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Bioresources, biodiversity and eco-management

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Abstract

This paper introduces a special feature on biodiversity conservation and Bioresources Management. Bioresources are important components for progress and economic activities of a nation. Hence, bioresources management is very important for human welfare. Ecosystem management in a particular location is important and integral part for the conservation and protection of biological diversity. The conservation of biological diversity is a serious and common concern of human beings for better living. The conservation and sustainable use of biological diversity is of critical importance to meeting of food, fodder, fiber, health, water and other needs of growing world population. For the purpose, access to and sharing of both genetic resources and technologies are essential. Effort must be made to conserve biological diversity for the welfare of present and future generations.

BIOLOGICAL RESOURCES

Biological Resource means any resource of biological origin. The problems facing at present is the over exploitation of bioresources which would not only have negative impact on the environment but may also destroy the environment totally. Therefore, handling bioresources in a proper manner in an appropriate way is important for the optimum use without over exploitation of our bioresources wealth (Kannaiyan, 1999).

Biodiversity

Biodiversity refers to the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes. It is crucial for the functioning of ecosystems which provide us with products and services without which we couldn't live. Biodiversity is everywhere. The breadth of the concept of biodiversity reflects on the interrelationship of genes, species and ecosystems (Singh, 2004). Our planet supports between 3 and 30 million species of plant systems, animals, and fungi, single-celled prokaryotes such as bacteria and single-celled eukaryotes such as protozoans. Of this total biological system, only about 1.4 million species have been identified and named so far. Little more than half the named species are insects which normally dominate terrestrial and fresh water communities worldwide.

Ecosystem management

Ecosystem management in a particular location is important and integral part for the conservation and protection of biological diversity. Ecosystem is a dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit. Habitat is the place or type of site where an organism or population naturally occurs.

The wide spread loss of the global biological wealth is one of the most serious crises today at International level. Humanity is dependent on biological systems and processes for its sustenance, health, wellbeing and enjoyment of life. Biodiversity is the basis of numerous ecosystem services that keep the natural environment alive. The interdependence between humanity and biodiversity is critical for all people, because all communities ultimately depend on biodiversity services and resources. Invertebrates such as insects, centipedes, spiders, earthworms and snails, constitute at least 95 percent of the animal species that exist on land. In any given area, invertebrates far outweigh birds and terrestrial vertebrates in terms of biomass. It is therefore, not surprising that invertebrates play a pivotal role in the functioning of ecosystems. Ecomanagement include the role of some species in protection from erosion, the interdependency of species, and the role of different species in successional processes such as recovery following natural and man-induced disturbances.

India is a mega-diversity area by virtue of wide range of agro-climatic and socio-cultural conditions prevailing in the country. Increasingly the genetic wealth is getting eroded due to a variety of causes, the most important of which is the diversion of habitats such in biodiversity for other uses like human habitation, hydel and irrigation projects, industry, agriculture and aquaculture. World Charter for Nature was adopted by the General Assembly of United Nations during 1982. It has adopted the policy that every form of life is unique and warrants respect regardless of its worth to human beings. The social, ethical, and economic values of these resources have been recognized in religion, art and literature throughout humankind's history. Biodiversity is being lost as on today more rapidly than at any time in the past several million years. The current losses to biodiversity can be attributed to direct causes including habitat loss and fragmentation, invasion of introduced species, over

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exploitation of living resources and modern agriculture and forestry practices (Miller *et al*; 1992).

The basic problem of losses to biodiversity includes:

• The unsustainably high rate of human population growth and natural resources consumption.

• The steadily narrowing selection of traded products from agriculture, forestry and fisheries.

• Economic systems that fail to value economic resources.

• Inequity in owernership, management and flow of benefits from both the use and conservation of biodiversity.

• Deficiencies in knowledge and application

• Legal and institutional systems that promote unsustainable exploitation.

CONCLUSION

In recent years there has been a significant increase in the extent to which the importance of biodiversity values is recognised. The goal of biodiversity conservation is to support sustainable development by protecting and using biological resources in ways that do not diminish the world's variety of genes and species or destroy important habitats and ecosystems. The general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures is necessary.

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