



ORIGINAL RESEARCH PAPER

Education

NEED OF BIODIVERSITY AWARENESS

KEY WORDS: Biodiversity, Genetic diversity, Species diversity, Ecosystem diversity

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ABSTRACT

Biodiversity is the spectacular variety of life on earth and the essential interdependence of all living things. It refers to astonishing variation in size, structure, physiology and behavior of over three million species of organisms and their living environment. In this way biodiversity represents the very foundation of human existence. By our headless actions we are eroding this biological capital at an alarming rate. Developing an awareness of biodiversity become the need of the hour to initiate actions for the preservation and conservation of biological wealth.

INTRODUCTION

Environment is the conditions that we live or work in and the way that they influence how you feel or how effectively you can work. Environment is the totality or the complex of natural, built and social components that are related to human life. Environmental education is education through, about and for environment. It begins from using environment as a medium of learning and includes all that we say and do for conserving our resources, environmental education provide a clear picture of environment during the present century which has undergone revolution, population explosion, increased depletion of natural resources, pollution etc. of these several irreversible environmental catastrophes, the most challenging one of which is the unprecedented loss of biodiversity on earth. So, it must be the need of hour to know what is biodiversity, why biodiversity and need for developing biodiversity awareness.

Biodiversity – A conceptual Overview

Biological diversity or biodiversity is the variety of all forms of life on earth. It is the totality of the immense diversity found among all life forms plants, animals and microbes. Among these living organisms' difference is found in body structure, feeding habits, reproductive methods, survival strategies and so on. In a broader sense, biodiversity also includes herbs and plants used under traditional medicine, single drugs and folklore knowledge of plants and animals. In this way biodiversity is a part of our daily lives and livelihood and constitutes the resources upon which families, communities, nations and future generations depend. According to the U.S. Office of Technology Assessment (1987), biological diversity is 'the variety and variability among living organisms and the ecological complexes in which they occur'.

Levels of Biodiversity

Scientists define biodiversity at several levels. Its complexity is measured in terms of variation at genetic, species and ecosystem level.

Genetic Diversity

Genetic diversity is the variation between individuals and between populations within a species. Genetic diversity pertains essentially to the domesticated plants and animals and is the result of the domestication process for purposes of food to feed the escalating human population and to meet other human needs.

Species Diversity

Species diversity refers to the different types of plants, animals and other life forms within a region. The most commonly discussed biodiversity is the one at species level-species being the last unit of the elaborate classification of plants and animals, made for the purposes of scientific study. Biodiversity is measured in terms of the number of species within a specified area. This is the indicator used for describing or comparing the levels of biodiversity of countries or regions.

Ecosystem Diversity

Ecosystem diversity is the variation of living habitats found within an area. Ecosystem like ponds, rivers, lakes or sacred groves, differ from one another. The difference is found in respect of composition of species, number of individuals in each species, the gender-age composition of each species and so on.

Measuring Biodiversity

At its simplest level, diversity can be defined as the number of species found in a community, a measure known as 'species richness'. Diversity is a single statistic in which the number of species and evenness are compounded. Many methods of calculating diversity have been proposed that combine these two types of information. Mathematical indices of biodiversity have also been developed to note species diversity at different geographical scales as follows.

Alpha Diversity

This refers to number of species in a single community. This diversity comes closet to the popular concept of species richness and can be used to compare the number of species in different ecosystem types.

Beta Diversity

This refers to the degree to which species composition changes along an environmental gradient.

Gamma Diversity

This applies to larger geographical scales and defined as 'the rate at which additional species are encountered as geographical replacements within a habitat type in different localities. Thus, gamma diversity is a species turnover rate with distance between sites of similar habitat or with expanding geographic areas.

Need of Biodiversity Awareness

The dawn of the new millennium beckons the entire humanity into an era of unprecedented environmental challenges from the order of the survival of the fittest to the survival of everything to the fittest level. The most pressing one of which is the unprecedented loss of biodiversity on earth. Realizing the widening frontiers and importance of biodiversity make the child conscious of his or her duties and responsibilities to safe guard the environment for today and tomorrow. So, it is necessary to provide education about the environment, education for the environment and education through the environment.

The manifestation of the current biodiversity crisis includes the disappearance of many populations of the survival species, depletion of genetic diversity of crop plants domesticated animals and their unnumberable wild relatives and fragmentation, degradation of several unique habitats and ecosystems. The global problem of biodiversity loss would throw our very existence in peril, unless proper and timely remedial actions is initiated in right earnest. Constant

touch with nature creates biodiversity awareness among children, will certainly contribute to save the environment. At this scenario, it is the imperative need to know how far the students are aware about their surrounding living world. Awareness is essential for motivating action to address the proper preservation and conservation of biodiversity.

Biodiversity awareness involves individuals' consciousness about the diversity of living resources within the world, and its associated problems. To a great extent education helps to promote wide spread awareness of the nature and of interaction between man and environment on which he depends. Though the present educational system gives importance to environmental study, it lacks the actual contact with environment. This can be corrected through providing opportunities which help the pupil to learn freely and spontaneously from the nature. Today the students learn more about the global, national and state environmental issues but less about their immediate surrounding nature. Many of the students are not properly aware of the diversities existing among common plants, animals and other living organism within their locality. This article will help to know about the biodiversity through the present educational practices.

Educational Provisions for improving Biodiversity Awareness

Education can make man aware, conscious of and knowledgeable about environmental problems. Education can help man to understand the underlying causes, the manifestation and impact of these problems. So, the teacher may act in a concerted manner not only to alleviate and solve the existing problems but also to prevent their recurrence.

- Environmental education involves continued improvement in professional development through in-service and pre-service channels to assist in the development of an environmental ethic. So proper in-service and pre-service training must be ensured at all levels.
- Culture, beliefs and literacy of the pupil have an influence on their awareness about the local environment. So environmental instruction must integrate cultural, social, developmental needs as appropriate technologies for the development of awareness.
- Teachers and organizations must focus their efforts on developing better insights and making their students feel, perceive, think and act for the environment. Therefore, it must be ensured that learning can be best nurtured through first hand experiences, and activities which foster a deep respect and care for the natural world.
- Teachers must provide small action-oriented projects, group discussions, seminars related to natural resources and its conservation with an aim of leading children to observe nature intently.
- Beyond the classroom activities, the co-curricular activities are also to be well utilized for the development of proper awareness to conserve the biological diversity.
- An interdisciplinary approach should be adopted by the teachers in terms of drawing on the specific contents of each discipline to make a holistic and balanced perspective about living world around us.
- Problem solving and action-oriented case studies on environmental issues of local significance should be taken up and instructional materials based on these are prepared.

CONCLUSION

The quality of life depends on the quality of natural resources; therefore, students must be well aware about the importance of biodiversity and its conservation. But only few people understand and appreciate their real significance. Our nation must be convinced of the urgent need to take positive action to conserve nature and natural resources as a pre requisite for survival and for a high quality of life for present and future generation. The continuous and close contact with nature enables the students to discriminate and differentiate the

uniqueness of diversity present within the living resources. This article highlights the need of promoting students' biodiversity awareness, which certainly will equip the children to handle environmental problems with deeper understanding.

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