

# Biodiversity

## 1. Background

Nepal signed the Convention on Biological Diversity during Earth Summit in 1992 and has strongly committed in conserving the biological resources in the country. Biodiversity includes all components of biological diversity of relevance to food and agriculture, the variety and variability of plants, animals and micro-organisms at genetic, species and ecosystem level. The extreme variations in altitude, complex topography, varied climatic conditions and antiquity of agriculture/forest systems gives Nepal more than 6 per cent Bryophytes, 2.36 per cent flowering plants, 3.19 per cent of Pteridophytes, 2.77 per cent of lichens, 2.60 per cent of Fungi, 1.72 per cent of Algae, 8 per cent of all birds and 4 per cent of all mammals available in the world (World conservation Monitoring Center as Global Biodiversity, 1992). Agriculture and forest biodiversity are the integral parts of the human life and are interlinked to each other to sustain their daily life. In this connection, Local knowledge and culture can be considered as integral parts of agricultural biodiversity

Agro biodiversity is the subset of biological resources that support the agricultural production systems of every farming culture; the crops and livestock and the agro-ecological processes of which they are part. Agro biodiversity involves not only all those species used in agriculture, but in fact entire farming systems that are richer in species composition than others, including particular crop combinations and sequences (Partap and Sthapit, 1998). There are several specific resources for which Nepal is known for. Aside from the diversity of rice, maize and wheat, there are number of wild and uncultivated plants as well as NTFPs which have been used as survival strategies for the people (Aryal, 2007). Wild relatives of crop varieties are also rich. There are also numerous trees and other forest species that contribute to the agro biodiversity of these farming systems, where forests form an integral part of farm productivity.

Biological resources continue to be lost at an alarming rate in global level where it is also declining in country like Nepal as well where many of the remaining resources are concentrated. Both inside and outside protected areas, biological resources, their management, and people's livelihood systems are complex and intricately inter-connected. Problems of overexploitation of Natural Resources are a serious threat for the future of our planet and the quality of life of the people living there. Fortunately more and more people are aware of the fact that we are part of nature and not the ones to use it until nothing is left. We may realize now, that we have to maintain our biodiversity because we need it if we want mankind to survive.

The interdependence between humanity and biodiversity is critical for all peoples, because all communities ultimately depend on biodiversity services and resources. Some people lead lifestyles that are more directly dependent on biodiversity than others, their culture, history and identity being intimately associated with the natural environment and its systems. Different cultures and peoples perceive and value biodiversity in different ways as a consequence of their distinct heritages and experiences. But even though many people's dependence on biodiversity has become less tangible and apparent, it remains critically important for all communities.

Biological resources have diversity and abundance attributes that provide a range of goods and services of benefit to people, and it is these goods and services that drive anthropocentric arguments for conservation. In economic analyses these goods and services are generally divided into use and non-use values. Use values can in turn be subdivided into direct, i.e. the physical goods used by people (such as food, fuel, timber, and herbal medicines) or aesthetic or recreational benefits obtained, and indirect, i.e. the ecological functions that maintain the stability and productivity of the environment. In these contexts, biological resources are important aspects of the human life. It brings significant environmental, economical and social benefit. However, this should be done in a way and at a rate that does not lead to the long-term decline of biological resources. In this context, Nepal Permaculture Group (NPG) strongly felt that the conservation and management of biological resources is necessary where depletion or degradation threaten future stocks of natural capital or endanger ecological functioning and life-support systems.

## **2. Expected Outcomes**

1. Community biodiversity assets understood
2. Wild and uncultivated species including NTFPs promoted
3. Local decision making capacity on biodiversity management enhanced
4. Economic benefits from local biodiversity to farming community demonstrated and scaled up
5. Access and Benefit sharing mechanism of biological resources enhanced

## **3. The purpose**

The main purpose of the proposed theme is to contribute on livelihood support of the people through effective management of biological resources

## **4. Approaches**

NPG strongly believes on conservation through utilization approach. People will only conserve those species that they thought useful for them. However, following are the key approaches

1. In-situ approaches
2. Ex-situ approaches
3. Restoration and rehabilitation approaches
4. Major land-use approaches
5. Policy and institutional approaches

## **5. Focus Areas**

- Promotion of Wild and uncultivated species including NTFP's through value addition activities
- Promotion of community based biodiversity management through trainings and other capacity building events
- Access and Benefit Sharing of biological resources
- Policy research on advocacy for effective management of biodiversity

## References

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