

- 2) To relate environmental sensitivity, knowledge, problem solving values clarification at every grade level.
- 3) To enable learners to have a role in planning their learning experience and provide an opportunity for making decisions and accepting their consequences.

## **Environmental Educational Programmes**

Newman (1981) proposed a three-fold classification of environmental education programmes based on different disciplines.

**1. Environmental studies.** This is concerned with the environmental disturbance and minimisation of their impacts through changes in the society (social sciences).

**2. Environmental science.** It deals with the study of the processes in water, soil and organisms which lead to pollution or environmental damage and to know a scientific basis for establishing a standard which can be considered acceptably clean, safe and healthy for human and the natural ecosystem (physical and natural sciences).

**3. Environmental engineering.** This is the study of the technical processes which are used to minimise the pollution and the assessment of impact of these on environment (engineering sciences).

# Environmental Education in India

The environmental scenario of India is very wide [diverse climatically, geologically, geographically, faunistically, ethnically, linguistically, socially and economically]. Ours is a country highly diverse climatically, geologically, geographically, faunistically, ethnically, linguistically, socially and economically. Therefore, EE has to be essentially location-specific. [At the first level, special attention must be paid to school going children and women (about 50% of the population). They are to be made aware of health, family planning, nutrition, rural development, slum improvement, sanitation, hygiene, water and food contamination, fodder, fuelwood etc. Non-government organisations have to play a significant role. In the Directory of the Dept. of Environment, there are more than 200 non-governmental organisations of which nearly 150 work in the area of environmental education and awareness. Moreover, children are to be told the real meaning of wildlife. Most children think only tiger, lion or elephant as wildlife. They are to be educated for plants, smaller animals, microbes etc. i.e. holistic approach to wildlife.]

## [I] Formal environmental education

Chief goals of EE in India must be (i) to improve the quality of environment, (ii) to create an awareness among the people on environmental problems and conservation, and (iii) to create an atmosphere so that people participate in decision making and develop the capabilities to evaluate the developmental programmes.

The spectrum of EE has four major, integrating and interrelated components (i) **awareness**, that include making the individual conscious about the physical, social and aesthetic aspects of environment. The environmental regime is linked with the life support system which in itself has six elements: air, water, land, flora and fauna and the incoming sunlight. These have dynamic relationship. Man, being most important species has major responsibility. (ii) **real-life situations**, that link environment to life, these conditions are location specific, thus problems and priorities of each area may be different. (iii) **conservation** and (iv) **sustainable development**, where spot light would be on utilisation and not on exploitation. In the former, the idea is that all resources are finite and there is also a limit to the growth of living systems. Thus resources are to be used in wise manner. Sustainable development aims at utilisation of resources not only by the present but also by the future generations in a manner

Environmental Education  
life situations, conservation and sustainability.  
Primary level, objective must be real life experience, awareness and participation.  
The contents to be used are those used at Primary School level  
presented with general science. Teaching, practicals and field visits are to

Higher secondary school stage. Here the emphasis must be on the assimilation of knowledge, problem identification and action. The content used may be science-based and action oriented work. There is no proper teaching, practicals and field work. There are many developing countries like India face problems of lack of materials, funds, and trained instructors and teachers at secondary stage.

Tertiary (College) stage. At this level, the picture would be almost similar to that of the Primary level, as maximum emphasis would be here on knowledge and sustainable development based on experience with conservation. The content must be College/University based on Science and Technology. Teaching, practical and action-oriented field work is to be done. In the school education NCERT has been playing vital role in preparing syllabi, text books, help books, guide books, charts, kits, teaching materials and aids both for students and teachers.

University education. Environmental education at this level is being promoted after the University Grants Commission. There is a high-powered committee to suggest areas of EE at postgraduate level. There are about 10 universities teaching courses in environmental areas. Besides these, there are many research institutes and professional institutions as Indian Institute of Technology, Engineering Colleges, Schools of Planning and Architecture, etc. offer courses in environmental engineering. The University education has four major components: teaching, research and extension. At postgraduate level four major areas are recognised:

(a) **Environmental engineering.** It includes the subjects like architecture, civil engineering, town and country planning, including human settlement, slum improvement, landscape architecture, industrial design, regional science and environmental ecosystem studies.

(b) **Conservation and management.** It includes fields like land use, forestry, agriculture, energy, waste management, wildlife management, national parks, wildlife reserves, biological diversity, water management, mining management, non-polluting renewable energy development etc.

(c) **Environmental health.** This deals with public health and hygiene, sanitary and chemical engineering, occupational health, toxicology, nutrition and drug use etc.

(d) **Social ecology.** It includes subjects like ecology, sociology, social planning, cost-benefit, community organisation and services, psychology and counselling, environmental ethics and related areas of humanities.

→ in field i.e. field work.

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Environmental Education and Organisation

There are some institutes, centres assisted by Dept. of Environment which provide formal education/training in environmental areas. For instance, Centre for Environment Education (CEE), Ahmedabad, Indian Institute of Forest Management, Bhopal and Indira Gandhi National Forest Academy, Dehradun.

### (III) Non-formal environmental education

It is designed for any age group, working in social, economic, and cultural development of the community. They form groups or clubs and arrange exhibitions, public lectures, meetings, environmental campaigns. The following constitute main content of this education:

1. **Adult education.** Adults may influence other members for better ways of life. In local language, information packs, posters, slides, audio, audio-visual etc. may be generated.

2. **Rural youth and non-student youth.** They may organise into groups.

3. **Tribals/forest dwellers.** The programmes of education can be taken up by involving their community leaders, women and youth. They are an important content of our forest wealth.

4. **Children activities.** This can be ensured through essay competitions of different age groups. Department of Environment with the help of United School Organisation of India organise such activities. On the spot painting, modelling and poster design contests are conducted for children by the National Museum of Natural History. Short term courses are also given by NMNH in every year.

5. **Eco-development camps.** They help in sound rural development involving youth. A set of guidelines has been prepared by Department of Environment (1984). The main objectives are: to create awareness in student and non-student youth about basic ecological principles; to identify root causes of ecological problems as related to human activities; to take steps to solve local ecological/ environmental problems, and; to develop a spirit of national integration.

6. **Non-governmental organisations.** There are over 200 NGOs, of which most are involved in EE and awareness, others in nature conservation, pollution control, afforestation and social forestry, floristic and faunal studies, rural development, wildlife conservation and waste utilisation and eco-development.

7. **Public representatives.** India has Environmental Forums for M.P.s and M.L.As to discuss environmental problems facing the country. They may build up sound public opinion and stimulate public interest.

8. **Training senior executives/administrators.** Regular courses should be arranged for various institutes imparting such training. These are generally in environmental management, industry-specific environmental management etc.

9. **Foundation courses.** The courses for the probationers selected for I.A.S., I.F.S., I.P.S. and cadets of three wings of Armed Forces need to be supplemented with foundation courses on environment relevant to their area of work.

**Research and development programmes.** Such programmes are Department of Environment in Man and Biosphere and basic and environmental problems.

**Centres of excellence.** Department of Environment has established Centres of Excellence in the country. They generate knowledge and provide research and training in areas of Tropical Ecology (Bangalore) and Environmental Education (Ahmedabad).

**Development of trained manpower.** There must be training programmes for teachers, professionals, technical personnel, and legal experts.

**Development of educational material and teaching aids.** Audio, audio-visuals, materials for media (TV, radio, films, newspapers etc), mobile television etc. must be designed by competent manpower. One such centre is Centre for Environment Education, Ahmedabad.

**World environment day.** All Govts. in the States, U.Ts, academic institutions, universities, colleges, schools and voluntary organisations organise programmes on this day (June 5). Department of Environment support this