

Environmental Education for Biodiversity Conservation

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Abstract: *The term environment is a short term used for the biophysical environment. It often refers to a singular global environment to humanity.*

The biophysical environment is the biotic and abiotic surrounding of an organism. It includes the factors which leave the impact on their survival, development and evolution. The biophysical environment varies from microscopic to global in extent. It is divided into three parts as follows:-

- 1. The Marine Environment.*
- 2. The Atmospheric Environment.*
- 3. The Terrestrial Environment.*

The number of biophysical environment is countless because each living organism has its own environment. Every living organism adapts itself for its survival according to the conditions of its environment. Temperature, light, humidity, soil nutrients; all influence any specie within an environment.

Environmental science is the study of the interactions within the biophysical environment. Scientific study is the investigation of the effect of human practices on the environment. It is a broader field of study that includes the natural environment, built environment and social environment.

On the contrary, environmentalism is a wide social and philosophical movement which initiates the negative aftermaths of the human practices on the biophysical environment

Key Words: *Biodiversity, Conservation, Biophysical, Environment, Humidity, Fossil, Ecosystem, Species extinction, Habitat Destruction and Legal Enactment.*

1. INTRODUCTION:

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2. Concerned Issues to be Taken Care of Relating to the Natural Environment are:-

- Climate Change.
- Species Extinction.
- Losing of the Antique Grown Forest.
- Melting of Glaciers.

Biodiversity, on the other hand, is the variation of life in the environment. It is a measure of organisms existing in different type of ecosystems, as genetic variation, ecosystem variation or species variation within an area on a planet.

Terrestrial Biodiversity is the highest nearby the equator which is due to the warm climate and primary production. Marine Biodiversity is the highest alongside the coasts in the Western Pacific where sea surface temperature is high and in the mid-latitudinal band in all oceans.

Rapid environmental changes cause the extinction of the species to a large extent. More than 99% species which ever existed on the earth are supposed to go extinct. 10-14 million species of life still exist on the earth. The next 400 million years include repeated, massive biodiversity losses classified as mass extinction events. 65 million years ago extinction of dinosaurs has occurred which has brought the attention of all towards its cause.

Since the arrival of human being on the earth, has played a huge role in the reduction of the biodiversity and an accompanying loss of genetic diversity. Extinction is due to the human practices, particularly the habitat destruction. In a number of ways, biodiversity leaves an impact on the human health both positively and negatively.

The term biological diversity was first of all used by a wildlife scientist and conservationist Raymond F. Dasmann in the 1968 lay book A Different Kind of Country, advocating conservation. This term was widely adopted to be used only after more than a decade in the 1980s when it was used in common usage in science and environmental policy. The term's short form biodiversity was coined by W.G. Rosen in 1985 while planning the 1986 National Forum on Biological Diversity organized by the National Research Council. It first appeared in a publication in 1988 when sociologist E.O. Wilson used it as the title of the proceedings of that forum. Since then, the term has got a widespread use among the biologists, the environmentalists, the political leaders and the concerned citizens.

Biodiversity is the result of 3.5 billion years of evolution. The fossil record shows that the last few years feature the greatest biodiversity in history. However, not all scientists support this view. Land has more species than the ocean; 8.7 million species may exist on the earth, of which 2.1 million live in the ocean.

3. Ecosystem Plays an Important Role in the Biodiversity for Balance in Three Ways:

- i) Production of Renewable Resources (food, wood, fresh water).
- ii) Lessening of Environmental Changes (climate regulation, disease control).
- iii) Cultural Services which represent human value and enjoyment (landscape aesthetics, cultural heritage, outdoor recreation and spiritual significance).

80% of human's food supply comes from just 20 kinds of plants; human being uses at least 40000 species. Many people depend for their food, clothing and shelter on these species. Surviving biodiversity of the earth provides resources for increasing the quantity of food and after products suitable for human use, although the existing rate lacks that potential.

Biodiversity's importance to human health has turned an international political issue. The link is closely associated with the issue of the climate change; as many of the health risks of climate change are associated with the changes in biodiversity; which are :-

- i) Growth in Population.
- ii) Distribution of Disease Vectors.
- iii) Scarcity of Fresh Water.
- iv) Impact on Agricultural Biodiversity and Food Resources.

Biodiversity provides critical support for drug discovery and the availability of medicinal resources. A significant proportion of drugs come from biological sources either directly or indirectly: at 50% of the pharmaceutical compounds comes from plants, animals and micro-organisms, while 80% of the world population remains dependent upon the medicines from the nature for primary healthcare. A decline has been evidenced in the output from the pharmaceutical sector since 1980s.

The growing demand and lack of drinkable water on the planet presents another challenge in future for the human health. The reason behind it, is the failure of the water suppliers in increasing water supplies and failure for the promotion of the preservation of the water resources. In spite of the increase in the distribution of clean water, it remains unequal at several places. According to 2008 World Population Data Sheet, only 62% of least developed countries are able to access clean water.

Health Issues which get influenced by biodiversity include dietary health and nutrition security, infectious disease, medical science and medicinal resources, social and psychological health. Biodiversity also helps in reducing the disaster risk and post-disaster relief and recovery efforts.

Much of the industrial material is derived from the biological sources, including materials of the building, fibres, dyes, rubber and oil. Biodiversity is important for the security of resources like water, timber, paper and food too. In short, biodiversity loss is a very relevant challenge in the development of the business and a threat to the long term economic sustainability.

Biodiversity enriches leisure activities such as hiking, bird-watching, or natural history study and inspires musicians, painters, sculptors, writers and many other artists. Many cultures find their identity as being the integral part of the natural world which requires that these should respect other living organisms.

Many activities such as gardening, fish-keeping and specimen collecting hugely depend on biodiversity.

Biodiversity is directly involved in water purification, recycling of the nutrients and providing fertile soils.

The planet has lost 52% of its biodiversity since 1970 as in 2014 study by the World Wildlife Fund. 39% from the account of the terrestrial wildlife, 39% from the marine wildlife and 76% from the fresh water account has extinct. In 2006 many species were formally described as rare or endangered or threatened. Scientists have investigated that millions of the species are at risk which have not been formally recognized. Almost 40% of the 40177 species assessed have been listed as threatened with extinction- a total of 16119.

4. Causes Behind the Extinction of the Biodiversity are:

- 1.) Habitat Destruction.
- 2.) Invasive Species.
- 3.) Pollution.
- 4.) Human Over-population.
- 5.) Over Harvesting.
- 6.) Global Warming.
- 7.) Soil Contamination.
- 8.) Over-consumption.

Keeping in view the threat for the biodiversity and environment, the conservation is a needful act for the survival of human life.

Conservation is a practice of preserving, guarding, protecting and wise use of the natural resources and biodiversity existing in the environment in our surroundings.

5. Conservation may be Termed Differently:

Biological Conservation: the science of protection and management of biodiversity.

Ethical Conservation: an ethic of use, protection and management of the environment and natural resources.

Genetics Conservation: an inter-disciplinary science that applies genetic methods to conservation and restoration of biodiversity.

Movement Conservation: political, environmental or social movement that seeks to protect natural resources, including biodiversity and habitat.

Organizational Conservation: an organization dedicated to protection and management of the environment and natural resources.

Conservationist: a person who advocates for conservation of the environment and natural resources.

Conservation of natural resources includes energy, habitat, marine, soil, water, wet-land and wildlife conservation.

By keeping in view the conservation of the environment and biodiversity, environmental laws have been framed at national and international level.

Environmental law is a collective term used for treaties, statues, regulation and common & customary laws telling about the result of the human practices on the natural environment.

Legal enactments to preserve the environment for its own sake and human enjoyment have been found. In 1858, the dumping of sewerage into the River Thames began to stink bitterly in the summer that the parliament was to be evacuated. So, Metropolitan Commission of Sewers Act 1848 which was passed to close the cesspits around the city in an attempt to 'clean-up' but this led people to pollute the river. After sometime, the parliament passed another act to build London sewerage system. London had faced terrible air pollution; for which Clean Air Act 1956 was passed.

The Environmental Law is the 20th Century development. Environmental Law body and natural resources law were not in practice till 1960s. By the end of the 20th century environmental law had been established as a component of the legal landscape in all developed nations of the world and in many developing ones as well.

Global and regional environmental issues are the main subject of international law. Numerous legally bind international agreements have wide variety of issue related areas from terrestrial, marine and atmospheric pollution to wildlife and biodiversity protection.

The Asian Environmental Compliance and Enforcement Network is an agreement between 16 Asian countries dedicated to improve cooperation with environmental laws in Asia.

The Environment Protection and Biodiversity Conservation Act 1999 in Australia is a legal framework to protect and manage nationally and internationally flora, fauna, ecological communities and heritage places.

According to the U.S. Environmental Protection Agency, China has been working diligently to develop, implement and enforce a solid Environmental Law framework recently.

In India, Environmental Law is governed by the Environmental Protection Act, 1986 which is followed by the Central Pollution Control Board and the numerous State Pollution Boards. Individual legislations are also there for the protection of water, air, wildlife etc. Among these are the Water (Prevention and Control of Pollution) Act, 1974; the Cess Act, 1977; the Forest (Conservation) Act, 1980; the Air (Prevention and Control of Pollution) Act, 1981; the Biological Diversity Act, 2002 and Wild Life Protection Act, 1972. The National Green Tribunal established under the National Green Tribunal Act of 2010. The Public Liability Insurance Act, 1991 and Biological Diversity Act, 2002 are also there. The acts covered under Indian Wild Life Protection Act, 1972 do not fall within the jurisdiction of the National Green Tribunal. Appeals can be filed in the Honourable Supreme Court of India for the conservation of environment, biodiversity and the natural resources.

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