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BIODIVERSITY AND SUSTAINABLE DEVELOPMENT: A REVIEW

SMT. SHUBHANGI H. POL

**Department of Zoology, R. S. B. Mahavidyalaya, Aundh*

INTRODUCTION

Today, the internationally acknowledged basis for agreements on environmental protection, resource management, and conservation, consists of the principles of sustainable development and the maintenance of biodiversity. The concept of sustainable development is based on the realization that the conditions for economic activities will continue to deteriorate in the future, if the natural resources underlying these activities continue to be destroyed at the present rate.

By exploiting non-renewable raw materials, we consume resources as if making withdrawals from a limited saving account, without making deposits. At the same time, our species is using renewable resources above and beyond their regeneration capacity. The earth's limited absorption capacity is overtaxed by emissions and waste volumes, leading to consequential ecological costs, which can no longer be ignored. A discussion about the fundamental rules involved in our economies is tantamount to a renaissance of nature as a factor in the production-function concept.

The supplies of resources, and the absorption of residuals, both prerequisites for economic activities, are to be seen as irreplaceable functions of nature. The preservation of the capital stock (= natural resources) is a key element of sustainable development. Unlike current approaches, this capital stock should at least be kept at a constant level to prevent future generations from shortages of natural resources or a deterioration of environmental quality. First and foremost, sustainable development means preserving the vital functions of the environment, including the potential for change, evolution and self-regulation.

Biodiversity is meant to be all-inclusive; it is the genetic-based variation of living organisms at all levels. It includes the world's millions of species and the ecological systems they live in, ranging from Polar Regions with relatively few species, to the tropics with their great abundance of different life forms.

BIODIVERSITY AND SUSTAINABLE DEVELOPMENT

Biodiversity and ecosystem affect directly the quality of lives of human on earth and development of the human well-being as a whole. Nearly half of the population earns their livelihood directly based on the natural resources and biodiversity in many cases. Biodiversity is also at the focal point of many economic activities, including those related to agriculture, forestry, fisheries and tourism. Hence, consideration of biodiversity and ecosystems will be essential as countries embark on the implementation of the 2030 Agenda and its SDGs, and in the implementation of key national priorities for sustainable development.

OBJECTIVE OF THE STUDY

The main objectives of this study as fallows,

1. Explain the relationship between Biodiversity and Sustainable Development.
2. Review and analyse the sustainable development goals.

Research Methodology:

The research paper on Biodiversity and Sustainable Development tries to analyse the relationship between Biodiversity and Sustainable Development. The present research paper is depended on secondary source of data and information. The secondary data has been collected from various websites, books and references.

SUSTAINABLE DEVELOPMENT GOALS: A REVIEW

The importance of biodiversity in realizing Sustainable Development Goals by 2030 is discussed below:

1) Biodiversity provides resources and income, particularly in rural areas. A large percentage of the rural population, i.e., between 50% and 90%, depends on ecosystem services for their livelihood. Biodiversity supports humans by providing firewood, freshwater supply, a diverse range of medicinal plants, food, etc. Therefore, biodiversity conservation will help maintain the long-term economic, social, and environmental resilience of rural livelihood, which could help reduce poverty.

2) It intends to eliminate world hunger by ensuring food security and promoting sustainable agriculture. Scientists emphasized that biodiversity is the most important element of food security and enhances the nutritional levels of food products. Numerous individuals depend on food gathered from ecosystems such as rivers, grasslands, forests, etc. Biodiversity ensures food security by protecting agricultural production from various threats, such as pathogenic outbreaks, extreme climate, etc. Additionally, biodiversity enhances food production considerably by promoting crop pollination. Pollinator-dependent crops contribute to 35% of the global volume of crop production. Biodiversity conservation is strongly related to healthy agroecosystems, which have elevated agricultural production via the use of healthy seeds, fertile soil, and superior water management systems.

- 3) The main focus is maintaining healthy lives for all age groups. Research has shown that one in four deaths is associated with environmental risk factors. A healthy ecosystem helps reduce pollution in the air, soil, and water. Sustainable agriculture ensures the minimal application of chemical fertilizers and pesticides and protects the soil and human beings from all the adverse effects of these chemical products.
- 4) As biodiversity has significantly inspired many fields of science, arts, and literature for centuries, continual exploration of biodiversity will promote lifelong education for all.
- 5) Scientists believe gender equality is essential for biodiversity conservation and the smooth functioning of a healthy ecosystem. Women play an essential part in agriculture, providing nutrition and supporting the family using ecosystem services, e.g., collecting firewood and food from forests. Acknowledging the role of women as a manager of natural resources will help in sustainable development.
- 6) Natural ecosystems are important for a clean and constant water supply. Thereby, biodiversity conservation along the river catchment is an effective solution associated with the sustainable management of water. This could effectively replenish groundwater and regenerate drinking water.
- 7) It ensures an affordable and constant energy source for all. Hence, investing in biodiversity conservation ensures investing for billions of people who depend on natural resources for heating and cooking. Additionally, nature's contribution is key to producing biofuels. Scientists stated that implementing appropriate conservation measures would help enhance the longevity of the energy supply.
- 8) Healthy ecosystems (both marine and terrestrial) offer a large number of services that promote sustainable economic growth. Biodiversity conservation could help enhance agricultural productivity and ensure the long-term viability of natural resources.
- 9) Biodiversity and healthy ecosystems can promote the development of cost-effective, resilient natural infrastructures that could aid sustainable industrialization. For instance, mangrove forests and coral reefs protect the coasts from flooding, which occurs as a result of climate change. Natural infrastructure, which includes vegetation, can prevent soil erosion and restrict the soil pollutants from reaching the water bodies. These green infrastructures have proved to be a beneficial and cost-effective approach.
- 10) Investing in biodiversity conservation and promoting sustainable practices among local communities would considerably reduce inequality within and among countries. Sustainable practices would enhance employment opportunities in rural areas. An increased association with nature also improves mental and physical health.
- 11) Biodiversity supports the functioning of cities, especially concerning improving air quality, reduction of water runoff, and provision of green areas for recreation. Therefore, investment to increase green areas around or within cities is extremely important.

- 12) It is crucial to maintain sustainable consumption and production patterns. Both production and consumption entail transforming natural resources, which impact biodiversity.
- 13) Climate change is the primary factor of biodiversity loss. Hence, the development of strategies or policies targeted at sustainable development, and restoring biodiversity and climate change, are significant for both nature and humans.
- 14) Promoting a peaceful, inclusive society where justice is provided to all will decrease violence and social insecurities. Transparent decisions over social and environmental issues will help develop a peaceful society.
- 15) Implementation of all SDGs and regenerating global partnerships for sustainable development will strengthen global biodiversity. Additionally, the implementation of innovative science and technologies could help monitor the progress of the 2030 Agenda.

CONCLUSION

These guidelines show how biodiversity is innately associated with SDGs. Implementing these rules would make the world a better place to live with improved environmental conditions, food security, and reduced disease infestations. Irreversible declines within the natural environment present a serious threat to the last 20 years of progress toward the Sustainable Development Goals. A much more optimistic future remains attainable, but only with drastic change to development policies, incentives and actions. Reversing biodiversity loss is that the only way to restore and sustain a healthy planet—and the lives that it supports. It's time to reimaging our relationship with nature and put nature at the guts of our decision-making. The time is ticking away every second and restoring biological ecosystems will need more time than is on deck.

REFERENCES

1. Achieving the SDGs with Biodiversity. (2021) [Online] Available at: http://api.swiss-academies.ch/site/assets/files/17299/sdg_factsheet_e_def.pdf
2. Why Biodiversity Matters: Mapping the Linkages between Biodiversity and the SDGs. (2019) SDG Knowledge Hub. [Online] Available at: sdg.iisd.org/.../
3. Biodiversity and Ecosystem. (2018) [Online] Available at: <https://sustainabledevelopment.un.org/topics/biodiversityandecosystems>
4. Biodiversity and the 2030 Agenda for Sustainable Development. The World Bank. [Online] Available at: <https://www.cbd.int/development/doc/biodiversity-2030-agenda-technical-note-en.pdf>
5. Biodiversity at the Heart of Sustainable Development Available at: https://sustainabledevelopment.un.org/content/documents/18277CBD_input_to_2018_HLPF.pdf
6. Biodiversity, Climate Change and Sustainable Development Available at: https://www.sanbi.org/wp-content/uploads/2018/04/biodiversity-climate-change-and-sustainable-development_0.pdf