

# MANAGING CROP DIVERSITY ON-FARM: A CASE STUDY FROM NEPAL

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Nepal is small geographically, but is an important centre of agricultural biodiversity. The rich Nepalese agro-biodiversity has evolved over time and space due to extreme variations in altitude and environmental conditions. Crop production takes place between 70 to 3000 m elevation where a wide range of micro-ecological niches are found, and varied crop production systems are being practiced by the farmers. A great diversity is found within most of the food crops and large part of the arable land is planted by local cultivars. In addition to the physical and ecological conditions and the natural evolutionary process, the diversity that exists on-farm has also been greatly influenced by diverse social, cultural and economic conditions of the farming communities. Numerous ethnic groups with varying socio-cultural preferences and needs have contributed to the diversity and farmers have accumulated a wealth of knowledge on these diversities and the systems as a whole. However, due to the introduction of modern varieties, over-exploitation of the natural resources, gradual social change, other development interventions affecting the habitats and production environments, and lack of supportive policy environments for the conservation and utilisation of local genetic resources, genetic erosion of the traditional crop diversity is increasing rapidly. Appropriate measures, approaches and strategies are, therefore, required for the conservation and utilisation of these crop genetic resources.

Farmers have not only been the custodians, but are also the managers of the crop diversity. In the process of conservation and utilisation, they make significant farm decisions and have developed their own management strategies. Hence, on-farm conservation of crop diversity is possible only through the active participation of farmers. In this context, *in situ* conservation of agro-biodiversity on-farm has been employed as an important strategy globally. In Nepal too, with the support from IPGRI, Nepal Agricultural Research Council (NARC), LI-BIRD (an NGO), CBOs and private entrepreneurs are jointly implementing an *in situ* crop conservation project in three different agro-ecological zones (high hills above 2000 m; mid hills at 900 to 1500 m and plains at 200-300 m). Although the project is basically designed to understand farmers decision-making processes, socio-economic circumstances and environmental factors for the existence and maintenance of the crop diversity, efforts have also been made to develop effective tools and techniques for the conservation and utilisation of the crop diversity with strong farmer participation.

Drawing upon the experiences and lessons from the project, this case study paper will focus on how farmers are managing crop diversity in different circumstances and also how collaborating agencies are trying to enhance farmers' capacity and empowerment to manage the diversity both at individual farms and landscape levels. Some of the constraints, issues and future challenges on sustaining agro-biodiversity on-farm and its management in the Nepalese context will also be discussed.