

BIODIVERSITY CONSERVATION AND NATIONAL DEVELOPMENT

POTENTIALS AND CHALLENGES



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For many years now, environmentalists, biologists and other scientists have viewed the entire earth as a massive living organism or system due to the interdependent nature of the species within it. Some cultures have even recognized this kind of inter-relationship for a very long time, and have termed this Gaia.

The Gaia hypothesis proposes that living organisms interact with their inorganic surroundings on earth to form a synergic, self-regulating and complex system that helps to maintain and perpetuate the conditions for life on the planet.[i] While there are disagreements and differences on how this works, it suggests that ecological balance and biodiversity are crucial for all of earth, not just humans.

BIODIVERSITY CONSERVATION - DEFINITION

This is any action towards the saving of life on Earth in all its forms and keeping natural ecosystems functional and healthy. Conserving biodiversity means ensuring that natural landscapes - with their array of ecosystems - are maintained, and that species, populations, genes, and the complex interactions between them, persist into the future.

In simple terms, this would mean that if every specie or form of life is allowed to play its diversified role, the earth would be a wheel that would spin continuously. While there might be survival of the fittest within a given species, each species depends on the services provided by other species to ensure survival. While we have established what biodiversity conservation is, it is expedient to study its potentials and challenges in national development.

BIODIVERSITY CONSERVATION AND NATIONAL DEVELOPMENT - POTENTIALS

ECONOMIC POTENTIALS

- ❖ **Poverty Reduction:** Biodiversity conservation could become an even bigger factor when it comes to economic growth and poverty reduction because currently, majority of the world's poor live in rural areas and depends upon forests, water, wetlands, fields and pastures for their livelihoods. Some 1.6 billion people in the world rely on forests and non-timber products for income and subsistence. In the developing world alone, 2.6 billion people depend on fisheries for protein and livelihood. [ii] Seafood is the most traded food commodity internationally and that makes its conservation all the more important.

- ❖ **Foreign Trade:** In 2008, fish and shellfish exports from developing countries exceeded the value of coffee, rubber, cocoa, tea, tobacco, meat, and rice combined. Conserving biodiversity and adequately tapping from its infinite riches could turn out to be a million steps towards the development of any nation. In fact, at least 40 per cent of the world's economy and 80 per cent of the needs of the poor are derived from biological resources. [iii] Simply put, the richer the diversity of life, the greater the opportunity for economic development.

AGRICULTURAL POTENTIALS

- ❖ **Food Production and Security:** Bees for example, which are vital to biodiversity, have about 130,000 plants which they are essential to their pollination. Ranging from melons to pumpkins, raspberries and all kind of fruit trees, bees are potentially more important as poultry in terms of human nutrition. [iv]
Biodiversity conservation protects plant, animal, microbial and genetic resources for food production, agriculture, and ecosystem functions such as fertilizing the soil, recycling nutrients, regulating pests and disease, controlling erosion, and pollinating crops and trees.
- ❖ **Pest Control:** An estimated \$20 billion a year is spent worldwide on pesticides. Yet, parasites and predators existing in natural ecosystems provide an estimated 5-10 times this amount of the pest control. Clearly, without the existence of these natural enemies, crop losses by pests in agriculture and forestry would be catastrophic and costs of chemical pest controls would escalate enormously.

MEDICAL POTENTIALS

- ❖ **Drug Production:** Ingredients sourced from wild plants and animals are not only widely used in traditional medicines, but are also increasingly valued as raw materials in the preparation of modern medicines and herbal preparations. Furthermore, over 50% of commercially available drugs are based on bioactive compounds extracted (or patterned) from non-human species. [vi].
- ❖ **Disease Control:** Failure to conserve biodiversity has been studied to lead to an increase in the spread of disease. Researchers speculate that this is because some species are better at buffering disease transmission. An example of this is that species that have low rates of reproduction or invest heavily in immunity tend to be more strongly impacted by losses of biodiversity than those that don't have.
Clearly, the medical potentials of biodiversity are immense and they would greatly benefit the development of any nation that sees to its conservation.

Other Potentials and Benefits;

- ✓ Production of timber, honey and medicine
- ✓ Tourism
- ✓ Preservation of the natural world

- ✓ Conserve ecosystems' structure and stability of species' diversity.
- ✓ Bacteria and fungi in a healthy understory cause the constant breaking down and recycling of nutrients

BIODIVERSITY CONSERVATION AND NATIONAL DEVELOPMENT - CHALLENGES

Displacing Local People in Order to Establish National Parks

The displacement of people from their traditional lands has led to many unsuccessful conservation of biodiversity in National Parks. A study by Kideghesho et al. [v] on communities neighbouring the Serengeti National Park, Tanzania, found that people who had been evicted when the park was created were more strongly opposed the existence of the park than those who were not evicted. While the conservation of biodiversity is clearly the way forward, this hostility is a challenge that can't be overlooked.

Weak Involvement of Individuals in Biodiversity Conservation:

It is well documented that failure to respect social justice in conservation makes it difficult to mobilize local participation for conservation (Pimbert&Ghimire 1997) and that participatory approaches to conservation are sustainable only if communities perceive a benefit from their actions. In Nigeria for example, communities living around protected areas have not fostered attitudes that are supportive of conservation practices. Instead, they engage in traditional practices which have negative impacts on biodiversity. Cooking with firewood (which leads to deforestation) instead of a cooking stove or electric cooker is a prime example.

Weak law enforcement:

Judges are not always well informed about environmental laws and are not usually sensitive to wildlife crimes. Apart from the lack of mastering the law, magistrates are also reluctant to apply the maximum sentence to poachers, thus providing no disincentive to killing endangered species. In addition, some poachers corrupt some wayward magistrates and forestry guards by giving them money.

Conclusion

Evidently, biodiversity conservation provides tremendous benefits than its conversion. If any nation has interest in its development, it would want to reconsider its conservation policies.

References

- i Wikipedia
- ii [U.S. Mission Geneva](#) | 20 April, 2010 | Topics: *Economic Affairs, Environment*
- iii [The Convention about Life on Earth](#), Convention on Biodiversity web site.
- iv *Joergen Tautz interviewed by Michael Leidig, Honey bees in US facing extinction, The Telegraph, March 14, 2007*
- v J. R. Kideghesho, E. Røskaft, and B. P. Kaltenborn, “Factors influencing conservation attitudes of local people in Western Serengeti, Tanzania,” *Biodiversity and Conservation*, vol. 16, no. 7, pp. 2213–2230, 2007. View at: [Publisher Site](#) | [Google Scholar](#)
- vi Grifo F, Newman D, Fairfield AS. In: Biodiversity and human health. Grifo F, Rosenthal J, editor. Washington, DC: Island Press; 1997. The origins of prescription drugs; pp. 131–163