

BIODIVERSITY IN AFRICA: THE PROBLEMS

According to Convention on Biological Diversity (CBD, 1992), biodiversity is defined as the “variability among living organisms from all sources, including, inter alia, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.” In other words, it refers to genetic, ecosystem and species variation within an area, biome or planet. Biodiversity in the planning and strategy of environmental and conservation bodies throughout the world has been thrust into the limelight because it is fundamental to sustaining life, supplying critical ecosystem services such as the provision of food, water purification, flood and drought control, nutrient cycling, and climate regulation which are essential to support human well-being and economic growth. Yet despite the significant economic, social and cultural values of biodiversity and ecosystem services, biodiversity worldwide is experiencing loss and in some areas at an accelerating rate.

The Convention on Biological Diversity came into existence as a result of the growing recognition of biodiversity as a global asset to the world. It was inspired by the United Nation’s growing commitment to sustainable development under “Agenda 2030”, adopted by the United Nations in 2015. The three ultimate objectives of the 1992 UN Convention on Biological Diversity (CBD) are:

1. The conservation of biological diversity;
2. The sustainable use of its components;
3. The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

Also, the Organisation for Economic Co-operation and Development (OECD) has been working on the economics and policies related to biodiversity for more than two decades (OECD, 2014). The OECD supports governments by providing the analytical foundation to develop policies that promote the conservation and sustainable use of biodiversity. Such policies must be effective, efficient, and equitable.

Biodiversity occurs in three main levels:

1. Genetic Diversity: This is the variety of genetic information contained in all of the individual plants, animals and microorganisms occurring within populations of species.
2. Species Diversity: This is the variety of species or living organisms. It is measured in terms of the total count of species in a defined area.
3. Ecosystem diversity: This relates to the variety of habitats, biotic communities and ecological processes in the biosphere. Biodiversity is unevenly distributed on the earth. It

is richest in the tropics. As a result of the warm climate and high primary productivity, terrestrial biodiversity tends to be highest near the equator. Marine biodiversity tends to be highest along coasts in the Western Pacific, where sea surface temperature is highest and in the mid-latitude band in all oceans.

Biodiversity in Africa

Africa is home to about one quarter of the world's 4,700 mammal species. It also has more than 2,000 species of birds – one fifth of the world's total and at least 2,000 species of fish, alongside 950 amphibian species. The African mainland harbours between 40,000 and 60,000 plant species and about 100,000 known species of insects, spiders and other arachnids. Eight of the world's 34 biodiversity hotspots are in Africa. (Source: Africa Atlas of our Changing Environment, UNEP 2008)

The total forest cover in Africa was estimated to be 650 million hectares in 2000. This represents 17% of the global forest cover, and approximately 22% of Africa's land area. Africa has 14 different types of forests, in temperate and tropical climates, although the extent of forest cover varies between sub-regions. Forests make up approximately 45% of the land area of Central Africa, constituting 37% of Africa's total forest cover. In contrast, only 8% of the land cover of countries in Northern Africa is forest and most of this is in Sudan (Sayer, 1992).

However, biodiversity in Africa continues to experience decline over the years, with on-going losses of species and habitats. Species abundance is in decline and the threats to species are increasing. In 2014, 6,419 animals and 3,148 plants in Africa were recorded as threatened with extinction on the International Union for Conservation of Nature (IUCN) Red List. Several factors have been recognized as being threats to Africa's biodiversity. Some of these are as follows:

1. **Population Pressures:** Small populations of people, living at low densities by means of traditional patterns of agriculture, pastoralism and hunter-gathering, have in the past been able to use natural resources sustainably, simply by not removing the natural product faster than it can reproduce itself. However, with rapid increase in population in Africa presently, natural products are being removed faster than it can reproduce itself thereby threatening Africa's biodiversity.
2. **Over-Harvesting:** Intense harvesting can result in extremely rapid declines in species populations. An example of over-harvesting can be seen in the Sahel and in parts of Botswana where overgrazing is predominant. The effect demonstrates how over-harvesting can deplete a species (be it large mammal or grass). This is because the natural re-

establishment of the species in that locality has been prevented as a result of ecosystem dynamics change.

3. Climatic Changes: Biodiversity is also under threat, at least in parts of Africa, from a variety of climatic changes, in particular, decreased rainfall. The reasons for such changes are undoubtedly complex, but there is some evidence that the worst effects of them could be reduced if action were taken to control habitat degradation, especially in the rainforests of equatorial Africa and in semi-arid grasslands. Such action is in any case recommended to secure the biodiversity of these regions.

Since 2010, African countries have made considerable efforts to deliver on the Strategic Plan for biodiversity, both at national and regional levels. However, greater efforts will be needed in order to implement the UN sustainable development goal in 2030. Recommendations are stated as follows:

- Ensuring enforcement of law
- Increasing awareness on the contribution of biodiversity to people's lives
- Creation of positive incentives for sustainable land management
- Mobilization of resources from private and global funds
- Usage of international techniques that will support the sustainable use of ecosystems
- Implementation of conservation actions on a greater scale to avoid further biodiversity loss in Africa
- Strengthening of trans-boundary actions
- Strengthening engagement of local communities in governance systems

In conclusion, when we make an effort to conserve biodiversity, we are helping to maintain critical global biological resources to meet our needs today as well as those of future generations.

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