# Relevance Of Economic Botany In Contrast To Sustainable Development Strategies In Relation With Conservation Of Biodiversity: A Review.

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Economic Botany means utilization of those plants that have some useful application so much so that it results in financial or monetary gains. Use of plants for various reasons is an age old practice and dates back to start of life on earth. The first living cells called as prokaryotes were the ones that thrived on chemical energy which they derived from mineral reserves of the earth. With the appearance of first photosynthesizing bacteria i.e., BGA, rest all other organisms began to be dependent on kingdom plantae either directly or indirectly. This trend continued throughout evolution of various life forms. When human beings evolved then slowly they started realizing the importance of various plant forms either as food, for shelter, medicines etc. Different scientists have different opinions about beginning of cultivation on earth. However, cultivation can be roughly dated back to 7000 to 10,000 years ago. In those times only the plants whose usefulness was established were cultivated.

With evolution of human race, the use of a vast range of plant products was known and with the onset of economies and boundaries among nations, the concept of economic benefit started to take shape. This has led to the development of a special branch called as "Economic Botany".

Economic botany is the study of the relationship between people (individuals and cultures) and plants. Economic botany intersects many fields including established disciplines such as agronomy, anthropology, archaeology, chemistry, economics, ethnobotany, ethnology, forestry, genetic resources, geography, geology, horticulture, medicine, microbiology, nutrition, pharmacognosy, and pharmacology. This link between botany and anthropology explores the ways humans use plants for food, medicines, and commerce.

With the emergence of so many different branches and disciplines, the large scale consumption of natural vegetation had begun. This era saw a tremendous industrial growth that was in sync with exponential population growth as well. As a result larger quantities started to be tapped to meet economic needs of people. This trend has continued since many generations and therefore several economically important plant species started to become endangered and vulnerable in terms of their frequency. Also, several such species got completely extinct from face of the planet. With the realization of this aspect importance of biodiversity and its preservation became important.

According to 1997 IUCN list a total of 34,000 plant species that accounted for almost 12.5% of world's flora was under list of threatened plants. Most of these were economically important plants. This figure was an alarming signal and raised awareness towards the critical key challenge that stood in the face of present generations.

With this the Global Strategy for Plant Conservation came into force stating the following 16 targets under 5 major Objectives.

**Objective I: Plant diversity must be understood well, precisely documented and correctly recognized.**
**Target 1:** A record needs to be maintained of online flora of all plants known till date.

**Target 2:** An assessment of the conservation status of all known plant species must be carried out to ensure their continuity.

**Target 3:** Information, research and associated outputs must be carried out and recorded and different methods for implementing these strategies should be developed.

**Objective II: Plant diversity should be urgently and effectively conserved**

**Target 4:** At least 15 per cent of each ecological region or vegetation type must be secured through effective restoration and management.

**Target 5:** At least 75 per cent of the most important areas for plant diversity of each ecological region should be protected with effective management in place for conserving plants and their genetic diversity.

**Target 6:** At least 75 per cent of production lands in each sector must be managed sustainably, consistent with the conservation of plant diversity.

**Target 7:** At least 75 per cent of known threatened plan species must be conserved *in situ*.

**Target 8:** At least 75 per cent of all threatened plant species that are in *ex situ* collections, must be preferred to be mainatained in the country of origin; and at least 20 per cent should be made available for recovery and restoration programmes.

**Target 9:** Seventy per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge.

**Target 10:** Effective management plans must be devised and put in place to prevent any biological invasions of any sort and also to manage areas of rich plant biodiversity that have any threat of invasion.

**Objective III: Plant diversity must be used in a sustainable and equitable manner**

**Target 11:** No species of wild flora that are endangered must be used in international trade.

**Target 12:** All wild harvested plants and their products can only be sourced sustainably.

**Target 13:** local and indigenous knowledge of economic innovations and traditional practices associated with plant resources can be maintained and increased in sustainable manner as deemed appropriate; to promote use by public, ensuring sustainable livelihoods and also ensuring local food security and health care.

**Objective IV: Education and awareness about plant diversity, its role in sustainable livelihoods and importance to all life on earth must be promoted**

**Target 14:** The importance of plant diversity and the need for its conservation must be incorporated into communication, education and public awareness programmes.

**Objective V: The capacities and public engagements necessary for implementation of the strategies have been developed**

**Target 15:** The number of trained people working with appropriate and sufficient facilities according to national needs, to achieve the targets of this Strategy must be increased.

**Target 16:** Institutional and networking partnerships for plant conservation must be established and existing ones must be strengthened at all levels such as National, International and even regional levels to achieve the targets.

## CONCLUSION:

The sustainable development with its several goals and targets aims towards making most efficient use of plant as economic resource while planning stable future for generations to come. It is clear that plant resources and wild habitats will require increasingly active management, including protection of remaining natural and semi natural lands, as well as ecological restoration and more broadly, the restoration of natural capital, which includes ecological restoration, ecological and economic rehabilitation of production systems and related activities. Safeguarding the components of biodiversity, both *in situ* and *ex situ* will also play a part in ensuring that not only does this biodiversity remain available to support present-day and future use, but also that such biodiversity will be available for restoration and management purposes.

Over the coming years it will be valuable for botanical institutions to further define their roles in SDG achievement and promote greater awareness and support for plant conservation within this new framework and priorities for global development.

## REFERENCES:


1. The Society for Economic Botany.
2. "Focus: Economic Botany". The Field Museum. 2011-01-10. Retrieved September 29, 2014.
3. Aronson, J., S.J. Milton & J. Blignaut (editors). 2007. Restoring Natural Capital: Science, Business and Practice. Island Press, Washington, DC.

4. Balakrishna, G., K. T. Prasanna, G. C. Vijaya Kumar, C. Haleshi & K. Rajesh Kumar. 2014. Hassan Biofuel Park—A concept for promotion of replenishable green energy. BGjournal 11(1): 23–26.
5. FAO. 2010. Global Forest Resources Assessment 2010 Main Report. Food and Agriculture Organisation of the United Nations, Rome. http://www.fao.org/docrep/013/i1757e/i1757e.pdf. Accessed 7 November 2016.
6. FAO Forest and Water Programme. http://www.fao.org/in-action/forest-and-water-programme/en/. Accessed 7 November 2016.
7. Indian Ministry of Environment and Forests. 2014. India's 5th National Report to the Convention on Biological Diversity p27. https://www.cbd.int/doc/world/in/in-nr-05-en.pdf. Accessed 7 November 2016.
8. Miller, J. S. 2011. Nature's Potential: How Many Drugs Could Come From Plants? Monogr. Syst. Bot. Missouri Bot. Gard. 118: 125–140.
9. RBG Kew. 2016. The State of the World's Plants Report—2016. Royal Botanic Gardens, Kew, UK.
10. Renewable Energy Network. 2016. Renewables 2016, Global Status Report. http://www.ren21.net/status-of-renewables/global-status-report/. Accessed 7 November 2016
11. Sharrock, S., S. Oldfield & O. Wilson. 2014. Plant Conservation Report 2014: A review of progress in implementing the Global Strategy for Plant Conservation 2011-2020. Secretariat of the Convention on Biological Diversity, Montreal, Canada and Botanic Gardens Conservation International, Richmond, UK. Technical Series No 81.
12. UN COMTRADE database. http://comtrade.un.org/db/. Accessed 7 November 2016.
13. WHO. 2003. WHO Guidelines on Good Agricultural and Collection Practices (GACP) for Medicinal Plants. http://apps.who.int/medicinedocs/en/d/Js4928e/. Accessed 7 November 2016.
14. Wyse Jackson, P. S. 2001. The needs for targets in the implementation of the Convention on Biological Diversity. Pp. 1–4. In: Secretariat of the Convention on Biological Diversity (2001).
15. Assessment, Conservation and Sustainable Use of Forest Biodiversity. (CBD Technical Series no. 3.), SCBD, Montreal, Canada, P 130.