

If you are thinking a year ahead, sow seed;
If you are thinking ten years ahead, plant a tree;
If you are thinking one hundred years ahead, educate the people

Chinese Poet, 500 BC

Environmental Education at IGES: Conceptual Framework and Methodological Approaches¹

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Introduction

The primary purpose of this paper is to acquaint its readers with the conceptual framework and methodological approaches adopted by IGES in implementing its Environmental Education Project. The paper begins with major environmental problems that have emerged at the global level, followed by key factors responsible for environmental deterioration and degradation. The paper also argues that human action is the number one reason for contemporary environmental problems and crises. It is necessary for us to modify human behavior and action, which will be possible only when we are able to bring about some kind of change in their knowledge, attitudes and skills. Then the paper attempts to explain that human behavior needs to be modified if we want to prevent, stop and reverse the process of environmental deterioration, for which environmental education has been given the topmost priority. The second section focuses on methodological approaches and modalities adopted by the Project.

I. Conceptual Framework of the Environmental Education Project

“Environment” is a broad and comprehensive term denoting all that surrounds us: air, water, soil and light. It is a condition or circumstance that affects living beings. It usually means surroundings. For example, let us take the example of air. It is an environment because it surrounds us. The houses we live in, water bodies, roads, plants, animals, rivers, mountains, villages, cities and the planet we live in, are good examples of the environment because they all surround us. It extends from where we are standing to the farthest stars in the sky or the deepest point in the earth. So we are a part of this environment. Environment is not something that is separate from us. In other words, we are inside of it.

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Deep ecologists also share a similar viewpoint that human beings are the part and parcel of the environment. Palmer (1998) mentions:

... it (deep ecology) holds that humans are intimately a part of the natural environment – and are *one* with nature... Deep ecologists try to live with nature's ways and rhythms, rather than opposing them ...Deep ecology fundamentally rejects the dualistic view of human and nature as separate and different.

“Environment” means many things to many people. The analogy of the description of an elephant by four blind persons may hold true in the case of the environment too. For example, we have people around us: our family, friends, and fellow citizens. This is what we call the social environment. Intangible things such as language, customs, morals, institutions, norms and values make up our cultural environment. Such living things as trees, animals, insects, birds, microorganisms around us fall under the category of the biological environment. Tangible things such as air, water, mountains, wetlands, sea, landmass, rock and forests make up the physical environment and so forth.

Figure 1 shows what the environment is like, how complex and complicated it is and how different spheres are inter-linked with one another. Each sphere (regime) plays a key role in maintaining the state of environmental equilibrium. For example, activities in the earth affect the atmosphere as well as the hydrosphere, which, in turn, affects other spheres. In other words, a slight change in the lithosphere (solid part of the earth) directly affects the hydrosphere (water body), which, in turn, affects the atmosphere (mixture of gases around us), the cryosphere (ice and snow surface) and the stratosphere (upper layer of the atmosphere above 7 miles). So environment (E) is the sum total of functions (f) of, and/or influences in stratosphere (S), atmosphere (A), cryosphere (C), hydrosphere (H) and lithosphere (L), which is encapsulated as follows:

$$E = f(S+A+C+H+L)$$

It is, therefore, important to know, first of all, the meaning of the term, “environment” to understand the depth and extent of environmental deterioration and degradation. The inter-linkage among various spheres is so intricate that it gives rise to a multitude of problems, which are both complex and complicated, thus making them formidable. These problems are; 1) global climate change, 2) depletion of ozone, 3) population growth, 4) transboundary pollution, 5) urbanization and industrialization (solid, toxic and industrial waste and noise pollution), 6) acid rain and deposition, 7) poverty, 8) desertification, 9) loss of biodiversity, 10) diminishing wetland and coastal resources, and 11) environmental deterioration. In addition to these problems, Asia and the Pacific Region is also plagued with a number of environmental woes comprising 1) domestic and transboundary air pollution (dust, transportation and smoke), 2) change in water quality and quantity, 3) change in forest coverage, 4) insanitation, 5) light pollution, 6) dense haze episodes, and 7) loss of soil and soil fertility (Moriya, 1997; Abe and Bhandari, 1998).

A cursory review of literature indicates that these problems are the outcome of the interaction of three factors which are natural factors such as calamities (earthquake,

Figure 1: Schematic Diagram of the Environment

cyclones, epidemics, drought, draught, avalanches, mudslides, etc.), man-made factors (such as cities, dams, roads, structures, etc.) and direct human actions. Human actions are found to be the most important factor because humans have to depend on these resources for their basic needs, material wellbeing and recreation. Abe and Bhandari (1998) have mentioned:

The growing environmental deterioration and degradation in the Asia-Pacific Region is the direct result of thoughtless human intervention occurring around the world. This situation has been further exasperated by the advancement of science and technology, conflicts of interest and a growing tendency towards a materialistic society.

Thus the problems arising out of this interaction are so intricate and inter-connected that these are called a global *problematique*, a complex of interacting complex problems (Paoletto, nd).

Environmental resources are definite and human wants are unlimited. If this *problematique* continues to grow rampantly, then resources will be completely exhausted, thereby leading to some kind of horrible consequence of environmental disaster, which means:

The earth will crash if we assume it is a plane,
The earth will sink if we consider it is a ship, and
The earth will explode or burst if it we think it is a spacecraft.

So the burning questions mankind is urgently facing today are; can we prevent it? Or, is it possible to stop it? Or, will we be in a position to reverse this process? Prior to giving answers to these questions, it is necessary to reiterate once again that man-made factors and human intervention are the factors most responsible for the deterioration and degradation of environmental resources. If we agree on this statement, then we can say yes to these questions. Then another question that immediately enters in our minds is “how”? The first and foremost thing is to control human intervention and bring about desirable changes in, and modify human behavior through the promotion of eco-consciousness (environmental literacy, citizenship, awareness and ethics). This is where environmental education (EE) plays a key role because EE is one of the most powerful proven tools for changing or modifying people’s knowledge, attitude, skill and commitment. And the ultimate goal of EE is to assist individuals in becoming environmentally knowledgeable, skilled and dedicated to working individually and collectively towards maintaining a dynamic equilibrium between quality of life and quality of the environment. The final report of the Tbilisi Conference (UNESCO, 1977) endorsed three goals and five objectives of environmental education identified at the Belgrade Charter (UNESCO-UNEP, 1976). They are:

1. To foster clear awareness of, and concern about, economic, social, political and ecological inter-dependence in urban and rural areas.
2. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.

3. To create new patterns of behaviors of individuals, groups and society as a whole towards the environment.

The Belgrade Charter (**UNESCO-UNEP, 1976**) has set objectives for environmental education, which were endorsed by the Tbilisi Conference.

1. **Awareness:** to help individuals and social groups acquire awareness of, and sensitivity to the total environment and its allied problems,
2. **Knowledge:** to help individuals and social groups acquire basic understanding of the total environment and its allied problems,
3. **Attitude:** to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in protection and improvement.
4. **Skills:** to help individuals and social groups acquire the skills for solving environmental problems.
5. **Participation:** to help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve these problems.

Secondly, Palmer (**1998**) has presented the UK model of environmental education as follow:

... education about the environment...in educating from (in) the environment...to be education for the environment... there are three threads that have contributed to our present ideas and it has become almost commonplace nowadays to characterize these as education either *about*, *from* or *for* the environment.

In other words, environmental education has been portrayed as education about the environment (empirical knowledge such as discovering/investigating nature and amassing information), education from (in) the environment (aesthetic elements, educating from the environment, where teachers use the environment as a source of instruction and as a source of materials to investigate other disciplines), and education for the environment (teaching for ethical values, attitude and positive thinking so as to make their action positive for the benefit of the environment).

Thirdly, the International Commission on Education under the auspices of UNESCO has recommended four main pillars of education: 1) learning to know, 2) learning to do, 3) learning to be, and 4) learning to live together (**Rao, 1997**).

These are the reasons why IGES has chosen environmental education as one of its 6 strategic research areas, which is called the Environmental Education Project, or in short, the EE Project. The detailed plans of action can be found in the Institute's Research Project Plans (**IGES, 1998; Moriya, 1998**). The primary purpose of the EE Project is to promote the overall eco-consciousness of society vertically as well as horizontally through undertaking strategic research, adopting and diffusing results, empowering partners and providing forums for the exchange of genius, knowledge and ideas amongst researchers and scholars from the Asia-Pacific Region.

The principal aim of the Project is to formulate a comprehensive regional strategy on environmental education in partnership with national collaborators from countries of the Asia-Pacific Region. The other aim is to facilitate the implementation of the strategy on the basis of availability of resources. Its specific objectives as stipulated in the Research Project Plans (IGES, 1998) are mentioned below.

1. To develop and propose proven means of encouraging all countries in the region to develop appropriate environmental education programs.
2. To design and support networks which provide generic assistance to countries and NGOs in the region to encourage and improve environmental education.
3. To establish collaborative projects with other countries in the region to promote the implementation of environmental education model.

In order to develop the strategy, the Project has chosen four key sectors: (1) formal education, (2) business and industry, (3) NGOs, and (4) media. These areas are selected because of the crucial role they play in influencing people in sustainable development. Government and non-governmental organizations cut across all segments of the society through formal and informal channels of education. NGOs are effective in areas, where governments have not been successful, nor have been able to penetrate. The media disseminates news and information effectively and efficiently. Business and industry are powerful and can mobilize their tremendous resources. We, therefore, believe in using the synergy of these sectors to promote environmental education in the region. The conceptual framework of the Environmental Education Project is presented in Figure 2.

Environmental education is viewed as a comprehensive lifelong process. It should prepare an individual for life and make him responsive to changes in a rapidly changing world with new knowledge, skills and behavior. IGES (1998:65) stipulates:

The success of environmental education is an interaction of various factors and depends on commitment from various levels and functions of society, such as children, teenagers, adults, urban and rural people, administrative organs, politicians, entrepreneurs, journalists, NGOs and so on.

So the Project encompasses a wide range of targeted entities, which include (1) government agencies, (2) international organizations, (3) universities and research institutes (4) schools, (5) private and corporate sectors, (7) NGOs, (8) media, (9) businesses and industries, (9) scientists, (10) policy makers, (11) elected officials (2) the judicial system, and (13) civil society at-large.

II. Methodological Approaches

Environmental education is not like a musical education, nor a vocational education. Environmental education is as complex and complicated as the environment is. It is related to each and every thing that surrounds us. For example, if we want to educate people to protect and conserve the migratory Siberian Crane, then we have to educate people not only in Siberia, but also people in Kazakhstan, Afghanistan, Pakistan and India because they migrate all the way from Siberia to India for the winter season. That is why we need to adopt an integrated approach and methodology in EE.

Figure 2. Conceptual Framework of Environmental Education Project

1. Approach: Since we are formulating a regional strategy, it is crucially important to build the project on the foundations already laid down by international organizations, governments, NGOs and civil society from the Asia-Pacific Region. The approach of the Project will be as follows:

1. **Synergy:** It attempts to achieve the combined strength of four sectors and believes that the whole is more important than its sum total.
2. **Partnership development:** It firmly believes in networking (sharing experience and expertise), collaboration (working together with national partners, government agencies, NGOs, research institutes and universities) and exchange of scholars.
3. **Participatory focus:** Participatory exercises will be encouraged to secure the active and informed participation of educational experts and organizations in the region.

2. Phases: The Project has a three year time framework (1998-2000) and its activities have been divided into five phases (**Abe, 1998**).

Phase 1: Assessment of the EE Situation in the Region: A preliminary review of environmental education activities will be conducted in the region. Based on this assessment, some countries will be selected as sites for case studies, if necessary, to gather additional information. Secondary data and participatory techniques will be used to undertake case studies. Some 37 countries have been contacted to prepare country reports for their respective countries.

Phase 2: Identification of Key Issues and Development of Principles and Guidelines: Data and information obtained from the country status reports and case studies will be analyzed to identify key issues such as the range of strategies used, context and factors influencing the relative degree of success of environmental education activities, the obstacles faced and means adopted to overcome them. This analysis will be used to develop principles and guidelines for 'best practice' in environmental education in each of the four sectors.

Phase 3: Development of a Framework for the Strategy: Workshops and seminars will be organized involving regional specialists, experts and national collaborators to review and revise issues, principles and practices obtained at Phase 2 and then prepare a draft framework (skeleton) of a comprehensive strategy.

Phase 4: Development of a Comprehensive Strategy: A preliminary draft of the strategy will be prepared within the accepted framework of principles and guidelines. The draft strategy will be reviewed and revised involving regional experts, specialists and national collaborators.

Phase 5: Publication and Dissemination: The strategy will be published and disseminated to agencies responsible for, and concerned with environmental education in the region.

3. Techniques: The Project will employ research techniques which include country report preparation, secondary information, field visits, interactive meetings, workshops, seminars, conferences, case studies, and reviews.

Conclusion

The EE Project attempts to provide an Asia-Pacific perspective to sustainable development and promote eco-consciousness in all spectra of society. The outcome is intended to be used as a contribution to “Rio Plus 10” to be held in 2002, ECO ASIA (Environmental Congress for Asia and the Pacific), APEC (Asia-Pacific Economic Cooperation) and GEA (Global Environment Action) forums. It will also be used to promote cooperation and partnership among various regional and sub-regional organizations and enhance the GLOBE Program (Global Learning and Observation to Benefit Environment), initiated under the US-Japan Common Agenda for Cooperation on the Global Perspective, to establish a forum for environmental education experts in Asia and the Pacific Region.

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