

Module 1

Ecology and Biodiversity

1.1 Introduction

Types of environment

Scope and importance of environment

Importance of environmental study

Public awareness to environmental issues/studies

Role of NGOs



1.1 Introduction

Environment is defined as, “the sum of total of all the living and non – living things around us which influencing one another. The word ‘Environment’ is derived from the French word ‘Environ’ which means to encircle, around or surround. Hence, everything surrounding us is called "ENVIRONMENT".

As given by Environment Protection Act 1986, Environment is the sum total of land, water, air, inter relationships among themselves and also with the human beings and other living organisms. Environmental Science deals with the study of processes in soil, water, air and organisms which lead to pollution or environmental damages and the scientific basis for the establishment of a standard which can be considered acceptably clean, safe and healthy for human beings and natural ecosystems.

The Oxford Advanced Learners Dictionary defines environment as the natural world in which people, animals and plants live.

Douglas and Holland defined that ‘The term environment is used to describe, in aggregate, all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organisms.

Environment includes which we are directly or indirectly dependent for our survival, whether it is living component like animals, plants or non-living component like soil, air and water.

TYPES OF ENVIRONMENT

Environment can be divided into two categories

1. Natural environment
2. Man made – environment

1. Natural environment

Natural environment is created by God by natural components and process. All biotic (living) and abiotic components (non-living) are created through a natural process. Creation of these biotic and abiotic components do not require any human support.

Example: soil, water, air, tree, radiations, noise, etc.,

2. Man-made environment

Man is the most powerful environmental agent. He can modify his environment according to his need by using modern technologies. Thus the man-made environment is created by man.

Example: House, road, schools, railway lines, parks, etc.,

SCOPE AND IMPORTANCE OF ENVIRONMENT

The scope of environmental studies is very wide and it deals with many areas like

- i) Conservation of natural resources,
- ii) Ecological aspects,
- iii) Pollution of the surrounding natural resources,
- iv) Controlling the pollution,
- v) Social issues connected to it, and
- vi) Impacts of human population on the environment.

1 .To get an awareness and sensitivity to the total environment and its related problems

2. To motivate the active participation in environmental protection and improvement.

3. To develop skills for identifying and solving environmental problems.
4. To know the necessity of conservation of natural resources.
5. To evaluate environmental programmers in terms of social, economic, ecological, and aesthetic factors.

IMPORTANCE OF ENVIRONMENTAL STUDY

Environmental study is based upon a comprehensive view of various environmental systems. It aims to make the citizens competent to do scientific work to find out practical solutions to current environmental problems. The environment studies make us aware about the importance of protection and conservation of our mother earth and about the destruction due to the release of pollution into the environment.

The increase in human and animal population, industries and other issues make the survival difficult. A great number of environment issues have grown in size and make the system more complex day by day, threatening the survival of mankind on earth.

1. World population is increasing at an alarming rate especially in developing countries.
2. The natural resources availability in the earth are limited.
3. The methods and techniques of exploiting natural resources are advanced.
4. The resources are over-exploited and there is no foresight of leaving the resources to the future generations.
5. The unplanned exploitation of natural resources lead to pollution of all types and at all levels.
6. The pollution and degraded environment seriously affect the health of all living things on earth, including man.
7. Education and training are needed to save the biodiversity and species extinction
8. The urban areas, coupled with industries, are the major sources of pollution.

PUBLIC AWARENESS TO ENVIRONMENTAL ISSUES/STUDIES

Need For Public Awareness:

The United Nations Conference on Environment and Development held at Rio de Janeiro in 1992 (popularly known as “Earth Summit”) and world summit on sustainable development at Johannesburg in 2002, have highlighted the key issues of global environmental concern. They have attracted the attention of people. Any government at its own cannot achieve the goals of clear environment until the public participate in action. Public participation is possible only when the public is aware about the ecological and environmental issues.

Eg. Ban- the littering of polythene methods to propagate environmental Awareness

1. Among students through education introducing environmental studies in the curriculum.
2. Among public through mass media- environmental programs through TV, radio etc.
3. Among decision makers, planners, leaders etc.

1.6 Role of NGOs

1. Advise the government in interacting with ground level people.
2. Organize public meetings to create environmental awareness.
3. Study of natural resources-conservation and management
4. Ecology and biodiversity conservation
5. Environmental Pollution and prevention
6. Social issues related to development and environment
7. Human population and environment.