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## Environmental Education for Global Environmental Issues

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### Introduction

We, human beings, always depend on the environment for survival. Without air, water and soil none of us could exist. However, with the improvement of the means of production, mens' exploitation of the environment grew and resulted in many problems. The environment in which we live has become a threat to the very survival of human being and other living things because of the human action.

There is a growing awareness today about the importance of environment. The environment has started showing its various manifestations and adverse facets in the form of extremity of climatic condition as a result of the human action; i.e. too much heat or cold, drought, frequency of flood, erosion, desertification, unprecedented neurological, orthopedic, respiratory and cardiac disease. Moreover, holes in the ozone layer of the upper atmosphere and global warming have created fears that the future of our planet is seriously at risk.

From what they see and observe, many people begun to question the ability of the planet to support the growing population. Even they started to guess that only a very short period of time may remain before the world population exceeds the ability of this planet to sustain the human species. Dunlop and Jackson (1991:2) state that today we are aware that the global environment is fragile and the pollution of air and water become major threats to our health. The build up of chemicals in wild life and in the foods we eat have reached the level we can no longer ignore.

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In addition, we come to realize that the extremes of wealth and poverty found between rich and poor nations are contributing to the rapid rate of environmental destruction. The wealth of industrialized countries enables people to consume huge quantities of resources. The process of robbing the earth of these same resource creates environmental problems such as toxic waste and water, air and land pollution. On the other hand, extreme poverty causes increasingly large number of people to overexploit the land which results in desertification or the loss of rainforest, both of which have environmental consequences on a global scale.

Global Environmental concern grows rapidly over the past four decades as environmental threats and risks increased in number and intensity. In response to this life threatening environmental problem, society turned to prepare citizens to cope with the continuing environmental deterioration. Education is considered to be a key factor in solving the local, national and international problems of the environment. In order to play its role by bringing a change in behavior, **Environmental Education** evolves as a new dimension in the field of education.

The paper is divided in to three sections. The first section deals with background, definition, goals and objectives of Environmental Education. The second section is concerned with the global Environmental issues and I hope that this section provides the readers with an overview of Global Environment issues, problems, causes and consequences associated with the issues under focus. Coping Global Environment problem by Environmental Education is the subject of the third section.

### **Environmental Education**

Although, it was not named as Environmental Education, Its concept is as old as mankind. Man, in his daily practice teaches his children how to cultivate a garden, how to grow trees, how to plough and how to interact with nature in general. Because of short sighted world view,

man used to think of the earth as having unlimited resources which brought improper utilization of natural resources. As a result, the world has been facing a number of environmental crises like loss of biodiversity, desertification and drought, pollution, soil erosion, depletion of ozone layer, global warming, acid rain, resource depletion etc. Gradually but certainly the problem became aggravated and initiated ecologists, individuals, organizations and countries to call up on an international community to give attention to the environmental problem. To this end, the environmental movement began in the late 1960's with the growing awareness that many of the serious environmental problems were already manifested in the parts of the world.

The growth of Environmental Education has been largely due to revolutionary changes in environmental conditions, intellectual response to those changes and the various international and national activities which begun in the 1960s and this has continued to date (UNESCO-UNEP, 1988). It focuses on protection and improvement of our total environment in addition to conserving and developing natural resources (UNESCO-UNEP, 1985). The declaration and recommendations of the Tbilisi conference, held in Georgia, USSR created a land mark beginning for the Environmental Education. According to UNESCO-UNEP (1988) the Tbilisi conference was the climax for the development of Environmental Education and gave global thrust to Environmental Education, recommending further intensification and expansion of Environmental Education.

### **Definition**

Many attempts have been made to define environmental education at different times. The greatest landmark in that regard was an IUCN/ International working meeting on Environmental Education in the school curriculum held in 1970 at the Foresta Institute, Nevada USA. Environmental education in this meeting was defined as follows:

Environmental Education is the process of recognizing Values and clarifying concepts in order to develop skills, attitudes necessary to understand and appreciate the inter-relatedness among man, his culture, and his biophysical surroundings. Environmental Education also entails practice in decision-making and self-formulation of a code of behavior about issues concerning environmental quality.

(UCN, 1970 as quoted by Palmer, 1998:7)

IUCN continued to promote this definition and its meaning around the world. A series of Conferences and Workshops on Environmental Education was set up (Palmer, 1998).

Lucko (1982) as quoted by Aklilu (2006) defines environmental education as process aimed at producing a citizenry that is: <sup>1</sup> knowledgeable about the bio-physical and socio-cultural environment of which man a part, <sup>2</sup> aware of environment problems and management alternatives of use in solving those problems and <sup>3</sup> motivated to act responsibly in developing diverse environments that are optimal for living a quality of life.

Thus, environmental education is the process by which the learners gain knowledge, attitude and skills about their environment that enable them to conserve their environment and live in harmony with it. Environmental education should be life long process and should aim at imparting knowledge and understanding of mans' total environment. This should also consider methods of using and applying the environment education.

### **Goals and Objectives of Environmental Education**

The general goals of environmental education, which was born of an awareness of the increasingly rapid growth of environmental problems, were identified by the Intergovernmental Conference on Environmental Education, held under the auspices of UNESCO at

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Tbilisi (USSR) in 1977 (UNESCO-UNEP, 1985). This conference showed that environmental education should strive to sharpen the awareness and sense of responsibility of citizens with regard to their environment and its emerging problems. Citizens should possess the knowledge, attitudes, motivation, commitment and tools needed to work individually and collectively in order to solve current problems and prevent the emergence of new ones. According to UNESCO-UNEP (1994), the Tbilisi recommendations provided a substantial footing for decision-making in EE. They communicate criteria for developing environmental education programs, goals for EE, categories of EE objectives, and guiding principles. The details of goals and objectives of Environmental Education are found in (UNESCO-UNEP, 1994, Palmer, 1998).

Accordingly, the general goal of Environmental Education is to develop active and well informed individuals who are aware of their Environment and their responsibility in protecting and conserving their Environment. It will develop in all individuals an understanding of the interaction and interdependence of the physical, biological, social, economic and cultural aspects of the environment and the improvement of the Environment.

### **Global Environmental Issue**

Global Issues are those actions of an individual or society that has an impact on other societies. Climate change, airborne toxins, ozone depletion, solid waste management, global warming, biodiversity, air quality, and quality of life are the global issues that are of current concerns for our environment. These global issues are outcomes of human beings' political, social, religious, and economic relationships with the earth. Agriculture, energy production and use, population increases, and other environmentally related activities of the human organism have altered both terrestrial and aquatic ecosystems as well as the atmosphere of the earth itself (UNESCO-UNEP, 1994). All of these fundamental environmental issues have transcended national

boundaries and must be viewed on a global perspective. Jacoby (1973) states that:

Many Environmental concerns transcend national boundaries. Smoke from the Ruhr valley of West Germany darkens the air of Belgium and creates brown snow in Sweden. Finland's fisheries are damaged by out pouring of mercury from the factories of Britain and Europe. Oil spillages from American tankers stain the beaches of England. Mexican waters in the Gulf of California have been polluted by DDT laden water discharged by the Colorado River. Clean air, pure water, quietness (not noisy) and other environmental amenities are public goods with wide ranges of quality... They compete with other public goods, education, health, transportation, welfare that must be sacrificed to attain them.

Since there is no boundary in the atmosphere, people in one corner of the world are suffering from the action of people in other corner of the world. With rapid growth of the world's population, many societies have been demanding more from the earth's resources affecting its land surface at every increasing rate because too many want too much. Uncontrolled or excessive exploitation of the land's natural resource including vegetation, fossil fuels, minerals, water and land can have profound effects on the natural environment both in terms of ecosystem and aesthetic beauty of land escape. Some renewable resources are being used at a rate that exceeds the speed at which they can be regenerated. For example, many hectare of forest in Bale zone in 1992 destroyed with in one to two weeks by bad human practice to the environment which still has not recovered and may take several decades to regenerate it self. The human impact on land has been great, as land use has changed. Natural vegetation is cleared for agricultural use, settlements and urbanization increases, reservoirs are created, minerals are extracted.

No country can remain immune or free from environmental problems even though there is a variation in nature, magnitude and complexity of the problem. For example, developing countries experience

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problems associated with underdevelopment- poverty, farming techniques leading to soil erosion and depression, improper management of forest resources, poor health and nutrition, vulnerability to natural disasters, lack of adequate food, water and house and lack of educational programs to help resolve these problems. Where as developed countries are suffering from problems of pollution (water, air), fast depletion of several natural resources, consumerism and damage of ecosystem.

Pickering and Owen (1994) state that the exploitation of earth's resources inevitably produces waste; some of which may be hazardous or toxic. Until the past few decades, much of this waste has been disposed with out concern for the damage to the environment. They farther confirm that the greatest challenge that confronts society and government today and the generation to come is the sustained development of this system i.e. societies must be able to supply sufficient food, raw materials and energy to all nation to compromise the future generations without leaving a wasteland environmental degradation.

In general, human beings are expelling a variety of wastes into the atmosphere and assume that the air will be able to absorb. However, by discharging the wastes we are seriously damaging the quality of air in many parts of the earth. The result is damaging to the health of vegetation, animal life and people. Developed nations have the world's highest per capital energy consumption creating a great amount of air pollution.

It is beyond doubt that the oceans cover a much greater proportion of the earth's surface than the land masses on which we live and support many lives or habitats. They are widely utilized to dispose all kinds of wastes. Because of the oceans' size and peoples' ignorance, many people assume that oceans will be able to absorb all the wastes damped in to them. This will result in the upset of aquatic life which will disturb the ecosystem and deprive large portion of the world population from getting nutrition.

Miller (1996:13) explains the connection between root causes and problems by using the figure below

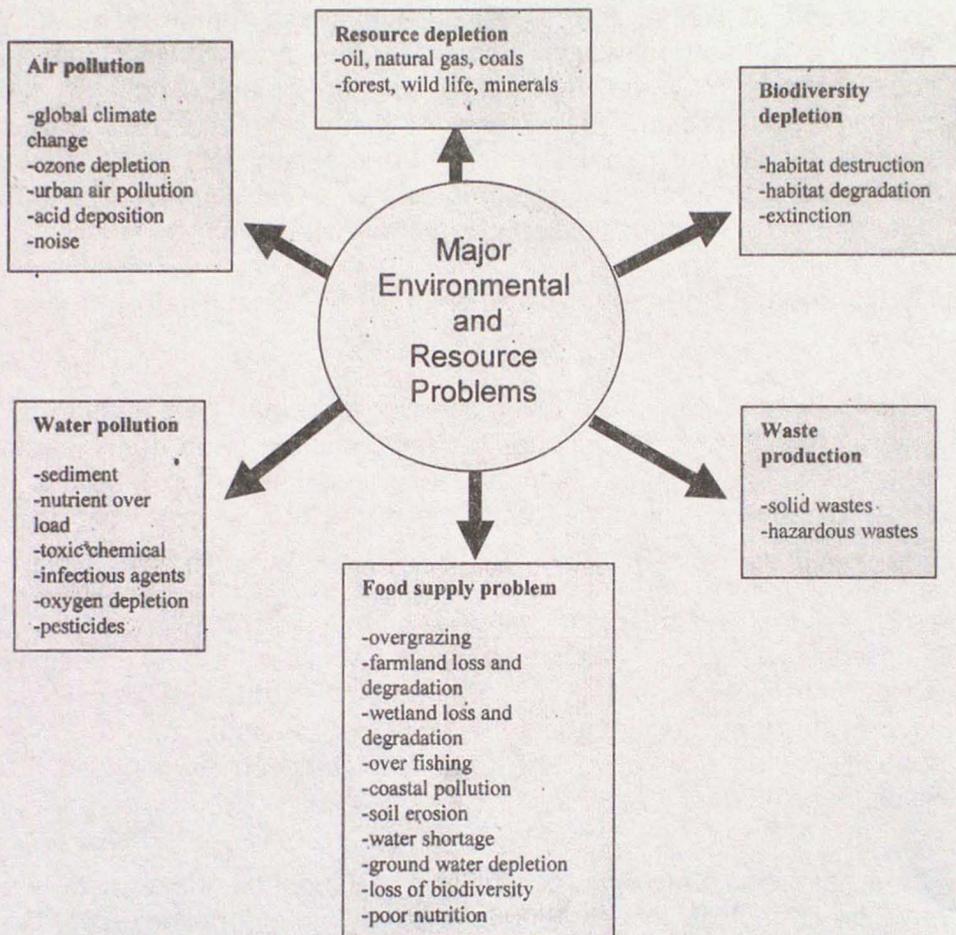


Figure 1: Environmental and Resource Problems adapted from Miller 1996:13.

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We face a number of interconnected environmental and resource problems as indicated in the figure above. A degraded state of the environment possesses serious threats to the well-being of ecosystems as well as to the very survival of the human race. Many voices have been raised in alarm over the environmental crises. These crises may be local, regional or global. Most of the environmental problems facing mankind today, whatever may be their magnitude, have developed due to our own negligence. Identifying the underlying causes of these problems will enable us to cope with them and to find the possible solutions to alleviate them.

### **Environmental Education to Cope Up With Global Environment Issues**

Global Environment Issues are outcomes of human beings' political, social, religious, and economic relationships with the earth. Agriculture, energy production and use, population increases, and other environmentally-related activities of the human organism have altered both terrestrial and aquatic ecosystems as well as the atmosphere of the earth itself. These alterations include, among other things, global warming, ozone depletion, biological productivity, biodiversity, air quality, and quality of life for millions of human beings (UNESCO-UNEP, 1994). Even, in our present-day civilization, we have witnessed environmental problems arising out of over population, depletion of natural resources, food shortages, and the resultant pollution.

There has been a growing realization that almost all human activities have an impact on the environment, either directly or indirectly. On the other hand, Solving environmental problems seem a difficult task in the course of development planning and implementation due to the difficulty of bringing in to harmony the human ambition for development and conserving resources. The poorest countries which are still struggling to meet their basic needs have to carryout development, activities. They should; however, consider their consequences to bring about sustainable development. Gupta (1988)

as quoted by Dessalegn (1998) states that the conflict between development and environment protection or between the interest of the developed and developing countries, is due to overlooking the fact that there is only one earth. If rain forests are to be preserved for the sake of the world, it is necessary to provide technical and financial help to the countries that still have rain forests.

The environmental challenges seem to be permanent. Because of this permanence, it is appropriate to anticipate the development of new profession focused fundamentally on the environment and standing alongside the established professions. According to Lynch and Hutchinson (1992), this new profession would be devoted to synthesizing the diverse branches of environmental knowledge and research in to a workable whole: defining suitable ethics relative to the environment, developing competent practice of environmental management in government and industry, and maintaining a vigorous independent research program focused on emerging problems. They argue that pressing education priority lies in development of environmental education which demand's action oriented approach. This, environmental education, is now recognized as having a central role in the search for solutions on the environment (Parry and Scott, 1997).

Environmental education needs to go beyond merely describing environmental problems and it should also address its implications for personal and collective actions. However, rather than being too prescriptive, environmental education should give young people both the tools and the self-confidence to think about the issues and possible solutions. It should highlight past successes in tackling environmental problems, particularly where young people have played a part (Parry and Scott, 1997).

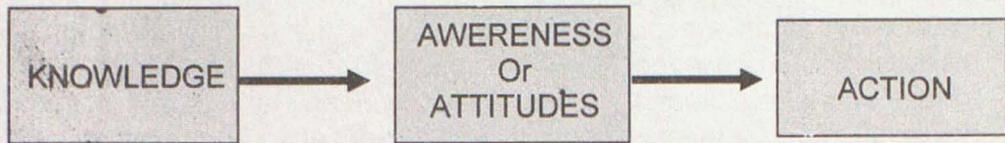
In addition to transmit knowledge on the interaction between local activities and their effects, environmental education should also disseminate knowledge about an environment's direct and indirect physical and related social impacts. Direct impacts, such as

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deforestation and diseases caused by polluted water, are visibly and tangibly affect daily life. Solutions to them can be found in the short term if appropriate measures are taken. Indirect environmental impacts may include increased soil erosion, general depletion of resources such as food, animal fodder and water, reduction of numbers and diversified of wildlife and increased risk of flooding.

Environmental education has continued to develop since 1970s. Researches have been carried out to suggest effective means of achieving the desired behavioral changes through environmental education. The major goal of environmental education is to prepare the world's citizens effectively to be capable and willing to implement behaviors which improve and/or maintain environmental health and quality. Our understanding of the factors which support environmentally positive behaviors has grown considerably since the 1970's. Those understandings influence attitudes which lead to the creation of desired behavior. To this end, environmental education plays an important role in providing information about the environment.

Becoming aware of the variables associated with global environmental issues is an important step in educating students about the earth's environment. The ultimate aim of education is shaping human behavior. Societies throughout the world establish educational systems in order to develop citizens who will behave in desirable ways. Environmental education changes behavior of learners by making them more knowledgeable about the environment and its associated issues. If learners are more knowledgeable, they will, in turn, become more aware of the environment and its problems and, thus, be more motivated to act towards the environment in more responsible ways.



Disinger and Roth (1992) suggest that environmental literacy is essentially the capacity to perceive and interpret the relative health of environmental systems and take appropriate actions to maintain, restore, or improve the health of those systems. Environmental education is the key to changing long-established patterns of social behavior. It can help combat the unsustainable production and consumption patterns that are responsible for environmental degradation. It is through practically oriented education that students will develop awareness, skills, knowledge and acquire the attitudes necessary to pursue successful action for sustainable environmentally sound development. Environmental education is a process aimed at improving the quality of life by empowering people with the tools they need to solve and prevent environmental problems. Moreover, it can help people gain knowledge, skills, motivation, values, and commitment they need to manage the earth's resources sustainably and to take responsibility for maintaining environmental quality.

### Conclusion

Today, almost all nations are aware of the most fundamental environmental issues facing the global community-depletion of stratospheric ozone, the threat of global warming, deforestation, acid precipitation, the extinction of species and others. Although there is a deep concern about the pollution of human health and our world, people continue to abuse air, water and land that sustain our lives. Reconciling human activities with the environmental law of nature remain a big challenge. We are witnessing the most profound changes in the history of human species for which the human activity is the major agent. With the increment of the world population, the strain on limited resource will necessitate environmental knowledge.

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Therefore, there is a need to transform this concern in to a new environmental ethic that sustains the human kind and its global world. Education has always played a crucial role in the society because it disseminates knowledge, provides necessary skills and helps in forming certain attitudes. Ecologists, individuals and organizations have indicated that lifelong environmental education could make this transformation by empowering individuals that restore and maintain the earth's natural system and support the well being of the future generation by promoting sustainable human life. Through, environmental education students acquire knowledge, skills and attitudes that enable them to form judgments about sustainable lifestyles and to participate in environmental decision makings. Moreover, it enables learners understand the trans-boundary nature of the global environmental issues and their interrelationships and take the necessary action that will benefit the environment.

The overall goal of environmental education is to generate environmental action so as to improve all ecological relationships including the relationship of humanity with nature and people with one another. In general, environmental education focuses on making people aware of environmental issues and promotes an understanding of the relationship between humans and their surrounding environment. As people gain a greater understanding of environmental issues, it is hoped that concern for these issues will follow.

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