



## Environmental Education in Indian Schools and colleges

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**Abstract:** *Environmental education (EE) has been introduced as a regular course in formal school education system in India following the directive of the Honourable Supreme Court of India. Prior to this directive several programmes were current in the country related to EE in schools and communities. One of such programmes was the centrally sponsored scheme "Environmental Orientation to School Education (EOSE)". Through this programme it was expected to orient school children to its immediate environment using locale-specific examples and materials. To do so a range of activities were initiated including production of locale-specific print materials, training modules, practical activities and so on. The Ministry of Human Resource Development, Govt. of India had appointed three Nodal Agencies to implement the Scheme. The present writing is the product of an evaluation study of this Scheme which was conducted by the author in the year 2000.*

**Key Words:** Environmental, education, introduced, regular, course, formal, system, directive .

Environmental Education Defined Environment, as an interactive entity, could be cited as the other side of life in the sense that the very basic support system for life is provided by environment only, in one way or the other. Thus, considering the fast deteriorating environmental condition, it becomes necessary to make Environmental Education (EE) as a tool for life and learning right from one's childhood. In this light EE can be defined as a process of developing a world population that is aware of, and concerned about, the total environment and its associated problems and which has the knowledge, attitudes, commitments and skills to work individually and collectively towards the situation of current problems and prevention of new ones.

**1.2 Background of Initiating EE in Schools through EOSE** Generally, within a state, regional variation in environmental conditions and concerns are not considered to include separately in the State text books. Therefore, to make environmental education meaningful to the school level students throughout the country it was desirable to supplement the effort at national and state level by a more intensive locale-specific effort. The very background of the EOSE scheme lies with this requirement aiming at

harmonizing the environmental education with local environmental situations.

### 1.2.1 The Scheme was Based on the Following Perceptions:

- 1) A compact area having uniform eco-system would have similar environmental concerns and therefore, can form the unit for designing one set of programs for implementation in schools and the community in that area.
- 2) The basic components for identification of a specific area are geological formation and features, crops grown, rainfall and plant life.
- 3) The success of the programme would largely depend on the involvement of and interest created among the teachers, students, educationists, voluntary agencies, environmental experts and the local communities.

### 1.2.2 Scheduled Project

Activities under the scheme: On the basis of these goals three nodal agencies namely, - Centre for Environment Education (CEE) at Ahmedabad, CPR Environment Education at Chennai and Uttarakhand Seva Nidhi at Almora were appointed by the Ministry. These nodal agencies were given the responsibility to plan and implement strategies for environmental education in schools involving other state

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government agencies as well as NGOs working in this sphere. These nodal agencies and some other independent NGOs involved in this scheme were visited for the evaluation of the scheme activities. A brief of important finding and observations relevant to the paper has been depicted as follows.

## 2. IMPARTING EE IN SCHOOLS BY CEE

**2.1-** The Workings of the Centre for Environment Education (CEE) School programme is one of the major programmes of CEE since its inception. CEE develops, coordinates and conducts number of educational programmes for school children which involve the training of teachers and the development of educational materials as well as assistance in the development of such materials by other groups in order to facilitate the instructional process in the class room, the CEE has developed educational packages for teachers based on environmental themes. These are designed to help teachers get an understanding of a wide range of instructional activities and approaches for the promotion of environmental education in schools.

**Table 1: Distribution of projects among regional desk**

Centre	P.C. of Projects
CEE Ahmadabad	16
CEE South	28
CEE North	16
CEE East	16
CEE NE	05
CEE Central	19
Total	99

The South Desk has been awarded the highest number of projects (28%) whereas the NE Desk has been awarded only 5% of the total projects. Table 2 shows some more information regarding the projects offered. The entire projects has been categorized into six categories namely adaptation, local-specific print, capacity building, audio-visuals, training and multi-approach. As the table indicates local-specific print materials shares the highest number of projects followed by capacity building approach and adaptation. Likewise, in expenditure pattern 46 percent of the allotted funds were for the projects related to local-specific print material production followed by adaptation and capacity

building. Barring central desk, all other regional desk has given more stress on local-specific production whereas the central desk has given more stress on capacity building projects. Data collected from the organizations showed that the projects were targeted for different groups, namely- teacher, educators and the students. On the basis of this the projects were grouped in to three broad categories. Projects meant for teacher-educators where the students cannot take part, the next one comprises the projects meant for both teachers and the students, and the third category meant for the students only. It was found that the majority of the projects (42%) were meant for teacher-educators. Another 35 percents were meant for the teacher-students combined, and the least 23

**Table 2: Basic aspects of projects implemented**

Types of projects	No. of projects	P.C. of expenditure	Regional desks activities in %			
			North	South	East	Central
Adaptation	15	21	13	18	13	11
Local specific print	45	46	30	43	69	37
Capacity building	17	13	25	21	06	47
Audio-visual	09	09	13	11	06	---
Training	04	01	19	---	---	---
Multi-approach	10	10	---	21	06	05

Percent were meant basically for the student groups

It was found that the CEE Secretariat decentralizes its activities through its six regional Desks. These Regional Desks have direct contact with NGOs of it respective localities. To assess the activities and achievements these centers were visited. The following part delineates the same.

## 3. ACTIVITIES OF UTTARAKHAND SEVANDHI UNDER EOSE SCHEME

**3.1 Introduction-** The Uttarakhand Seva Nidhi was a public charitable trust founded in 1967. In 1987 it was appointed a nodal agency by the Department of Education, Ministry of Human Resource Development, Government of India, to undertake locale-specific environmental education programs both in rural schools and villages in the hill district of Uttar Pradesh, now Uttarakhand. Subsequently, a research and resource centre, the Uttarakhand Environmental Education Centre (UEEC), was set up in 1993. Considering the growing nature of activities, a separate organi- zation, the



Uttarakhand Seva Nidhi Paryavaran Siksha Sansthan (USNPSS), a registered society, was set up in 1999 to handle all the environmental activities of the Nidhi. The organization supports the educational activities or rural schools, NGOs and community based organizations throughout the Uttarakhand. This support takes the form of training programs, discussion meetings, supply of teaching/learning materials, village and school visits for on the spot guidance and problem solving, honoraria of pre-school teachers and small project grants.

### 3.2 The Background of the Activities

The entire area is a fragile ecological zone where human activities cause extensive land degradation in the form of deforestation and soil erosion, if not carried out in an environmentally sound manner which ultimately give rise to problems like water scarcity, falling crop yield, fuel-wood and fodder scarcity, drudgery for women and children, poor nutrition and the forced migration for men and young generation for employment. Here in Uttarakhand, village forest comprises a major part of the total village land area, and is shared by the entire community. Livelihood resources were very much dependent on these forest lands. As a result of colonial forest policy and now, post independent modernization and development activities had weakened the village community in terms of land and forest management, its regeneration and proper exploitation. The organization's aim is to help village communities, particularly the women, organize to tackle the land degradation and the problems that arise from it. An environmental education course, focusing on village land rehabilitation and sustainable management, had been designed and introduced into the regular school curriculum in class 6, 7 and 8 with the cooperation of the state Department of Education. The course reflects the environmental and livelihood issues that had been raised by women's groups in the area.

### 3.3 The General Achievement Trend

A careful observation showed that the Uttarakhand Seva Nidhi had been able to register its achievements in two broad spheres of its activities:

i) Environmental education in formal school system as a separate subject.

ii) sustainable community participation and development centering round Environmental education and environmental awareness activities.

### 3.4 The EE Course in Formal Schools

Till the year 2000, the basic activities undertaken by the organization are as follows:

- Introduction of Locale-specific curricula in formal school system
- A holistic approach to environmental education and awareness building by incorporating the immediate community in every sphere of its activities.
- Inclusion of outdoor inquiry-based practical orientation to environmental education in schools and pre-primary education centers relevant to the immediate environmental situation of the children concerned.

#### 3.5.1 Requirement of Skills in the Course

The course on village ecosystem rehabilitation and sustainable management required arrange of new skills along with a new set of concepts. The course content tried to impart these through the following ways:

- Methods of Data Collection and Interpretation: this includes the application of known mathematical concepts and operations to a new area of activity. Data interpretation included an ecosystem analysis which was done by quantifying the basic components of an ecosystem: the land areas, population size, productivity etc.
- Accumulation of Ideas about Traditional Management Practices from Villagers: The underlying principles of traditional practices were evaluated on the basis of present day scientific knowledge drawn from other subjects, within the framework of ecological concepts.
- Methods of Support-area Rehabilitation: these included walling, gully-plugging, tree plantation and care and production of tree seedlings.
- Tree Management for Fodder, Fuel-wood and Stem-wood Production: It was shown how far careful and planned and scientific exploitation of these resources could increase potential sustainability and productivity.
- Formulation of comprehensive and detailed village support-area rehabilitation plan. Including a village water management plan.



f) Organizing and conducting village meetings to discuss and finalize draft plans.

g) The course encompasses methods of building irrigation tanks, fuel-efficient chulhas, sanitation facilities, composting and feeding managers. Though the students do not build these as a matter of course, their teacher could take them up as extra-curricular activities.

### 3.6 Operationalizing of the Course

In Uttarakhand a slot for the course had been found at the middle school level (grades 6, 7 and 8) in the optional list of subjects. Schools/intermediate colleges were selected for the programme by the USNPSS and the District Inspector of Schools on the basis of interest shown in the course by a teacher of the schools/college or the principal. A teacher from a selected school/college was given an initial training by the USNPSS. This consisted of a general orientation plus specific training for the sixth grade component of the course. The same teacher comes back at the beginning of each subsequent academic year for two further years for training in the 7th and 8th grade components of the course. As the number of grades of the course at a given school/college increased from one to three, a second teacher was also trained. Teacher training courses were of 5 days duration. One-day orientation meetings were held for principals and for Education Department officials and supervisory staff. Copies of student workbooks and teachers' manuals were supplied free of cost of participating schools/colleges, as well as a set of tools instruments required for the practical work. It had been observed that visits were made by USNPSS staff to participating schools/colleges during the school year to monitor progress, help sort out problems and clear up doubts teachers might had. One or two one-day meetings of teachers with the project staffs were held during the school year to discuss progress and solve problems that had arisen.

### The Balwadi and its Significance in Uttarakhand 3.7 Balwadis: the pre-Primary Centres

One of the primary achievements of UKSN in terms of environmental education in the region was the establishment and smooth running of Balwadis. This very institution had created several positive

consequences towards the betterment of people of this hilly area, specifically the children and women - their life ways and confidence building process. Responding the interest of the mothers (adults) who wanted the NGO to do something for their children instead of trying the adults' live, two Balwadis were started in 1987. That was the beginning of a remarkable event in the area. The importance of Balwadi lies in the very specific life-ways of the people of Uttarakhand. Besides being situated in steep mountain ranges, the villagers had been facing problems due to deforestation, soil erosion, leading to fast disappearing of fuel and fodder. The adverse geographical condition of the area, rapid urbanization, opening up of tourism industry etc had attracted the village male folk to come out of traditional livelihood domain and rush towards urban areas. This had significant influences on villages' economic scenario as the staying back female members had to take the burden to run the family. The famous saying of the people here in Uttaranchal "pahar ki pani aur pahar ki jawani pahar ke liye nahi" (water and youths of hills are not for hills) reveals the untold tragedy of the women of the area. It was well known that the very economy of Uttaranchal was known as "money order economy" as most of the male person stays out and send money order to their families in lieu of their physical presence. In such a situation rearing and caring of children, producing consumables, collecting fuel and fodder from faraway places becomes an official assignment for village women.. The Balwadi's role in creating these Women's Groups was easily discernable: the interest in their children's education securing them as a strong entity, with the ability to do great work.

### 3.8 Effect of the Balwadi on Children

The Balwadi curriculum was firmly founded in the idea of learning through play, which recognized to be the most efficient way of promoting a child's eagerness and interest in learning at the pre-school age. Bhav-geets (songs accompanied by expressions) were also an important means of allowing children to express them. Children ceased to be inhibited, their enjoyment furthering their desire to learn more bhav-geets. Working with soil was an important balkarya (practical). The importance of these children working



with mud was invaluable - it meant that from a young age a link was made between their soil and themselves: soil that was the centre of the agrarian life. Paryavaran or environment was the most important topic included in the Balwadi syllabus, and one which was integrated into every aspect of the course. The acute urban migration from Himalayan villages was a reminder of the issue that people were dissatisfied with their agrarian life. This had led to immense contradictions being embedded amongst the people. 'parhe-likhe log mitti mein hath nahin dalte' (educated people do not put their hands in mud) was a refrain well versed in the villages. Thus, from a young age children were taught not to get their hands dirty in mud. This was especially true for the male, for whom a job in the city was vital if he was to be considered a success. This had resulted in a generation of youth with a condescending attitude to their soil. By emphasizing the value of Paryavaran in the curriculum, the organization was trying to bridge the gap between land and life - to instill in children from a young age a love and respects to their surroundings. Bhav-geets and stories even games taught the children and help them relate to their environment. The songs and stories were not simply about trees, but animals, the seasons, the growth and cycle of crops, and their own health/cleanliness amongst other things. Many games and balkaryas addressed similar themes. Naashta (breakfast) was an important aspect of the Balwadi curriculum. Children brought their own food from home. Often children simply brought roti (unleavened bread) with gurrh (jaggery). However, it was the shikshika's continuous effort to convince parents to send more nutritious food making the change in them. In several Balwadis, the shikshika's effort had been rewarded and children brought vegetables with their roties. A significant attitudinal change was also noted, where the village women had actually begun to grow different varieties of vegetables. There was also great social significance in children bringing their own naashta and sitting together to eat: the loosening of caste divisions. The shikshika, the margdarshika and the local NGO invested considerable effort to counter caste barriers. The necessity of naashta was bought up in Abhibhavak

Goshthis and reiterated constantly. In the meetings of the NGO personnel and in the training session for Margdarshikas and shikshikas, it was highly emphasized that there was marked difference in the attitude and behavior between children attending Balwadis and those not attending it. The children from Balwadis were more disciplined, well versed and assertive, constructive and they do very well in primary and upper levels of their study. There was huge demand to continue these programs in primary standards also as there appear a gap between Balwadi and Middle school standards in environmental education.

### 3.9 Mahila Mangal Dals (MMD)

Formation of Mahila Mangal Dals was one of the direct positive impacts of Balwadis. The village women silent and non-assertive as a single entity, gathers momentum of expression about their problems and hard life while forming a group. The informal discussion at Balwadis while taking back their children home many a time led to an organized form of entity - the MMD. Thus they addressed the very basic things of their lives in the meetings. The Balwadi shikshika, and Local NGO provide the Mahila Mangal Dal with support at the beginning, by coordinating discussions and meetings and as the Mahila Mangal Dal becomes stronger, the shikshika and local NGO cease to play an important role. Out of operating areas of 125 assessed Balwadis there were 104 MMDs formed after it. These MMDs were working on several issues where the Balwadi shikshikas and Margdarshikas had direct bearings. Severe deforestation and degradation of the land had created an extreme shortage of fuel- wood and fodder. This issue was one that had been raised in Mahila Mangal Dal meetings throughout Uttarakhand

**5. CONCLUSION-** It was seen from the discussion that the UKSN had been successful to a great extent it imparting Environmental Education in schools as well as among the communities. The course on EE developed by the centre was intimately related to the life-supporting natural environment of the region. The students of different standards were given the very basic ideas of their land, plants, animals and utility and production capacity in a very



simplistic manner. It was also found that the students were very much adept with such kind of information. As has been mentioned by various authors, the immediate environmental concerns that are related to day-to-day life of the concerned population should be the core of EE. The Centre has taken into account these issues in the course.

The involvement of surrounding communities in the framework of EE in schools was seen fruitful in most of the cases which was one of the strategies of the centre. Nevertheless, the study reveals certain strategic constraints of the EE course prevalent in the schools. The grades/marks obtained in EE class were not counted in final examination and it was found that due to this reason the course was not taken seriously in some schools. But there was no sufficient number of monitoring team across the region to monitor the progress of the course. Given the prevailing geo-physical condition of the region, the strength of monitoring team might be increased. The course defined some concepts based on practical aspects of EE which could be observed in the field. But some of such observable entities like "support areas" etc was hard to develop in practice. There were model villages where the students could see the positive outcome of sustainable development. But these villages were scanty. Another technical aspect was the availability of land and related resources to start up such activities. It has been stated elsewhere in this writing how the training on EE has made most of the teachers concerned towards meaningful environmental education in schools as well as at community level.

The most important task required to do by CPREEC was to formulate a master-plan for its working areas indicating.

- a. locale-specific environmental concern of each specific area.
- b. probable remedial activities.
- c. formulating specified area wise teaching and learning materials based on the plan.
- d. establishing a network of EE teachers and a common platform for them to exchange ideas and required skill formation.
- e. Formulate plan for capacity building among teachers and to develop sustainable

motivation for continuation of programme after the NGO ceases to work.

f. Establishing a meaningful cooperation between EE teachers (Schools) and surrounding community domain,

g. Intensive interaction with state education department in formulating EE for schools harmonizing it with other regular courses.

The most wide spread and well equipped among the three nodal agencies was the Centre for Environment Education (CEE). CEE was quite successful in bringing out EE resource materials acceptable in almost entire country along with several locale-specific print materials and training modules etc suitably developed to local and regional level use for EE. But the utilization of such materials by target groups was far from satisfaction. Its administrative coverage was wide whereas, coverage of implementation of programme through which the resource materials could be used was not well established. Despite the fact that a good many of the associated NGOs had been showing efficient implementation of projects, given the vastness of the target groups and limited tenure of grants for projects, the activities were so far unable to show desired effect up to satisfaction. The points mentioned above give rise to a requirement of a strategic plan formulation for further improvement of EE in schools.

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