

# An Approach to Environment Awareness and Education Programmes

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*In India degradation of environment continues unabated. Very few attempts have been made to educate and to involve the communities in environment related programmes. The awareness or education programmes should focus on local environment situation and problems. Cause-effect-solution aspects should be stressed. Pilot projects should be launched to identify the issues and develop methods, techniques and education material. Education should be the first step to effectively involve the communities in environment protection and development programmes.*

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Environment is the physical, chemical and biological surroundings of an organism at any given time. Environment encompasses everything, living and non-living, the interactions and the products of these interactions. The environment consists of soil, water, air, plants, animals, etc. and specifically forests, rivers, streams, ponds, deserts, grazing land, crop land, villages, towns, cities, farms, industries, etc. The quality of human life depends on the health of these components of environment. There is adequate awareness and knowledge about the relationship between the quality of human life and the status of environment. In spite of this the degradation of environment continues unabated. Some of the major environmental problems are as follows:

- 1 Decline in biological productivity and biological diversity; due to deforestation, soil erosion, overgrazing, compaction of soil, water logging of soils, submergence and so on.
- 2 Depletion of natural resources both renewable and non-renewable due to less efficient and indiscriminate use; mining of oil, ground water and minerals and deforestation etc.
- 3 Growing inequity between and within rural and urban areas; given that socio-economic inequity and environmental degradation go hand in hand.
- 4 Pollution and generation of waste; water, air and soil pollution, examples; urban sewage, chemical wastes from industries, pesticides, fertilizers, plastics, detergents, etc.
- 5 Lack of awareness among the communities and non-involvement of the communities in conservation and development programmes thus degradation continues unabated.

## Who is Responsible ?

Every one is responsible and everyone is contributing to environmental degradation; rural and urban communities, industrialists and farmers, affluent and poor, men and



women. However, the contribution of the affluent urban communities, urban centres and industrial centres is far higher than the poorer or rural communities for the simple reason that the urbanites use more of the natural (timber, minerals, petroleum oil) and man-made resources (electricity, detergents, plastics) and more often in an excessive and indiscriminate way. Excessive consumption of resources leads to depletion (e.g. deforestation) of resources on the one hand and waste generation (e.g. urban waste) and pollution (e.g. automobile pollution) on the other. In rural areas there are special problems like soil erosion, excessive grazing, loss of community lands, silting of water bodies, depletion of biomass resource, etc. which are very severe and which are caused by the absence of proper management of the natural resources. In addition several government projects and programmes like major irrigation and power projects also contribute to degradation of environment in several ways. Thus planners and administrators are also responsible for degradation of environment.

### Target Groups

The real sustainable movement towards environment conservation and reconstruction is possible only by educating and involving the community at large. Many developmental programmes have failed due to the non-involvement of local communities; e.g. social forestry, soil and water conservation, community irrigation and community health and so on. Thus it is very important to educate and enable the community to participate in the environment protection and development programmes. In this report some aspects of programmes aimed at rural communities are considered, as the Centre for ASTRA (Application of Science and Technology to Rural Areas) and Centre for Ecological Sciences at Indian Institute of Science have gained some experience from field experiments on environment education and eco-development. Among the rural or urban communities the following groups could be considered:

- 1 School going children—primary secondary
- 2 Non-school going children
- 3 Adult men (literate, illiterate)
- 4 Adult women (literate, illiterate)

These groups should be considered separately as the environmental issue or problems involved and the approach and methods of communication would differ for each community.

## Issues/Topics for Communication

### Rural School Going Children

In rural areas children around 10 years also work in the field like collecting grass or twigs, taking cattle for grazing and fetching water etc. Even school going children assist their families in farm work. The ideal age group for the education programme is 10—13 years or standards 5—7. The current coverage of environmental issues or issues related to biological productivity is too inadequate. The education programme for school going children could be along the following lines:

1. The emphasis should be on the components of local environment; the interlinkages, status and their impact on quality of life. Examples:

- Soil — soil formation, role of soil,  
— soil erosion; causes and effects
- Water — sources and uses, availability,  
— water runoff; causes and effects
- Trees — diversity, role, depletion levels  
Irrigation tank; causes and effects of silting.
- Birds, insects; diversity, role

2. A few environmental concepts could be included:

- Examples: — Energy flow  
— Food-chain and food-web  
— Efficiency  
— Conservation  
— Self-reliance

3. Some local environmental problems have to be selected:

- Examples: — Soil erosion  
— Water pollution  
— Biomass scarcity: fuel, fodder, timber  
— Silting of water bodies

4. Children should become aware that the environmental problems could be solved through local action and improved technology:

- Examples: — Afforestation  
— Biomass conservation technologies  
— Soil and water conservation techniques

The issues to be selected would depend on the local environment and would vary from region to region.

#### Adult Men and Women

The main aim would be to educate and sensitise the adults to environmental problems such that they get motivated to participate in programmes related to prevention of degradation of environment as well as development programmes. Almost all the households in rural areas depend directly or indirectly on agriculture which includes animal husbandry also. Another important characteristic is the excessive dependence of all rural households on biomass; as fuel, fodder, timber, manure, oilseeds, raw material for artisans etc. Thus the issues to be selected for communication should relate to agriculture and biomass. Health, nutrition and sanitation related issues are also important. An illustrative list of issues is:

I. Status, causes and effects of degradation of local environment.

- Examples: — Soil erosion  
— Water runoff  
— Biomass scarcity  
— Low productivity of grazing land

II Examples of solutions :

- Tree planting in Wastelands
- Biomass conserving stove
- Soil conservation
- Biogas for cooking
- Contour bunding
- Stall feeding

The stress should be on cause, effect and solution aspects of local environmental problems. The list of issues to be selected for communication would vary for different ecological or agro-climatic zones and local resource situations. For example, coastal fishing areas, forest regions, arid zones, semiarid areas or tribal areas will have different problems as compared to each other. The topics or issues would differ for men and women. Generally the role of women in environment management is not recognised. Women are closely associated with nature and natural resources like water, grazing land, wood collection and burning, cattle rearing, compost preparation and afforestation. Thus, certain issues related to women should be included in the womens' programme. Examples could be:

- 1 Efficiency of use of biomass for cooking
- 2 Improved cook stoves,
- 3 Alternate technologies; biogas, solar cookers,
- 4 Drinking water pollution—causes,
- 5 Prevention of water pollution,
- 6 Compost preparation,
- 7 Stall feeding

#### Approach and Methodology

Approach and methodology for communicating the message will have to be different for different communities. Conventional methods of lecturing are least effective as an old chinese proverb goes,

- What I hear I forget
- What I see I remember
- What I do I understand

#### School going children

An activity based approach would be more effective for communicating the issues. Children should carry out a simple activity, record observations, analyse the observations and draw inferences. Some examples are:

Type of activity	Examples
Survey	<ul style="list-style-type: none"> <li>— of listing of trees on farms.</li> <li>— of types of cooking fuels used.</li> <li>— of birds, their food habits</li> <li>— of telling or planting of trees.</li> <li>— of electricity/kerosene use</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>— firewood use for cooking</li> <li>— dung yield of cattle</li> </ul>
Field observation	<ul style="list-style-type: none"> <li>— visit to a biogas plant</li> <li>— visit to a forest or a plantation</li> <li>— visit to silted irrigation tank.</li> <li>— visit to factory pollution site.</li> </ul>
Experimentation	<ul style="list-style-type: none"> <li>— soil erosion test,</li> <li>— stove efficiency test</li> </ul>
Work	<ul style="list-style-type: none"> <li>— nursery raising.</li> <li>— contour trenching</li> </ul>

Students could carry out the activity during weekends, holidays and after school hours. The experience has shown that students enjoy such out-door activities. Care should be taken not to overload the students or teachers with too many topics. Every month 2 or 3 topics could be covered requiring 2 or 3 hours of school time.

**Education material:** Teacher training manuals, posters, charts etc. should be prepared in local languages.

**Teacher training:** There is a need to conduct teacher training programmes to acquaint them with the issues and methods.

#### Adult men and women

It is much easier to organize a communication programme for school going children than for adults. The first problem is to organize them to meet periodically. It is necessary to discuss and select appropriate time and meeting place in the village. It is a challenge to select appropriate communication methods which would sustain the interest on the subjects. Obviously the activity based approach is not appropriate for adults. Some of the following methods could be considered.

Methods	Examples
Narrating case studies	— successful community plantations
	— controlled grazing management
	— community irrigation programmes
Demonstrations	— contour lines or trenches
	— fuel efficient stoves
Field visits	— mixed tree plantation
	— farm ponds
	— community biogas systems
Slide shows, film shows	— deforestation and impacts
	— successful environment conservation programmes
Drama, dances, puppetry	— Stories on
	— Need for conservation
	— Examples from history or traditions

These programmes must be followed by question-answer sessions or discussions. There is a need to develop the education materials like posters, models, films and stories. The adult educators must be trained in the education materials and conducting the programme.

Separate sessions would be necessary for women. It is desirable to select lady instructors for women programmes.

#### Non-school going children

In rural areas non-school going children are actively involved in activities like agricultural operations, grazing cattle and bringing fuel wood. The issues to be included and the methodology adopted would more or less be same as those for adults. The stress should be more on immediate local problems and on cause-effect-solution aspects of the environmental problems. Literacy and environment education programme could be combined.

**Adult literacy campaigns:** Environment awareness campaigns could be successfully clubbed with literacy campaigns as the experience from Kerala shows. However, literacy is not a must for creating awareness regarding environment related issues. A good demonstration coupled with discussion could be effective in communicating the cause-effect-solution aspects of environment problems even to illiterate persons.

**Massive awareness campaigns:** Experience from Kerala shows a massive awareness campaign is necessary to prepare or motivate the communities before launching any systematic environment education programmes.

**Role of Voluntary agencies:** Voluntary agencies could play a vital role in organising the adult education programmes. They should be provided with all the infrastructure necessary like education materials, travel facilities and audio-visual kits.

#### Involvement of Communities

Creating awareness and sensitising the communities is the first step to be followed by implementation of environment restoration programmes through active involvement of communities, for example: fuel efficient stoves, afforestation, soil and water conservation, sanitation, etc. The local communities must be involved in planning, decision making, implementation and management of the programmes. The environment awareness and education programmes must motivate and prepare them for active participation.

#### Programme for Urban Areas

Children and adults in urban areas must be covered under the environment awareness campaigns and education programmes. Urban areas are the centres of industries and large human settlements causing massive air,

