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The Importance of Wildlife and Biodiversity

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Abstract

Biodiversity is a complete term for the extent of nature's variety or variation within the natural system, both in number and frequency [1]. It's often being understood in terms of the wide variety of plants, animals and microorganisms, the genes they contain and the ecosystem they form [1]. Today's biodiversity is the result of billions of years of evolution, shaped by natural processes and, increasingly, by the influence of humans [1]. It forms the web of life of which we are an integral part and upon which we so fully dependent. Biodiversity also includes genetic differences within each species - for example, between varieties of crops and breeds of livestock. Chromosomes, genes, and DNA-the building blocks of life-determine the uniqueness of each individual and each species [2]. It is necessary to know Current scenario about wildlife protection and conservation at national and international level [2]. Habitat conservation is the key solution to conserve biodiversity [3]. Lot of efforts has been done to encourage forestation and decrease deforestation and practices has been done in many areas[3]. Similarly, by discouraging the pet trades, over shooting as well as hunting by applying different banes, marine pollution by different laws and regulations, and public awareness are the main concerns. Conservation of biodiversity is a great challenge in current scenario [3].

Keywords: Biodiversity; Biodiversity conservation; Natural forests; Wildlife; Ecosystems

Introduction

Biodiversity is a short form for biological diversity which refers to the sum total of all the variety and variability of life in a defined area. The term biodiversity was used to emphasize the many complex kinds of variations that exist within and among organisms at different levels of organization. It refers to the totality of genes, species and ecosystems of a region [4].

Biodiversity is considered at three major levels:

i. Genetic diversity: This is the variety of genetic information contained in all of the individual plants, animals and microorganisms occurring within populations of species. Simply it is the variation of genes within species and populations [4].

ii. Species diversity: This is the variety of species or the living organisms. It is measured in terms of Species Richness. This refers to the total count of species in a defined area.

iii. Ecosystem diversity: This relates to the variety of habitats, biotic communities and ecological processes in the biosphere [4].

Ethical and moral benefits includes every form of life on earth is unique and warrants respect regardless of its worth to human beings; this is the ecosystems right of an organism [5]. Every organism has an inherent right to exist regardless of whether it is valuable to human beings or not [5]. Planted forest also plays significant role in biodiversity conservation and also reduce the pressure on natural forests. Both FRA (Forest Resources Assessments) and FAOSTAT data shows that if globally planted forests get increased by 2.4% per annum from 2010-2050 it might restore natural forests for fibers as well as timber [5]. Humankind is part of nature and the natural world has a value for human heritage [6]. The well-being of all future generations is a social responsibility of the present generations, hence the existence of an organism warrants conservation of the organism [6]. Human beings derive great enjoyment from natural environment. The shapes, structure and colour stimulate our senses and enrich our culture [7].A lot of money is paid to conserve wildlife for their value in nature through so many organizations. The greatest threat to biodiversity is habitat loss [7]. Variations in Biodiversity occurs with changes in latitude or altitude. As we shift from the poles to the equator, the biodiversity increases and vice versa . The latitudinal gradient in species refers to the increase in species richness or biodiversity that occurs from the poles to the tropics. Latitudinal gradient in species is one of the most widely recognized patterns in ecology. Like latitudinal variation, changes in the biodiversity also occurs due to altitudinal variation. A decrease in species

diversity occurs when shifted from lower to higher altitudes on a mountain. There are various benefits of biodiversity [8]. More than 60 wild species have been used to improve the world's 13 major crops by providing genes for pest resistance, improved yield, and enhanced nutrition (IUCN, 2012) [8]. Fisheries alone account for at least 15% of animal protein directly consumed by humans. Like in USA (technologically-advanced country) most of the drugs are provided by medicinal plants and animal's people use [9]. More than 70,000 different plant species are used in traditional and modern medicine [9]. Microbes have given us nearly all of our antibiotics such as penicillin as well as the cholesterol lowering strain. Ecosystem services are the processes and conditions of natural systems that support human activity [10]. The function of the ecosystem and the services they provide are completely governed by biodiversity [10]. A major role in mitigating climate change by contributing to long term sequestration of carbon in a numb is played by biodiversity [11]. Absorption and breakdown of pollutants and waste materials through decomposition, e.g., in food webs and food chains where the flow of energy goes through production consumption and decomposition without which breakdown and absorption of materials will not be complete [12]. In an ecosystem there is no waste as because decomposition will take place to purify the environment by converting the waste to other forms of biodiversity [13]. Every form of life on earth is unique and is respectable regardless of its worth to human beings; this is the ecosystems for an organism [14]. Whether an organism is valuable to human beings or not it has an inherent right to exist [14]. Humankind is part of nature and the natural world has a value for human heritage [15]. The well-being of all future generations is a social responsibility of the present generations; hence the existence of an organism warrants conservation of the organism [16]. Human beings derive great enjoyment from natural environment [17]. Our senses are being stimulated by the shapes, structure and colour which enriches our culture [17]. This illustrates majorly in the popularity of biodiversity conservation measures and the myriad of the many organizations which fight for the protection of different organisms [18]. Many organizations pay to conserve wildlife for their value in nature [18]. Wild species enhance our appreciation and enjoyment of the environment through leisure activities, for example bird watching and nature trailing; Spotting activities for example spot hunting, sport fishing, diving and mushroom picking; hearing, touching or just seeing wildlife [19]. There are principle threats to biodiversity, which refers to any process or event whether natural or human induced that is likely to cause adverse effects upon the status or sustainable use of any component of biological diversity [19]. Due to factors such as habitat alteration and destruction by the land use change, over exploitation of biological resources, climate change, pollution and invasive species Biodiversity is declining rapidly [20]. Such natural or human induced factors tend to interact and amplify each other [20]. The contemporary biodiversity decline will be leading to subsequent decline in the functioning and stability of ecosystem. Ecosystem functioning often depends on species richness, species composition and also on species evenness and genetic diversity. Stability often depends on species richness and species composition. Thus, contemporary changes in biodiversity will likely lead to subsequent changes in ecosystem properties [20].

Conclusion

Biodiversity conservation is all about saving life on Earth in all its forms and keeping natural ecosystems functioning and healthy [21]. Biodiversity is the life support system of our planet- we depend on it for the air we breathe, the food we eat, and the water we drink [21]. Medicines originating from wild species, including penicillin, aspirin, Taxol, and quinine, have saved millions of lives and alleviated tremendous sufferings [22]. Wetlands filter pollutants from water, trees and plants reduce global warming by absorbing carbon. Bacteria and fungi break down organic material and fertilize the soil [22]. It has been observed that native species richness and the health of ecosystems are linked, as is the quality of life for humans [22]. The connections between biodiversity and the sustainable future appear closer and closer the more we look. We literally need to conserve biodiversity as our lives depend on it [23]. We should address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society , reduce the direct pressures on biodiversity and promote sustainable use, Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity , Enhance the benefits to all from biodiversity and ecosystem services, Enhance implementation through participatory planning, knowledge management and capacity building [24].

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