

INTRODUCTION TO ENVIRONMENTAL STUDIES

Definition, Scope and importance; Concept of sustainability and sustainable development

Definition

Environmental Studies is a multidisciplinary academic field which deals with the issues that affect an organism. The Terminology “Environment” is derived from a French word - 'environ' which means surroundings. Hence, everything surrounding us is "ENVIRONMENT". It is defined as “the sum of total land, water and air their interrelationship with themselves and with all living beings including humans. It can also be defined as direct and indirect relationship among the living and the nonliving objects in an ecosystem and their interactions.

Scope

As we look around the habitat we live and analyze the surroundings, we can observe natural landscape such as forests, rivers, mountains, deserts, grass lands or combinations of these elements. As the civilizations advances, Human beings have modified the natural ecosystems to villages, towns or cities. To run our day to day activities we inevitably depend heavily on our environment such as air to breath, water to drink, food for energy to work, fodder for cattle etc. Demand on food supply made them to explore more on natural resources and modify them accordingly. Agriculture is evolved from traditional to modern to cater the huge demand. Our environment is hence vital and has to protect it without destroying the balance. The Environment is referred traditionally as “Mother Nature” and many cultural practices by the traditional communities envisage protecting the nature.

With the technological advancement, the traditional practices in the agrarian society have changed way for high productivity. Use of chemical fertilizers and pesticides has become a common practice thereby lands become a conditioned base for only selected species. Industrial revolutions paved way to production of more and more chemicals such as fertilizers, plastics and other synthetic products and byproducts which is expelled in to the environment and leads to the poor quality of air, water and soil. Demand for water utilization forced humans to build mega dams on rivers and this has led to destruction of many ecosystems.

The consumer oriented society turn to nature for natural resources, both non-renewable and renewable resources. The non-renewable resources are the resources such as minerals and oils which will exhaust from the earth's crust in the future if it is extracted imprudently. The renewable resources such as wood, water etc. can be regenerated. However, the rate of removal and the regeneration always will show a disparity. The over usage of forest cover lead to its destruction directly or indirectly affecting the water table and the local climate.

Importance

Environment is an integration of several subjects that include Science and Social science. It is essential to understand all the aspects of the environment *ie.*, the biological, chemical and physical interactions.

Geography of the area and resource management, economics and population also are important to assess and address the environmental issues.

Natural resources are limited on earth from where we extract all resources. Main source of this resources are agriculture, forest, ocean, grassland and live stocks. A colossal quantity of resources especially the food we waste, is discarded as garbage. Manufacturing processes create a lot of solid byproduct wastes whereas chemicals that flow in water bodies contaminate them.

The ecosystem can manage the waste up to a certain level beyond which it accumulate and lead to unfavorable conditions that lead to pollution. Pollution affects normal life of humans, animals and plants. These pollutions cause respiratory (Air Pollution) and gastrointestinal diseases (water pollution). Many chemical pollutants also may cause cancers.

The situation in the environment has to be changed to bring the normal status for better quality of life forms and other interactions. It is very important to understand one's own responsibility to implement the measures to improve the quality of the environment.

Value of nature: Our biosphere is rich in species diversity and it contains an incredible and uncountable number of complex chemicals. These chemicals can be used as raw materials that are used for developing new medicines and industrial products. All plant species, flowering and nonflowering plants and insects of all kinds, which form the species- rich groups of living organisms, are vital for the holistic and sustainable ecosystem. If the human activities lead to the degradation of their habitat the species will face a threat to their existence and become extinct.

Eg:1. **Passenger Pigeon**, a female named Martha, died at the Cincinnati Zoo; 2. **Dodo**, an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean; 3. The Western black Rhinoceros, a West African black rhinoceros; 4. The **great auk**, a species of flightless alcid that became extinct in the mid-19th century.

Thus it is the responsibility of humans to protect all the living species. It is also important to create awareness about the need of protecting the biota in their natural and artificial environment. Establishing National Parks and Wildlife Sanctuaries are initiatives of the government to protect wild species in their natural environments.

The beauty of nature can be witnessed in the magnificence of a mountain, the power of the sea, the beauty of a forest, and the vast expanse of the desert. This incredible diversity has added to the aesthetic and recreational values of nature and has led to the development of National Parks and Wildlife Sanctuaries which are relatively undisturbed and provide learning experience of intricate functioning of ecosystems.

NEED FOR PUBLIC AWARENESS

Human activities and overexploitation of the earth's natural resources lead to weakening of the ecological balance of the environment. It is evident that there is a need for conservation, protection and awareness at individual level supporting the initiatives by the Authorities of Nations. Mass awareness programmes can be initiated to enlighten individuals on the alarming situations and inculcate a feeling of responsibility towards environment. Newspapers, radio, television, social media etc. also has great role to play towards the awareness. Government institutions and NGOs involve and support the conservation activities and help politician to make green policies.

Indian Government has launched awareness programmes like 'Eco-Club' for Children and 'Eco-task Force' for army men. An ecomark has introduced in 1961 to promote the use ecofriendly products



Eco mark is a credit given to products that is made, used and disposed off in an ecofriendly manner by the government of India. The Eco mark is represented by an earthen pitcher- a symbol of eco friendliness and our traditional heritage

Activity

List all the activities you do in a day.

List the main resources used during these activities

How can you prevent the generation of waste?

List the energy sources you use in a day.

How can you reduce their use?