approach towards physical science

Before some time, environmental topics were taught only in physical science and geography classes. After that, however, the focus has been gradually moving towards social science, liberal arts and the humanities. Yet explicit incorporation of environmental themes is still biased towards physical science courses. Nevertheless, because human activity is the primary factor responsible for the deterioration and destruction of the environment, social science aspects should be given the same level of attention as the sound management of environmental resources. For example, water pollution is the result of human actions. Therefore, in order to prevent it, it is not only necessary

to understand its physical basis, but also to promote human awareness of the problem and encourage compliance with environmental laws. This can only be done through the integration of environmental themes into areas of education other than physical science.

1.3. Purposeful of whole-of-government commitment

Although environmental themes have been integrated into the formal education system, most of the EE initiatives come first from the sectoral ministries such as Environment, Fisheries, Agriculture, Forestry or Natural Resources, and not from the Ministries of Education. Their efforts are mostly related to specific issues and geared towards changing knowledge, attitudes and skills. They are not broad and comprehensive in terms of achieving sustainability. It is not possible to get the necessary full commitment from the government towards environmental education activities unless it is addressed in totality.

1.4. Improvement in institutional coordination

All the countries report a lack of coordination amongst responsible agencies in the region. Because of this, the agencies either duplicate activities or compete for resources. When the situation degrades further, mutual mud-slinging becomes a common phenomenon resulting in no action or delayed action. Several ministries adopt individual policies and procedures to pursue their own mandates without any collective action or vision. Usually, there is no consultation among these groups and if there is any agreement, it is loose, vague and morally non-binding.

1.5. Adequate manpower

There is a notable shortage of trained manpower, especially of environmental educators and facilitators, to teach integrated courses such as environmental studies, man and environment and nature science. No major efforts have been initiated to promote teachers' competency and capability. Conventional teaching methods, such as lecture methods, are applied to teach dynamic courses such as these. This reduces the quality of the education because there are no opportunities for students to observe directly the environment, or to be exposed to real-life situations.

1.6. Rigid curricula and teaching methods

Existing curricula are book-based and examination-oriented. Further, the curricula are not oriented toward nourishing a sustainable society. Because classroom instruction is geared towards examinations, students prepare to appear for their final examinations and achieve high scores rather than develop actual

skills and competencies in the subject matter. Despite the fact that environmental concerns are integrated into the curricula, they are neither vertically integrated nor horizontally coordinated. There are no vertical links between educational activities in one level with other levels, nor are educational activities within the same level horizontally coordinated with other course activities. Activities are duplicated, and teachers are often unaware of what other teachers are doing in other subjects. Students do not learn about the environment in critical ways and fail to see the interconnections that contribute to the overall complexity of the environment. Curricula are centrally controlled, and their development process is quite bureaucratic in nature. Furthermore, existing courses are tightly arranged and do not allow additional subjects to be incorporated. The unavailability, inaccessibility and irrelevancy of textbooks, instructional materials, manuals and guides have further aggravated the problems of effective curricular structure and processes. The pedagogy is mostly the “chalk-and-talk” method, and learning is based on the rote method and spoon-feeding. Because of this, students are encouraged to memorize rather than examine the problems critically.

1.7. Adequate physical facilities

In many countries, especially in rural areas, school buildings are dilapidated and do not have even minimal facilities such as furniture, classrooms, laboratories, libraries, resources, tools and equipment. Due to space limitations in some areas, several classes are being run in shifts. For example, in mountainous areas of Nepal and India, more than two classes share the same classroom. In Cambodia, the number of students is as high as 100 to 150 in a single class [2].

1.8. Conceptual ambiguity in issues

The concept of EE means many things to many people. In some countries, it is taken as another academic course without any relevance to, or bearing on, real-life situations, while in other countries, it is still in its infancy. Some believe that environmental education is a new perspective towards education and focuses more on values. There still exists confusion over its concepts and, therefore, its approach. There are different perceptions about the meaning and objectives of EE [7].

1.9. Availability of data and information

There is a great dearth of data and information on the problems of EE. Even when data and information are available, they are not necessarily accessible. The data and information should be designed so that they are both usable by and easily accessible to the general public. In many countries these days, data are stored in computer files [2].

The innovative technologies in the field of environmental education are limited. The environmental damage already

inflicted due to alarming on-going population explosion, rapid movement towards urbanization and industrialization, increasing needs of energy and fast scientific and technological advancement cannot be reversed unless there is collective thinking, will and effort. These call for public awareness and participation for bringing about an attitudinal change and finally restricting further damage to the environment [8]. There is a need to develop sensitivity in population. Because, most of us have knowledge and awareness but, we are not sensitive. At present time Environmental education could be seen as just another of a number of pressures on already over-crowded teacher education programmes [9]. So, there is a need to develop a more extensive and effective environmental education strategy to better prepare the public to understand and take action regarding current and future environmental issues. We have to make our children to realize that they are part of the problem, and therefore they have to be part of the solution [10].

[II] DISCUSSION

Application and use of various media and technology to meet the objectives of EE in any particular situation is major concern. The importance of using latest technological developments to leapfrog and achieve a wide reach is recognized [11]. In traditional rites and media (e.g. ceremonies, folklore), use of traditional media is a very effective way to transfer messages especially in rural areas. Traditional ceremonies often have links to environmental issues, and take into account the history of the area and the perceptions and relationships of the people to the environment. Stories may encompass a wide range of topics. The tales or legends told by elders can serve as a means of transferring feelings of respect and appreciation for animals, forests and other wildlife. For effective community-level communication strategies, an integrated and planned use of both folk and mass media is necessary for achieving optimum impact and for desired feedback. In drama and puppet shows humor, sound, color and human figures provide entertainment and so attract large crowds, especially in rural areas. Questions, discussions, problems and solutions about the environment can be dramatized and production is relatively inexpensive. Simulations/Role Playing technique is useful for finding out new issues and gaining other people's perspectives to similar situations. Exhibition is show of artifacts and pictures, with simple explanations, will enable viewers to learn at their own pace. They allow use of realistic, three-dimensional models that facilitate understanding through use of sight, sound, and touch. This technique can be used over a period of time and thus cover a wider population.

Environmental /comic magazines can present various environmental topics through a variety of methods, e.g. games, cross-word puzzles, activities, stories, cartoons, and so are very effective teaching tools. A special teacher's page can assist the teacher to use the material in existing subjects in the curriculum.

In addition, these magazines supplement the limited reading materials for children in places, such as schools, rural libraries and literacy centers. Newsletters circulation technique has the advantage of being able to provide information about current events that have environmental implications. A bulletin board that is regularly updated with newsletters, posters and leaflets and placed in a strategic area in school, village, training college, and the like, is an attraction and a good source of information for the general population. Posters are cost effective, and opportunities for development and use of posters depicting national priorities exist. Visual Art workshop to develop environmental posters is also effective tool. This technique could be used in many different ways and even to produce a “wall news- paper” on specific issues.

Games are always popular and through the production of games related to environmental issues, it is possible to discuss, improve knowledge and better understand the relationship between the use of natural resources and sustainable development. The flannel board helps the participants to build the statement of their environment (past and present). This technique is also useful as a teaching approach in schools. It has the advantage of being easy to replicate and update, and it is relatively inexpensive as it can be constructed with local materials.

Radio, a powerful medium, reaches a large number of people with relatively few inputs. Use of different techniques, e.g. quizzes, competitions, talks, music, radio drama, interviews, jingles, folk stories in different types of programs catering for different age and/or interest groups, can be effective in raising awareness. Series of high quality slide presentations, arranged in a carefully planned sequence, is an effective teaching medium. Learners' understanding is enhanced by the combination of sound and sight stimuli, yet production cost is relatively low compared to films. Videos/Films/Television techniques combine picture, sound, color and motion, and are thus the closest medium to reality. Environmental issues, development processes, technologies can be captured and shown to the learners at a convenient time and place. They also combine entertainment and education and so have wide appeal. Project technique in the formal education system is excellent for the integration of several subjects and activities around an environmental theme or issue. The best projects are those where the participants actually engage in an activity to protect and/or rehabilitate the environment. Demonstration of a proposed activity, located within easy access of the target population, is an effective technique. This technique can be supplemented by involving key people such as chiefs, political leaders, prominent farmers, businessmen, opinion leaders, and others.

Research carried out by participants, where they can actually see the impact of an intervention, will go a long way towards helping change behavior. Field Trip technique is a popular one. Participants look forward to a 'trip', and having new

experiences. Field trips are widely used to motivate wildlife school clubs in Malawi [2]. Exchange Visits are planned to look at what other people have done. They are useful for sharing successful interventions, and allow the participants to compare their achievements with those of others from other areas. Field trips for farmers are also useful in helping them adopt successful farming practices which they see for themselves and then want to replicate [7]. Incorporation of EE into all forms of education that is formal, non-formal and informal education. Teaching materials have been developed locally and disseminated. Also, a variety of innovative methods of teaching and learning are being practiced. Progression towards greener curricula that is cross-curriculum approaches have been adopted to integrate environmental themes into curricula. Some countries have begun to “green” their curricula by incorporating environmental concerns and have emphasized the use of local resources in teaching and learning processes. This involves the integration of environmental principles, problems and solutions into other disciplines. Both the natural environment and the man-made environment are involved. Creation of new initiatives through innovative works can be done include such as the designation of model schools and honor schools, the development of optional courses, establishment of Teacher's Centers for Excellence and awards, Supreme Court orders to include EE in universities and collaboration between ministries and state universities for education, training and research are also some reforms in EE system. Other initiatives include the creation of a green bank, an eco-polis center (a place for environmental information, education and hands-on activities in the community), a green press (collecting and publishing news related to environment), and eco-clubs, eco-farming and eco-harvesting In Indonesia, green banking programs have been initiated to provide insurance against environmental degradation.

Perception of EE as a new approach to education is seen as an integrated approach to education. While some countries see it as values education (concerning respect for nature and life, stewardship over natural resources, simple living, personal responsibility and gratitude for the lavish gifts of nature), others think that it provides a new perspective on education (concerning education in, about and for the environment). All these suggest that environmental education should not be an independent subject in its own right. Rather, it is a holistic approach to education that takes into consideration the environment that surrounds and affects people. Development of composite courses at the primary level such as Environmental Studies, The Environment Around Us, The World Around Us, Environmental Science, Man and the Environment, Nature Science and Life Experiences have been adopted at the primary level, and environmental themes are either integrated into existing subjects or are developed as compulsory courses at the secondary level. Movement of focus from physical science to social science courses is needed. The trend shows that there has been a shift from incorporating environmental matters only in

physical science courses towards including environmental matters in social science, liberal arts and humanities courses as well. In addition to physical science courses, environmental concerns can now be found in courses such as in Moral Education, Hygiene, Religion and Civic Education. Nevertheless, environmental themes have been dominant in the physical science courses only. However, environmental issues do not exist solely within physical contexts.

Some countries have placed more emphasis on formal education because they envision that children will help educate their parents and can more easily influence their parents' actions. In turn, these parents will have a greater impact on environmental resources. In order to make environmental education successful, all types of education, both formal and non-formal, should be utilized. Establishment of successful eco-business activities- such as the green bank, eco-labeling, eco-consumerism, environmental advocacy and green press are becoming popular. These activities have been successful in enhancing environmental education in the region. Various innovative ways are undertaken to provide opportunities for students to acquire knowledge, attitudes and skills in school as well as out of school. The opportunities include eco-clubs, green clubs, nature clubs, camp and outdoor education, intra-mural competition, project work, street theatre, internships, mock congresses and junior eco-clubs. These activities provide students with out-of-classroom opportunities to relate their knowledge to practice; obtain direct, first-hand experiences with the local environment and apply what they have learned in the classroom to real-life situations. The integration of theory into practice has had a great impact on the environmental activities of society. The children in schools should be taught the role of trees, wild life etc. [11].

Professional development attempts have been made to improve EE in the regions. These attempts include holding pre-service, in-service, on-the-job and professional programs and forming of environmental educator associations as forums for environmental educators to share and exchange their knowledge, expertise and experiences. Likewise, funds for conducting research, scholarship grants for professional development and networks for education have helped foster environmental education in the region [2]. Preparation of the Teachers for EE through innovative strategies because teachers normally teach the way they were taught. Study done by [12] investigated the effects of value analysis, value clarification and action learning on the environmental knowledge, attitudes and problem solving skills of pre-service teachers in some Nigeria Colleges of Education. The study found out that value education strategies were more effective in promoting subjects' cognitive and affective achievement in environmental education than conventional lecture method [12]. Promoting the use of electronic media in the classroom and the inclusion of courses on their use in pre- and in-service teacher education programmes. It will also illustrate, through a case-study approach, how teachers can actively use such media in the

promotion of environmental education [13]. Research done by [14] recognize the potential of the Web to enhance local, national and international co-operation, and to facilitate a better understanding of geographical and environmental issues at the grass-root level. Web-based learning can also help to increase and deepen the pupils' cultural understanding.

Environmental sites, through exploration of the surrounding environment, sites of special environmental significance, e.g. market place, waste dump, eroded land, forest, pond, farm, enterprise, can be identified and used for EE. Reorient the pedagogical approach: There is an urgency to reorient out existing teaching methods from 'chalk to talk' and lecture methods to problem-solving methods, from activity and issue-based approach to field work and case studies, from didactic to advise-based approach, and from rote learning to attitudes and competence development and learning through participation and educational training. Unless we care for the environment and use these materials carefully, some materials will get depleted gradually and get exhausted one fine day [15]. Networking and partnerships for strengthening of mechanisms for flexible, cross-sectoral, multi stakeholder and inter-governmental cooperation amongst relevant organizations, institutions and civil society to enhance the shared development and wise use of environmental education resources and programmes is encouraged [16]. Networks of the schools and their communities were strengthened through their interactive involvement in the learning process [8]. Participatory Monitoring and Assessment by engaging the learners in some aspect of environmental monitoring and/or assessment, e.g., measuring rain, quality of their own water supplies, amount of wood available, is a useful strategy for teaching about interactions and demonstrating man's impact on the natural resource base [4]. Use Youth Strength in Planning, Policy-Making, and Decision Making for EE through Youth Network, and Action Research, etc. are also an effective tool for reformation of EE. [17].

[III] CONCLUSION

In the light of country specific situations, more support for education, training and public awareness activities related to environment and development could be provided, in appropriate cases, through measures such as giving higher priority to those sectors in budget allocations, protecting them from structural cutting requirements; shifting allocations within existing education budgets in favor of primary education, with focus on environment and development; promoting conditions where a larger share of the cost is borne by local communities, with rich communities assisting poorer ones; obtaining additional funds from private donors concentrating on the poorest countries, and those with rates of literacy below 40%; encouraging debt for education swaps; lifting restrictions on private schooling and increasing the flow of funds from and to non-governmental

organizations, including small-scale grass-roots organizations; promoting the effective use of existing facilities, for example, multiple school shifts, fuller development of open universities and other long-distance teaching; facilitating low-cost or no-cost use of mass media for the purposes of education; encouraging twinning of universities in developed and developing countries. There is still a considerable lack of awareness of the interrelated nature of all human activities and the environment, due to inaccurate or insufficient information. Developing countries in particular lack relevant technologies and expertise. There is a need to increase public sensitivity to environment and development problems and involvement in their solutions and foster a sense of personal environmental responsibility and greater motivation and commitment towards sustainable development.

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