

# ENVIRONMENTAL EDUCATION



*The spirit of quality and excellence*

*Knowledge is Power*

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## **UNIT- 1 BASIC CONCEPTS OF ENVIRONMENT**

### **Environment:**

The term environment means the things around us. Environment is our surroundings. It comes from the French word “environner” which means to encircle or to surround. Environment creates favorable conditions for the existence and development of living things.

### **Environment can be defined in a number of ways-**

- ❖ Environment can be defined as the circumstances or conditions that surround an organism or a group of organisms.
- ❖ Environment is the sum of all social, economical, biological, physical or chemical factors which constitute the surroundings of human, who is the creator and the moulder of the environment.

### **Components of Environment:**

#### **Environment consists of the following three components:**

1. Abiotic component or non-living component
2. Biotic component or living component
3. Energy Component

**Abiotic component** or non-living component: The abiotic components or the physical component is subdivided into three categories.

- i. Lithosphere (solid)
- ii. Hydrosphere (liquid)
- iii. Atmosphere (gas)

**The biotic components** consists of flora and fauna including human beings.

**The energy components** includes solar energy, geothermal energy, hydroelectrical energy, atomic energy etc.

## Environmental Segments:

There are four segments of environment

1. Atmosphere
2. Hydrosphere
3. Lithosphere
4. Biosphere

**1. Atmosphere** is the protective blanket of gases surrounding the earth which sustain life on earth and saves it from the hostile environment of the outer space. It absorbs most of the cosmic rays from the outer space and major portion of the electromagnetic radiation from the sun. It filters out tissue damaging ultra violet radiations.

The most important function of the environment is to maintain heat balance of the earth through absorption of infra red radiation emitted by the sun and reemitted from the earth.

Composition of the atmosphere:

Major components: Nitrogen (N<sub>2</sub>), Oxygen (O<sub>2</sub>)

Minor components: Argon (Ar), Carbon di Oxide (CO<sub>2</sub>),

Trace gases: Neon, helium, water vapour,

The atmosphere is the source of oxygen, essential for life on earth. It is also the source of carbon di oxide which is very important for plant photosynthesis. The atmosphere also supplies nitrogen to yield chemically bound nitrogen (protein) essential for life.

On the basis of the altitude atmosphere can be broadly classified into four regions-

Region	Altitude range (km)
Troposphere	0-11
Stratosphere	11-50
Mesosphere	50-85
Thermosphere	85-500

The ozone which is present in the stratosphere plays an important role for all the living beings as a protective shield for life on earth from the injurious effects of the sun's ultra violet radiations.

**2. Hydrosphere** includes all the water bodies for example pond, river, lake, sea, oceans etc. Although 77% of the earth is covered by water but that water is not fit for drinking. The drinkable water is only around 1%.

**3. Lithosphere** is the outer mantle of the solid earth consisting of minerals and soil. Soil comprises of a complex mixture of minerals, organic matters, air and water. The soil is the most important part of the lithosphere.

**4. Biosphere** is the another important segment of environment as all the living beings are found in this sphere. It extends from 6-8 km upto the atmosphere. The biosphere and the environment are interrelated with each other.

#### **Environmental Education:**

Before the advent of human civilization the planet earth was pollution free. Every thing here was in balance. But during the last century due to advancement in science and technology and many other factors leads to the explosion of human population. The number of human beings increased but the cultivable land remained constant. Due to this reason they started to clear forest to convert it into agricultural fields, moreover their needs increased now their needs are not confined to food, clothing and shelter. To meet the needs of the modern humans various industries like automobile industries, textile industries, and many others were set up. These industries lead to ignite the fire of environmental problems. Now our mother earth is facing the hazards of air pollution, water pollution, land pollution, global warming, deforestation etc,. The forests which took thousands of years to evolve at the present stage are cleared within few minutes, the life giving water has become poison and is now carrier of many deadly diseases, and the fertile land has now become barren.

The alarming situation of our planet has been felt by many scholars, researchers, scientists and many other people. Many people are now very much concern about the serious matter of the outcome of the environmental degradation. Many varieties of life forms were extinct due to this serious problem, the survival of human may also become questionable if the exploitation of environment is not stopped.

Environmental education is the educational process dealing with man's relationship with his natural and man-made surroundings and includes the relation of population, pollution resource allocation and depletion, conservation, transportation technology and urban and rural planning to the total human environment. Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture, and his biophysical surroundings. That is why the Stockholm conference on human environment in 1972 emphasised the need for environmentally oriented education.

The report of the first intergovernmental conference of environmental education held at Tbilisi (USSR, 1977) is the single most important document which provides broad guidelines for environmental education. The declaration decreed that environmental education should –

- ❖ Be interdisciplinary in its approach
- ❖ Consider the holistic environment
- ❖ Be continuous that is from all the formal and no formal days
- ❖ Examine the major environmental issues critically from local, regional, national and international point of view
- ❖ Dwell on the current and future environmental trends and scenario
- ❖ Help learners discover the symptoms and real cause of environmental problems and plan accordingly
- ❖ To promote the value and necessity of local, national and international cooperation in solving the environmental problems.

**The objective and the guiding principles for environmental education are-**

1. Awareness
2. Knowledge
3. Attitude
4. Skills
5. Participation

**Multidisciplinary Nature:**

Environmental education is related with many disciplines. Environment is a vast concept which is comprises of biotic and abiotic factors. In order to understand the biotic factors we need the help from the subjects like botany, zoology, chemistry etc., again in order to

understand the abiotic factors the subjects like physics, geology, geography etc., helps us. The human and environment relationship is understood with the help of the social sciences like anthropology (science of human beings), sociology, political science etc., again the various branches of engineering helps us to understand the critical aspects of various environmental problems. Now-a-days many laws are made in order to protect the environment, in these regards the study of our constitution and law is essential. Thus we see that environmental education is an integrated subject which requires help from many other disciplines in order to have a complete holistic study.

### **Need for environmental awareness:**

The world today is facing a great problem related to environment more particularly in the developed countries. Population explosion, advancement of science and technology are the main reason behind the environmental imbalance. Man's quest for development and ruthless exploitation of environment is alarming. If it is not checked early the survival of humankind will not be possible. The environmental problems like global warming, depletion of ozone hole, desertification of forests, etc., are beyond the control of human civilization. Only NGOs and government cannot do anything. The environmental problems required to be checked at the individual level. The present generation must be educated about the importance and protection of environment since from the primary level of education. Environmental Education may play a very important role in protection of environment.

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