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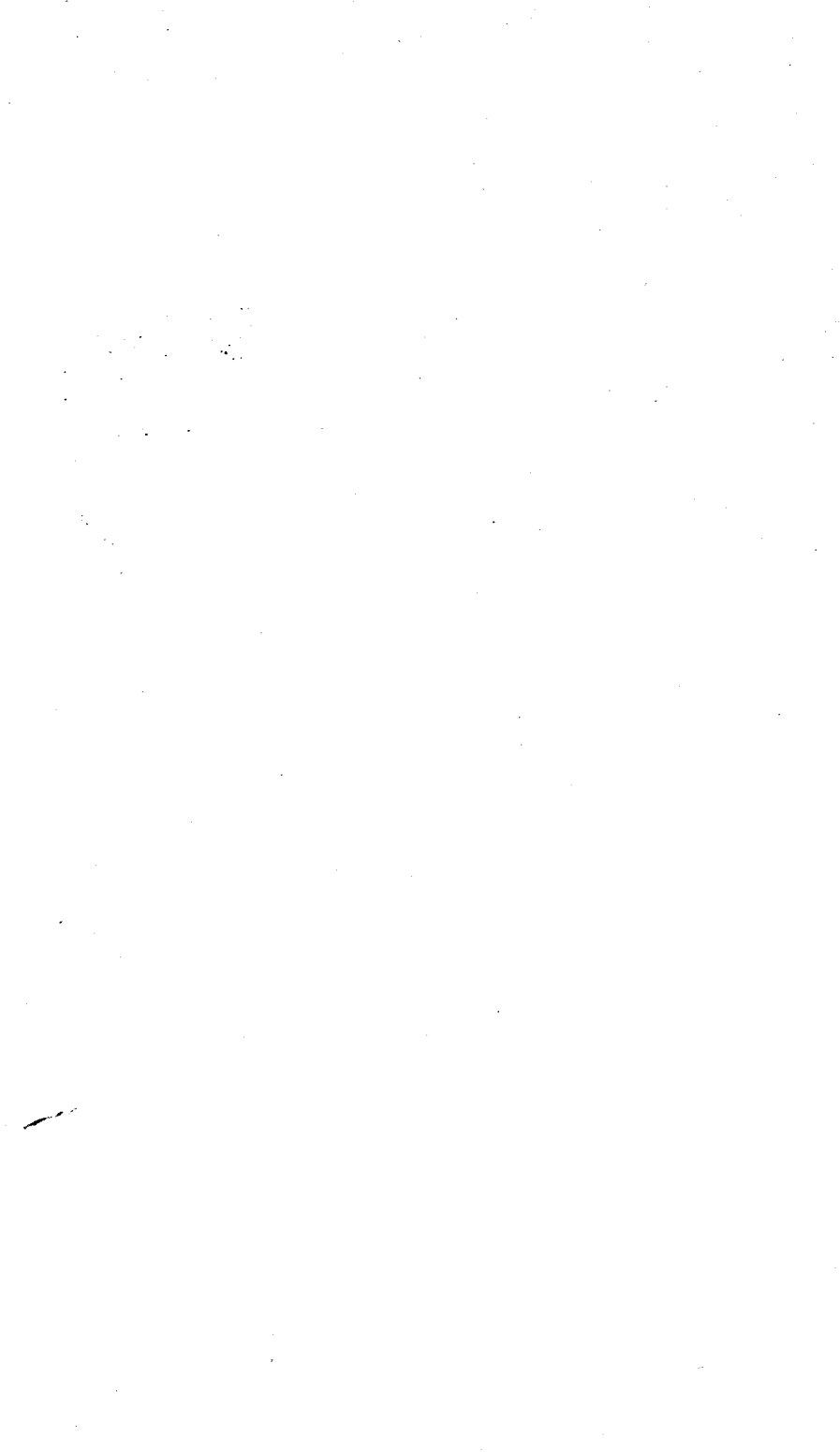
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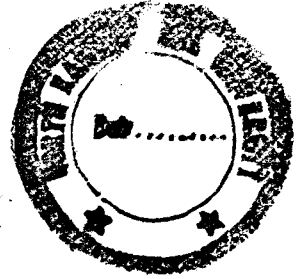
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# Management of Environmental Education and Research



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## *Preface*

The issue of environmental education and research has been discussed at several national and international conferences. Their main aim is to arouse social consciousness and make community aware of the fact that both individual and community are harmed by ecological disruptions. The lay public in rural, tribal, slum and urban areas, women and students and teachers in schools, colleges and universities as well as planners and decision and policy makers, programme implementors, city planners and architects should be educated about environment. The present book entitled "Management of Environmental Education and Research" is an attempt to achieve this objective. This book has been written in a simple and lucid style to make the book more interesting. This book assumes no previous knowledge of the subject.

During the compilation of this book, help has been taken from the reports of various national and international conferences, research journals, standard texts, teachers and authorities to all of whom the editors are deeply indebted.

Finally the editors express their sincere thanks to the publishers and printer for printing this book promptly.

All comments from users on omissions or short comings will be most welcome.

**The Editors**

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# 1

## *Concepts in Environmental Education*

### **Introduction**

Nature is fascinating. It embodies the spirit of the creator. The soft green leaf moving gently in the breeze, the drop of dew quivering on the petal of a rose, the koel singing hidden in a mango grove, all are so enchanting, so enthralling. No less is the child with its hazel eyes, silken hair, rosy cheeks, toothless mouth and tender skin. Its father, the man, too is very handsome and is perhaps the most unique creation of God, unique in the sense that it is man who has made the world so beautiful. But for him, nature would not have been so enjoyable as it is. <sup>as an</sup> He has converted wild forests into parks, gardens, orchards and cities, and deserves all praise for that. But in doing that and in his attempts to make life more and more comfortable, he often destroyed forests thoughtlessly, polluted air and water recklessly, despoiled nature ruthlessly. The inevitable consequence was an ominous deterioration of the environment. He did not stop even then. Nor did he use that much caution and took those precautions which should have been taken. He, in fact, jumped headlong towards environmental pollution and crisis.

## 2

# *The Role of Education in Environmental Action*

### **Introduction**

The whole humanity is facing an unprecedented situation with respect to the global conditions of environmental degradations.

In our pursuit of developmental goals, we have been acting in direction inimical to our own welfare and have handed ourselves into this crisis situation.

We should create a sustainable world society. There is a demand for the world conservation strategy. The strategy lists out three areas of priority—

- The first priority is to see that the essential ecological processes and life support system of the earth are in good functioning order.
- The second priority for keeping the earth habitable is preservation of genetic diversity.
- The third main objective is the sustainable utilization of species and ecosystems.

# 3

## *Environment Education*

### WHY'S AND HOW'S

Discussion and disoutes on environment mainly centre around this man made world and its environment as created by human agency. This man-made environment is the outcome of his cultural evolution, which has far outstripped his biological evolution, defying often the force of natural selection.

Industrial revolution necessary for improving human existence making life comfortable and of general national interest, green revolution to do with poverty, transport for comfort. But during this process of development the same man forgot to realize that he has but this one planet in which to live, and that he must learn to work this environment and not against it. This main aspect which was till now ignored engaged the attention of the whole world. The knowledge of how to maintain, protect and improve the human environment through appropriate environment education programme is therefore, vital to bring about environment consciousness of all people.

Man and environment are in extraicably linked and wheat effects politicians, teachers and students. No longer is environ-

## 4

# *Importance of Environment Education and Role of Various Bodies*

The question why Environmental Education, has been discussed more than enough and the Government as well as individuals realise well the importance of Environment Education. The Environment Education (E.E.) interest in recent years from both intracurricular and extra-curricular point of view, although comparatively new has been extremely keen and gathering momentum both with in formal and non-formal systems.

In India, the Environment Education is introduced at various levels. The ultimate goals of Environment Education are :--

- (a) To foster clear awareness of, and concern about, economics, social, political and ecological interdependence in Urban and Rural areas;
- (b) To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;

# 5

## *A Global Framework for Environmental Education*

### **The Belgrade Charter**

[Reproduced from connect UNESCO-UNEP Environmental Education Newsletter, Vol. 1, No. 1, January 1976.]

#### **A. Environmental Situation**

Our generation has witnessed unprecedented economic growth and technological progress which, while bringing benefits to many people, have also caused severe social and environmental consequences.....

The recent United Nations Declaration for a New International Economic order calls for a new concept of development - one which takes into account the satisfaction of the needs (needs) and wants of every citizen of the earth, of the pluralism of societies and of the balance and harmony between humanity and the environment.

We need nothing short of a new global ethic—an ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity's place within the biosphere, which recognises and sensitively responds to the

# 6

## *How Does the Inclusion of Environmental Education in School Curriculum Support the Principles of Education*

### **Introduction**

Environmental education helps in programming learning experiences from simple to complex. For illustration children look at a bird, observe its colourful plumage, see it eating figs or insects or watch it flying etc. All this gives them some awareness of the eating and flying habits of birds. The children would begin with few facts about one subject but would successively go on adding to facts and will finally learn many others linked with one another.

Environmental Education helps children to proceed from indefinite ideas to definite ones. For example, the child before seeing hills may have a vague idea about a valley or adale or about the difference between a ravine and a gorge, or between a gorge and conuyon, but after seeing hills, becomes definite about them.

Environmental Education helps children to proceed from the concrete to the abstract. For e.g. children may observe

# 7

## *Educational Intervention*

### **Introduction**

The goal of environmental action is "To improve all ecological relationships, including the relationship of humanity with nature and people with each other." Correspondingly, education should aim at developing "a world population that is aware of and concerned about, the environment and its associated problems and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones." In this context the scope of educational programmes cannot have any limits either in its capability to reach different sections of the population nor can it exclude from its purview any method, medium or channel of education. The audience of such educational intervention is the general public, irrespective of their age and occupation. In the global frame it should include both formal and non-formal education sectors.

Interventions in the formal education sector should include pre-school, primary, secondary and higher education students as well as teachers and environmental professionals in training and retraining. The non-formal education sector should include youth and adults, individually or collectively, from all segments of the population, such as the family, workers,

## 8

# *A National Policy on Environmental Education*

### **Introduction**

The environmental problem is to be dealt with in relation to the overall policy perspectives adopted by the Governments with regard to national development. In other words the countries adopt Environmental Education policies which are integrated into their general policy framework for national development, based on the national state of the environment.

The E.E. policy has to be country specific. There are two important aspects :

One is that it should make clear the position of the country with respect to environmental action as a whole based on the National State of the environment.

The second is that it should indicate the overall goal of all actions with regard to E.E. in the country.

The National policy on E.E. should give a clear indication of the country's commitment and approach towards the cause of E.E. Fostering awareness and concern among the different dimensions of human life-economic, social, political and eco-

# 9

## *Planning for Environmental Education*

### **Introduction**

Planning for E.E. is a complex task. The planner has to assess carefully the country's environmental conditions and priorities and make critical choices for E.E. in an informed way. Planning for E.E. should take into consideration the country's educational history, its national priorities and past and present environmental and social concerns.

Preparation of a national plan of action for E.E. needs an identification of certain objectives as immediate and the others as long term goals.

Action steps involved in planning for E.E.

### **STEP 1 : Specification of Objectives**

The planner has to identify and adopt the long-range goals of environmental education as they emanate from the policy framework for E.E. adopted by the country.

### **STEP 2 : Identification of Target Groups**

Identification of different target groups is important for understanding the various needs.

# 10

## *Feedback from Schools, Colleges and Universities*

Feedback from students is important because it is they who form the target group for educational activity. A simple questionnaire eliciting students responses, their reactions and suggestions are as follows :

### **CASE STUDY—1**

#### **Central Government School**

---

#### *Reactions*

#### *Suggestions*

---

- |   |  |
|---|--|
| 1. In lower standards lessons on environment were so elementary that they didn't evoke any concern for environment. | Interlinked programme from primary to Secondary level from secondary to higher college level should be created. This continuous education will help in evolution of responsible society. |
| 2. Parents of other elderly person at home or in  | There should be separate books on environment studies  |

# 11

## *Present Status of Environment Education at the School Stage*

In the new instructional materials there is considerable emphasis on making teaching and learning more environment oriented and socially relevant. A synopsis of the coverage of contents of different aspects of environmental education is indicated below :

### SCIENCE

#### CLASS III. (i) Living Things

Things around us Plants around us Animals around us.

#### (ii) Cleanliness

Houses we live in House and Hygiene Cleanliness of the surroundings Clothes we wear keep your body clean.

#### CLASS IV. (i) Living things

Grasses as the source of food plants & animals useful to man sources of food, medicines. perfumes etc, keeping plants and animals healthy.

# 12

## *Strategy for Curriculum Development Implementation and Evaluation*

Phase 1 : Establish a Committee to develop, implement and evaluate the environmental education programme and to facilitate communication.

Phase 2 : Establish Environment Education goals towards, which the Environment Education programme will be designed to strive.

Phase 3 : Establish Environment objectives that the programme will be designed to achieve.

Phase 4 : Review the literature regarding theories of learning, instruction and attitude and behavioural change to serve as guiding principles in the formulation, implementation and evaluation of the environmental education programme.

Phase 5 : Establish programme goals to help achieve stated environmental education goals and objectives.

Phase 6 : Establish the curriculum (instructional model) of the Environmental Education programme.

Part 1 : Philosophy and Concepts (big ideas)

# 13

## *Lacunae in the Present Environment Education Systems*

An analysis of the text-books prescribed by some states and the systems of environmental education reveals the following aspects which need connection :

- (a) Text books described the environmental problems very inadequately, while they mention the problems the effects on environment is not discussed.
- (b) Most of the text-books do not suggest any solutions to the problems.
- (c) Environmental factors in the development plans are rarely mentioned. Developmental plans such as irrigation and power projects are discussed in details but their adverse effects are not mentioned.
- (d) The world environment issues are rarely mentioned.
- (e) Sometimes the factual information given about the environment is found to be wrong.
- (f) Topics introduced in one class are sometimes not followed up in the higher classes continuously. The teaching of environmental education also suffers, along

## *Present Status of Non-Government Organizations in India*

### **Introduction**

NGOs concerned with aspects of environmental education and protection (like NGOs working in other fields) are structured in various ways and have objectives and programme that widely differ in the range of their activities, yet have similar basic concerns. None of the NGOs has programme of school, there are YOUTH/NGOs groups whose members are from different professional of academic backgrounds but with common interest. It is interesting to note that in most such organization and groups there are usually one or two active & committed individuals who carry a disproportionate share of the lead of organizing and mobilizing the group.

The other drawback is many NGOs have no knowledge or direct contact with other NGOs in an area or state. Due to this lack of coordination a very few scientific studies of local areas are done and ready made reports are not available when required. There is urgent need to correct all these existing lacuna.

# 15

## *Media in India*

### **Introduction**

For reaching the people, we need communication technology. Media network of course, exercise as a moderating influence. Our media range from newspaper to radio T.V. to feature film, folk songs, village discourses and so on...

Various means of mass communication aim at instructing, educating, and entertaining people in various ways on different aspects. Radio comes first among the Media, reaching people of all socio-economic strata with 110 stations spread all over the country. All India Radio (A.I.R.) covers 98% of the population, where as Television with 25a Transmitters occupying 65% of geographic area serves about 73.5% of Population. The other influential medium is films, claiming a weekly attendance of about 30 million. The press with its several thousands newspapers published in English and Indian languages suffers from obvious set back because of its limited circulation.

### **Media-Role in Environment Education**

Any serious discussion on the media, however, should be about the message its meaning and purpose. Purpose takes us to the state of a particular society. Communications depends

# 16

## *Government Organizations*

Government direct programme includes formation of sanctuaries. All sanctuaries in Hyderabad has Environment Education Centre. Each Environment Education Centre has three components :

(1) Library (2) Museum (3) Auditorium.

- (1) *Library* : It contains books on environment, wildlife, and various aspects of need for conservation. Books are for both school and college level and reference books for elities.
- (2) *Museum* : What is nature ? Why to preserve nature ? What is the role of forest and wildlife in nature ? They also depicts what the sanctuary has. All this in explained by manner of Charts. Models and Diagrams (3-D models).
- (3) *Auditorium* : It contains T.V., V.C.R., slide-projector and Line projector, with a capacity of 50-60 students. There are many Botanical Gardens and one Zoo in Allahabad. Zoo is best defined as Living Education Aid.

## *Management of Environmental Education Programmes*

### **Introduction**

The management mechanism has to be in Consonance with the national policy directives with regard to E.E.

As per the recommendation of Tbilisi Conference, "Environmental Education should aim at creating awareness, behaviour attitudes and values directed towards preserving the biosphere, improving the quality of life everywhere as well as safeguarding ethical values and the cultural and natural heritage including holy places historical land marks, works of art, monuments and sites, human and natural environment, including fauna and flora and human settlements".

It should be borne in mind that management of E.E. does not merely involve the establishment of administrative and supervisory mechanisms but it also requires arrangements for developing academic resources.

E.E. should have two important component subsystems :

1. The administrative support system and
2. The Academic Resources support system.

# 18

## *Training of Educational Planners and Administrators*

### **Introduction**

Environmental education is a relatively new area demanding a new set of knowledge and capabilities for those involved in its implementations. A pre-requisite for successful implementation of E.E. is to ensure that the personnel involved are suitably trained with regard to various dimensions of E.E.

### **Training goals :**

1. To develop in the educational planners a clear awareness of economic, social and political and ecological interdependence as a global reality and the need to develop the habits of living in harmony with nature.
2. To help them acquire a basic understanding of environment in its totality—natural and built, technological and social—and its associate problems.
3. To orient them in the techniques of planning implementation, monitoring and evaluation of programmes and projects in Environmental Education.
4. To help them acquire a set of values and feelings of concern for the environment, and the motivation for

# 19

## *Management Information System for Environment Education*

### **Introduction**

The success of environmental education programme depends on the actions guided by objective information regarding the field level realities.

Two important purposes that serve with regard to E.E.—one purpose is to monitor the efficiency and effectiveness with which the pre-planned programmes are being implemented. The other is to evaluate the total programme of E.E. including the programme objectives keeping in view the policy directives and the demands of the changing ecological conditions.

Some of the important elements of such an information base for E.E. are :

1. Data on the environmental conditions characterising different parts of the country is the basic component of the information base for E.E. The data will be both qualitative and quantitative, describing the specific environmental problems of different parts and sections of population of the country.
2. Empirical information regarding the needs and priorities for E.E. should also be readily available with a planner.

## *A Curriculum of Environmental Education*

### **Introduction**

We should choose a curriculum of environmental education because. We are born and brought up in an environment; We eke out our living in an environment; and whom the sister death pinions us and we breathe out our last, we do that too in an environment. Thus, from conception to cremation, we live in some or the other environment, and use it for meeting all our needs, comforts and luxuries. We should therefore, understand our environment and know how to use it for our individual well being and for the welfare of the society and the future generations. Thus environmental education is more functional than the disciplines we have been studying so far.)

Indeed disciplines such as Physics, Chemistry, Zoology, Botany, Geography, History, Economics should to the means to promote the immediate and future welfare of mankind and they should not be an end themselves.

Children learn them, memorise the facts about them, without able to comprehend as to how they would use them later in their life. For instance, they learn the Mathematical defini-

# 21

## *Suggested Activities for the Students of Environmental Education*

### **Introduction**

Keeping the objectives of environmental education the following activities can be undertaken by students of environmental education :

1. Observing plants with a view to recognise them.
2. Growing plants.
3. Observing flowers to recognise them
4. Observing birds and animals with a view to recognise them.
5. Observing behaviour and habits of animals.
6. Discriminating between colours and sizes of different plants, flowers and animals and learning their names.
7. Hearing and imitating different sounds.
8. Counting the articles collected, calculating the number of khurpis needed to dig ground for planting samplings.
9. Observing changes in growing plants and animals by making comparisons and measurements,

## 22

### *Indian Case Study*

At present no one doubts the necessity of introducing environmental education into the schools. Its basic principles and ideas are fairly well developed in essence. The urgent question is how to do it practically. For this purpose.

(a) This curriculum should be suitable and, at the same time, acceptable in terms of space and duration with in the overall school time budget. Various approaches to the solution of these problems have been proclaimed. They can be roughly grouped into three kinds of suggestions :

- (1) Environmental topics may be dispersed through the entire curriculum by certain insertions in the syllabi of various disciplines.
- (2) A specially designed nature conservancy unit may be a unit with in the framework of one of the existing school subjects.
- (3) An integrated course of environmental education by a number of titles) may be offered as a separate discipline equal with other school subjects.

School curricula should include environmental education both as an intrinsic part of other subjects (so that conserva-

## 23

# *General Aspects of Management of Environmental Education*

### **Introduction**

Effective management of Environmental Education is pivotal to instilling into child and man their need for conserving and enriching environment. It helps sensitive individuals, families, schools, neighbourhoods, communities and governments at various levels to environmental problems. It also helps develop knowledge, skills and attitudes required for solving these problems so that man stops causing havoc by despoiling wild forests and undertaking unplanned and unrestrained industrial activity in pursuit of an ever-increasing demand for consumer good and fanciful gadgetry. Man, as we all know, has been felling millions of trees for centuries to create pastures for his cattle and farms for agriculture, without realising that by doing so he has been allowing rain and wind to erode soil. He, therefore, without caring for the unintended consequences of his actions, has been opening the gates for floods to sweep, vast tracts of land cause dereliction. He has also been, especially since industrial revolution, polluting air by allowing factories to emit smoke which has increased carbon and sulphur content of the troposphere. He has been dirtying

# 24

## *Social and Environmental Research*

### **Social Research—Concept, Objective and Scope**

In this lesson we shall deal with the nature and scope of Social Research and the various methods that are used in it. It is therefore, first of all, necessary to make ourselves familiar with the meaning and definition of social research.

#### **Definition**

Social research has been defined by P.V. Young in the following words—“We may define social research as the systematic method of discovering new facts or verifying old facts, their sequences, inter-relationships, causal explanations and the natural laws which govern them.” On the basis of the above definition the following characteristics of social research may be deduced.

1. Social research deals with the social phenomena. It studies behaviour of human beings as members of society, and their feelings, responses, attitudes under different circumstances.

## Conclusion

**Environmental Education is education through, about and for environment. Through the various activities teaching-learning can be carried out.**

**The child can learn about the Environment - i.e. Physical Environment in Geography and Biology lessons. The cultural Environment social environment which are connected with schools, banks, taxes, self-Govt. Industries, Transport, trade, religions, monuments - Can be taught in the subjects like Civics, Economics. History etc., giving importance to the values of Environmental Education.**

**Environment has undergone revolution: Population has exploded, physical resources are being depleted and technological growth has been phenomenal resulting in an unprecedented as, water and noise pollution, land direction and accumulation of pesticide residues. We have started to realise and are rather haunted by the feeling that the world is moving head long towards disaster, or perhaps we might have reached its brinks and may soon destroy ourselves. It is therefore, very urgent that we should diag nose this malady and adopt preventive and curative measures.**

