

Pradeep Mehta  
pradeep.mehta@undp.org/pmehtanainital@gmail.com  
State Head  
UNDP India  
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## **Title: Learning from the indigenous food systems of the Himalayas**

Himalaya is known for its diversity and indigenous traditional knowledge system. In the contemporary world when human civilization is facing the challenges of climate change, natural disaster, biodiversity loss, destabilized ecological services, food and nutritional inequality, problems of sanitation and health and many others, there is a need to give emphasis on TKS for searching alternative solutions or ways to face the challenges and design a sustainable lifestyle and our food systems.

When today, the world is talking about climate resilient agriculture, the traditional food system of the Himalayas already follows climate resilient practices. Manual shallow ploughing minimizes carbon emissions from the soil. Practices like zero tillage farming are already in practice in the Himalayas where potato crops are intercropped with kidney beans without ploughing. Being leguminous crop kidney beans not only fixes atmospheric nitrogen to improve soil fertility but also improved production of potato crops while minimizing carbon emission due to zero tillage.

Practices like *barah anaaja* (12 crops), a mixed traditional farming system wherein 12 foodgrains are grown on the same piece of land. These 12 crops include amaranthus, kidney bean, *ragi* (finger millet), green gram, buck wheat, black eyed pea, horse gram, a traditional soy called *math* and a few other crops. These crops maintain soil fertility and are also climate resilient due to their diversity and genetic traits. There are also traditional practices like keeping the land fallow to give rest to the soil to regain its fertility after taking crops like potato, cauliflowers, etc., which intake high levels of nutrients. These practices clearly show that indigenous communities grow for their needs not for their greed and their food systems are more sustainable than modern food systems.

Traditional bee keeping practices i.e., wall hives and log hives, are another TKS of the Himalaya that has been prevalent for ages. The most important function of these bee-keeping practices is that they provide supporting and regulatory ecosystem services by providing pollination services, maintaining the food productivity and food security in these mountain areas and special importance in maintaining agro-biodiversity and forest biodiversity in adjoining areas. According to Araya et al (2006), indigenous people keep on transferring innovative type of information from generation to generation. The role of indigenous

knowledge is significant for the improvement of beekeeping sector (Saville and Upadhaya 2006).

It is noteworthy that the World Conference on Science, organized by UNESCO and the International Council for Science (ICSU), in its Declaration on Science and the Use of Scientific Knowledge, explicitly recognized the importance of TKS and the need to respect and encourage its use for various forms of human endeavour (ICSU 2002). Moreover, World Conference on Science (Budapest, June 1999), focused on TKS, and recommended through 'Science Agenda: Framework for Action' (UNESCO, 2000), that, "modern scientific knowledge and traditional knowledge should be brought closer together in interdisciplinary projects dealing with the links between culture, environment and development in such areas as the conservation of biological diversity, management of natural resources, understanding of natural hazards and mitigation of their impact".

### **Bibliographic references**

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