Biodiversity : Importance , Values and Uses

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Abstract:

Biodiversity has worked centrally in the planning and strategy of environmental and conservation organizations around the world. The term includes biological, geographical and human qualities that deserve some clarification before considering how biodiversity can be conserved. This chapter explores the main features of biodiversity, including the various elements of life that it contains, how it is calculated, where it is found, and why it contains a variety of values.

Introduction:

The term biodiversity is a contraction of biodiversity and refers to the number and diversity of living things in the world. It has its roots in the conservation movement of the 1960s and 1960s, which made it increasingly important to protect the complex natural habitats that support the vast variety of species. Progress was made in our understanding of the degree of genetic variation that can be found in even a single species, so the concept of preserving all biodiversity emerged and gained widespread popularity in the late 1980s. Measurement is essential for the management of biodiversity, and the term encompasses a wide range of biological phenomena, so it has become customary to define biodiversity in terms of genes, species, and ecosystems, and to make comparisons based on one or more of these qualitative values Level. So, for example, the Convention on Biological Diversity defines biodiversity as "the transformation of living things from terrestrial, marine and other aquatic ecosystems and ecological complexes into which they are a part; this includes diversity in species, species, and the environment. Biodiversity includes the notion of specificity at every stage of life of molecules, cells, individuals, species, assemblages of species and ecosystems. This uniqueness is due to the effects of many genes, their interactions with each other and the physical world around us.

Types of Biodiversity:

1. Genetic Diversity: A closer look at the same species in different places reveals differences in size, colour and shape. For example, spotted cats vary frequently in spots or characters and densities in different parts of their range. Where different species are distinct and geographically distinct, many subspecies of the same species can all be identified. Sometimes two or more specific forms are found in the same region, due to alternating genes occupying the same space over such polymorphic traits. They are common in the kingdom of plants and animals: the pattern of banding on snails, the colour pattern on heliconius butterflies, the sad and common type of leopard, and the shape of the leaves of the human ear. These genetic differences between species can only be valued at the molecular level. Surveys using laboratory techniques such as electrophoresis have found that 10 to 50 percent of genes are polygonal in most species. The lake of genetic variation in populations and people of the same species represents its genetic diversity.
2. **Diversity of Species:** Biodiversity is frequently assessed in terms of species richness which depends not only on the number of species or habitats or species diversity which is a similar measure but also gives more weight to those species. For example, the discussion of global diversity is often based on different estimates of the total number of species in different taxonomic groups. Although it is relatively easy to measure the richness of a species, a simple calculation fails to tell how unique a particular species can be. Species that have evolved independently or have survived as living fossils have a number of specific inherits that make them biologically unique. The Ginkgo tree of China, also known as the Maidenheir Tree, is the only surviving representative of a large ancient order of coniferous trees. The two living species of koilakantha are probably the only representatives of the widespread family of fish. A more comprehensive view of a site's biodiversity can be obtained by looking at the high tax diversity in addition to the richness of the species.
3. **Diversity of Ecosystem:** The main biological properties of the ecosystem are to do with the energy source and the food chain. In broader terms, the latter consists of four main components: primary producers, primary consumers, secondary consumers, and disintegrators. The smallest ecosystems are geographically diverse and biologically

unique. Some of the larger limestone caves have their own energy sources, featuring bat guano and dead bats and featured clients such as beetles, crickets, spiders, centipedes and snakes. Deep sea hydrothermal vents are another example of sulfur-oxidizing bacteria, tube worms, believable mollusks and gastropods. Ecosystems related to wetlands and crossings such as lakes and marshlands are still relatively different and easily differentiated. In the wider landscape, the ecosystem can be identified to some extent uniformly among primary growers such as grasses, shrubs and trees, which may reflect high plant virulence levels in specific communities of herbivores and their prey. The physical features of the plantation and the landscape can be combined to determine clear ecosystem boundaries, such as the range of wild hills. In the Serengeti-Mara ecosystem of Tanzania and Kenya, migratory animals are sometimes used to apply boundaries to forests, as defined by the movements of wildebeest, zebra and gazelle. The boundaries of the ecosystem are also sometimes determined by the problem or problem to be solved. Pollution of river systems or cultivation of commercial fish species will lead to management at the environmental level. Due to their diverse characteristics there is no system of classification for ecosystems and therefore it is possible to assess and differentiate the diversity of the environment in different parts of the world. Many global classifications based on ecofloristic zones and other acorns have tried to use mainly plant classifications. Some classical factors are considered, including soil, geography and local characteristics of the climate. For example, the Northern Andean Mountain Forest Ecoregin has the exceptionally rich flora and fauna of the submoten and mountain forests of the North Andes of South America. The Tibetan Plateau Steppe Ikorgin is a high plateau north of the Himalayas that sits at the confluence of the Paleretic and Oriental zoos. It has the most complex alpine community on earth.

Source of Biodiversity:

The diversity of life is reflected in the differences we find everywhere, such as the diversity we find in one place and "What is biodiversity?" More answers to this question, second question: "Where is the biodiversity?" In any place, such as one hectare of protected area, the diversity of living things can be estimated from the number of species and their abundance. The most commonly used solution for this estimation is known as alpha-diversity. Over time, species inhabiting certain areas may change as a result of migration, colonization, and local extinction,

so a more accurate estimate of its diversity is required to measure recurrence. As a general rule, alpha-diversity is more prevalent in the following conditions: moist settlements such as clouds or rain forests; Low altitudes, for example along river floods; Near the equator and in uninhabited or old-aged-growing habitats. But there are many exceptions: ungulates are more diverse in African savannas than in moist forests; Moths in Southeast Asia are the most varied at medium-height, and a group of fig insects lose species to the tropics of Africa. If one measures the abundance of species at a distance over time, one will notice that eventually some species have become rare and have disappeared, but other species will appear for the first time. This species can be counted from place to place and is known as beta-diversity. Excessive beta-diversity is commonly found in wet tropical regions, in areas with high gradients of rainfall and altitude, and in areas where many types of habitat accumulate.

Some people are really exceptional in the unique species that live in them. Such biodiversity "hot spots" are very different from the surrounding areas because they have been exposed to constant weather conditions for thousands of years. An example is the broken belt of ancient rainforests in south-eastern Nigeria, western Cameroon and Gabon, which remained a forest refuge during the dry period when the surrounding lands were covered with savannah vegetation. Other hot spots can give a faster gradient in rain or temperature, allowing the species to easily escape adverse conditions and this will happen due to the changing climate. One such example is the extreme distance of climate and vegetation in the highlands of western Angola. Both factors may be present at the same time, as in the case of the abundant and endemic flora and fauna of the Cape on the southern tip of Africa.

Biodiversity Uses and Values:

Current land use practices reflect the economic preferences of parties with powerful interests, including governments, development banks and companies, private land holders, farmers and others. But it is now widely understood that costs that reduce biodiversity are rarely taken into account when making land development decisions. This may be partly because the value of biodiversity is not yet clear enough and partly because the benefits of using biodiversity have already been reaped without repayment. It is possible to distinguish several properties of biodiversity that are valued differently.

1. **Health:** A large number of plants are used for medicinal purposes. The World Health Organization lists more than 22,000 plants that are used in traditional healthcare systems,

many of which are now at risk of over-collection and destruction of natural habitats. In Sri Lanka, for example, 1,523 plant species are used in medical preparations, hundreds of which are collected at an unsafe rate. Nearly 6,000 plant species have been discovered as a source of new medicine for Orthodox medicine, and it is estimated that a quarter of all medical medicine is derived from or extracted from plants or microorganisms. Madagascar's bright periwinkle, for example, has given birth to anky losing spondylitis and whimblastine that are difficult to assemble in the laboratory, and therefore it is cheaper to remove their predecessors from leaves collected from living plants. Natural products are rarely used in Orthodox medicine, but the compounds obtained from them often form the starting point in the search for synthetic compounds that have useful actions in reducing unwanted side effects.

2. **Benefits of Economy:** According to the World Tourism Organization, there were approximately 636363 million tourists worldwide in 2015, of which 135 million were in the United States, 102 million in East Asia and the Pacific, 2.6 million was in Africa and 6.2 million were in South Asia. The number of tourists visiting all the regions has been increasing in recent years but their work is not evenly distributed. About 50 percent of those who visit Africa are from northern destinations, and most of the rest are from southern or eastern Africa. Although many tourists are attracted by the biodiversity of developing countries, tourism itself does not promote the conservation of biodiversity. The biggest challenge for developers is to direct the benefits of tourism in a way that supports the local population in biodiversity conservation. Game hunting and sport fishing, sometimes collectively referred to as computational tourism, have been accused by some of having a negative impact on biodiversity by over-targeting species. Of course, poorly managed hunting can raise concerns for both welfare and conservation. On the other hand, when game hunting is done properly, properly monitored, and based on assessments of population dynamics and animal classes, it can create significant funding for biodiversity conservation and provide incentives for habitat and species conservation. This is likely to have a significant impact on local development in the open savannah and coastal environment.
3. **Intrinsic Values:** Science has so far revealed only a small fraction of the complex life of rain forests and other habitats, and therefore, there will be many generations of

biodiversity that should have a direct bearing on the market economy. However many understand that complex settlements have a fundamental value. In a poll of opinion leaders on tropical rainforests, respondents were asked to state both their personal beliefs and the strongest arguments to convince others. It was found that the strongest argument to persuade others to protect forests was based on proper commercial management for timber and timber products, but the most important reasons for personal beliefs were related to the biological specificity of rainforests. . The depth of biological complexity inhabited by rainforests and other species-rich habitats makes them mysteriously and wonderfully absorbed in the minds of many who visit or live among them. The observation of wildlife in natural habitats since the dawn of humanity has been woven into myths and stories. The library has played and continues to play a central role in enhancing the imagination of the human mind, and some believe it is the primary value of the natural world. Intrinsic values can be taken seriously, but they are largely off the development agenda. The challenge for conservation is to bring such an intrinsic value within the economic framework that strengthens the issue of biodiversity conservation. The latest example is the creation of the Hippopotamus Sanctuary near the Volta River in Ghana. The locals, who consider hippos to be sacred animals, were able to control the reservations and monitor all animal activities. Providing local employment through tourism.

4. **Food:** The world's food supply includes both vertebrate and invertebrate species. The most obvious background sources are large mammals, especially ungulates, primates, and large rats, although in some places adents and fruit bats are also considered a delicacy. Meat and eggs are supplied by many birds, especially seabirds with colonized nests and large reptile tiles such as monitor lizards, iguana and turtles. There are 1250 commercial fish species, but many others are also eaten on an inanimate basis. Invertebrates consume large amounts of marine and freshwater mollusks, just as the giant in West Africa is in the landforms of Africa. Insects are an important complementary food in many provinces, especially those that come together easily, such as termites, locusts and other insects, crickets, butterflies and moths, large beetles and hymenoptera. About 3,000 (3.1%) of all plant species have been collected or planted for human consumption, but only 2,250 species are the main crop of plants. About a dozen of these - bananas, soybeans, cassava,

maize, millets, potatoes, rice, sorghum, soy, sugarcane, sweet potatoes and wheat - account for 75 per cent of the world's heat in addition to plants. As more hectare yields can be obtained than local varieties, more modern plants are bred towards developed varieties which respond to fertilizers. Pesticides and irrigation can be assumed to be available. The trend is towards largely converted varieties - advantages for production and disadvantages for diversity. The idea of a reservoir of a large number of existing genes in the relevant wild species on the continuous productivity of high plant products. For example, the diversity centres of barley, castor, flavour, coffee, linseed, sorghum and wheat are found in Ethiopia which is known as one of the eight major centres of crop plant diversity in the world. These wild genes can be combined through a plant breeding program or through direct genetic exchange to fight diseases and pests. As a strict rule of thumb, new forms of disease resistance must be grown commercially every 6-17 years in order to keep one step ahead from the evolution of each pest and pathogen and the spread of the disease. Intensive farming techniques have a significant impact on the soil life of the community. Soil microorganisms include mycozyl fungi, Rhizobium bacteria, and algae. They are the main constituents of decay, reducing plants and animals. This makes it easier to cycle the nutrients. They are also critical for soil conservation. The use of excess fertilizers can lead to environmental problems by deteriorating the soil structure and speeding up the soil. Specific-pesticides and fungicides are harmful to soil microorganisms. A balance between production and diversity is essential.

5. **Valorisation and Valuation:** The use of biodiversity to sustain your food production and protect your health provides strong justification for conserving biodiversity. But despite these advantages, the current market system does not provide financial incentives to conserve biodiversity. One problem is the lack of clear pricing in product development. Economists have estimated the direct retail price of genes and gene products derived from wild relatives of specific medicinal plants and crop plants, but the cost of developing them for commercial use has been less easily established. The United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992, discussed differences in the marketing of biodiversity, and some of these issues were addressed at a conference on biodiversity adopted at the conference.

6. **Services of Ecosystem:** Natural ecosystems control physiological processes in a variety of ways that are beneficial to humans, although such benefits are sometimes hidden and not unpleasant. Natural grass and water beds get heavy rains to penetrate the soil and most of the rain water is released slowly instead of removing the plants by sliding straight to the surface. The net effect is released into slower and more uniform streams and river systems, reducing the likelihood of flooding in torrential rains and maintaining a fresh supply of water in dry climates. About 0% of the farmers cultivate on the valley floor and hence 10% of the people living in the catchment area depend on their work. If the latter cover the natural vegetation, most of the farmers will suffer the consequences. Further slopes, high sludge burdens associated with poor land management, could cause severe damage to coastal fisheries and coral reef communities. Given the growing scarcity of reliable water supply and their importance to human agriculture and industry, the regulatory function of natural plants is more important than other uses of these plants. Another important regulatory process of the natural ecosystem is the ability to remove soil and water pollutants and reduce atmospheric carbon dioxide, which is now associated with climate change. Biological pest control around the world is an important service for agriculture and greatly reduces crop damage caused by pests. An example of this is given by the small parasitic waste, Diadegma semiclosum, which was introduced in the highlands of the Philippines to prevent the outbreak of the diamondback moth, which posed a threat to their high value vegetable crops. To increase the survival of the Dydegma cocoon, local farmers build Didegma hotels, small shelters in the fields that look like miniature birdhouses. Many biodiversity services are of little value despite significant economic consequences. Pollen of bee-bearing crops plays an important role in agriculture and horticulture. The value of bee pollen from eight crops in the United States is estimated at more than US .6 6 billion. Bees are also economically important for honey production in tropical and temperate regions of the world. Fruit trees in the tropics can be pollinated by bats, birds, bees, beetles, moths and other experts.

Conclusion:

Biodiversity with a complete variety of plants, animals, fungi and microorganisms found anywhere and how they change from one place to another. This diversity can manifest at the level of genes, species or the environment. Its value to human beings has been expressed in many

ways, from the provision of basic necessities of food, water, health and income to the provision of beauty and spiritual necessities.

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