

BIODIVERSITY AND ENVIRONMENTAL ETHICS

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Introduction

Biological diversity or biodiversity refers to the variety of life on Earth, comprising millions of plants, animals, microorganisms and the genes they contain. It simply means the existence of a wide variety of plant and animal species in their natural environments or the diversity of plant and animal life in a particular habitat. Environmental ethics is a branch of ethics and a form of philosophy which deals with the studies of relation of human beings and the environment. It includes a moral consideration of human approach to natural resources and believes that human as well as other living creatures as parts of society. Biggest environmental ethic for human is to care for creation.

There are varied definitions of the term 'biodiversity'. According to Gaston and Spicer (2004), it is 'variation of life at all levels of biological organization'. Biodiversity is also viewed as a measure of the relative diversity among organisms present in different ecosystems. In this definition, diversity includes variation within species and among species, and comparative diversity among ecosystems. Biodiversity may also be defined as the 'totality of genes, species, and ecosystems of a region.

Morality refers to the concept of human ethics related with '**right or wrong**', used in three contexts *namely* individual conscience, principles and judgments. These three collectively constitute the moral values. Morality is a collection of beliefs as to what constitutes a good life. Morals reflect a cultural predominant feeling on ethical issues.

Moral principles that try to define one's responsibility towards the environment are called '**environmental ethics**' or

'environmental philosophy' which considers the ethical relationship between human beings and the natural environment.

A review of literature revealed that huge efforts have been taken and a number of scientists have worked a lot on biodiversity and environmental ethics. Some of them are Kaushik *et al*, (2008), Odum (1971), Wilson (1988), Bhatt (1997), Subba Rao (2001), Prakash *et al*, (2015), Verma *et al*, (2016) and Verma (2016, 2017a, 2017b and 2018) etc. In present discussion, author is trying to discuss different levels of biodiversity and environmental ethics in modern context.

Levels and Threats of Biodiversity

The biodiversity is explored at three levels namely **genetic diversity**, **species diversity** and **ecosystem diversity**.

The **genetic diversity** is the diversity of the basic units of hereditary information (genes) within a species, which are passed from one generation to next. The **genetic diversity** results in variations hence the basic source of biodiversity and the amount of genetic variation is therefore the basis of speciation. The genetic diversity enables a population to adapt according to its environment hence important for natural selection. Genetic diversity within a species often increases with environmental variability but not all groups of animals have the same degree of genetic diversity. To conserve genetic diversity, different populations of a species must be conserved.

The **species diversity** refers to the variety of species within a region. It is the variability found within the population of a species or between different species of a community. The species is the real basic unit used to classify the organisms and its diversity is the most commonly used level for describing the biodiversity. It represents broadly the species richness and their abundance in a community. Species are therefore distinct units of diversity, each playing a specific role in the ecosystem.

In nature, the number and kind of species, as well as the number of individuals per species vary, leading to greater diversity. The species are grouped together into families according to shared characteristics.

Biodiversity of a place suffers from a lot of factors and threats. Some important threats are (i) climate change, (ii) pollution, (iii) invasion by exotic species, (iv) over exploitation and (v) habitat degradation. Anthropogenic activities for overexploitation of natural resources are one of the major causes of biodiversity loss. Only a small change in pattern of climate has severe impact on the biodiversity, altering the habitats of the species and presenting a threat for their survival, making them vulnerable to extinction.

Due to lockdown following the Covid-19 outbreak, appearance of large number of birds including vultures and insect pollinators etc are good signs for ecological balance and biodiversity. Almost total lockdown due to COVID-19 outbreak has minimized the anthropogenic activities including overexploitation of natural resources. The major human population is bound to live in their homes, automatically prevented to cause various types of pollution. The surrounding environment is reflecting clean and green. Everywhere any one can observe a clean environment where almost all plants and animals have started to flourish. During lockdown, reduction in pollution level is also helping the global biodiversity to flourish; hence lockdown seems good for biodiversity.

Why Environmental Ethics?

The environmental ethics are required due to following three reasons:

1. The modern technological advancements and civilization has been affecting nature greatly; therefore, we should not only analyze the ethical consequences of human actions but also appropriate safety measures should be taken.
2. A few decades ago, only a small section of people realized that human's activities could be altering the global environment. Now, the modern science, environment and technology demonstrated well that how humans have changed and are changing the global environment in ways not previously understood. Thus, new knowledge and better understanding of nature is raising new ethical issues.
3. Whether humans extend their moral values to non-humans? Do humans have a moral obligation to leave the environment in good condition for our descendants? Humans have liberty to use environmental resources to the point of depletion within our life time? These expanded concerns lead to a need of environmental ethics.

In order to save the earth and natural environment, we should follow some guidelines at species, ecosystem and personal or individual levels as following:

Species level

1. Each and every species has a right to exist and to utilize the natural resources.
2. Humans, being highly evolved product of evolution should work to preserve the earth's genetic variety as it is the raw material for all future evolution.

Ecosystem level

1. The best way to protect species is to protect the ecosystem in which they live.
2. Humans should work with nature to sustain the ecological integrity, biodiversity and adaptability.

Individual level

1. We should not deplete or degrade the earth's physical, chemical or biological assets, which support all life activities.
2. When there is an utmost need to alter nature, we should choose methods that do the least possible harm to us and other living things.
3. Before we alter nature, we should assured ourselves that our action will cause short term small environmental effects.
4. Love and honour for the earth.
5. No right to drive other species to extinction.
6. Be respectful to plants and animals which provide food and other things to us.
7. Limit the human population.
8. Avoid the wastage of natural resources.
9. Consumption of natural resources in moderate amount so that all may share this treasure.
10. Promotion of future generation to live in clean and safe environment.

Conclusion

Existence of Nature is not only for humans but for all living beings. In order to conserve the water, earth and environment, humans should create practical environmental ethics that so that each and every one can emotionally obey and follow them.

Effective environmental ethics are utmost need for the survival of all living creatures including humans at global level.

Development should be inclusive incorporating the welfare of all living creatures with the conservation of natural biodiversity. Covid-19 pandemic has proved that whenever major threats on biodiversity will appear, Nature will itself initiate an action to clean the environment and save the entire global biota.

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