



Food and Agriculture
Organization of the
United Nations

Mountain farming systems seeds for the future

Sustainable agricultural practices
for resilient mountain livelihoods



Mountain Partnership

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Food and Agriculture Organization of the United Nations

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Food from farm and forest, a case study from Kailash Sacred Landscape

Kamal Prasad Aryal, Ram Prasad Chaudhary and Sushmita Poudel

People living in the Kailash Sacred Landscape in Far Western Nepal depend significantly on crop diversity, both cultivated and wild, for food, nutrition and income. Nearly 85 percent of households also rely exclusively on wild and non-cultivated edible plants for one or more months of the year. Conservation of this unique agroecological system is crucial for the future of this food-insecure region.

The Kailash Sacred Landscape is a transboundary area shared by Nepal, India and the People's Republic of China. It is home to several ethnic and linguistic groups and is rich in biodiversity, particularly agricultural crop and wild genetic diversity. However, documentation is poor regarding these resources' availability, use, contribution to livelihoods and household food security, and the engagement of household members in conserving and managing diversity.

Many districts in the mid-hills and mountains of Far Western Nepal are in food deficit and score the lowest on the Human Development Index for regions within Nepal. In a context characterized by high poverty rates and chronic food and livelihood insecurity, there is a high level of outmigration, mostly of men.

A study undertaken by ICIMOD in Khar Village Development Committee, Darchula district, investigated the diversity of cultivated and wild crops, their use, their role in and implications for livelihoods, and local perceptions on conservation and management differentiated by gender.



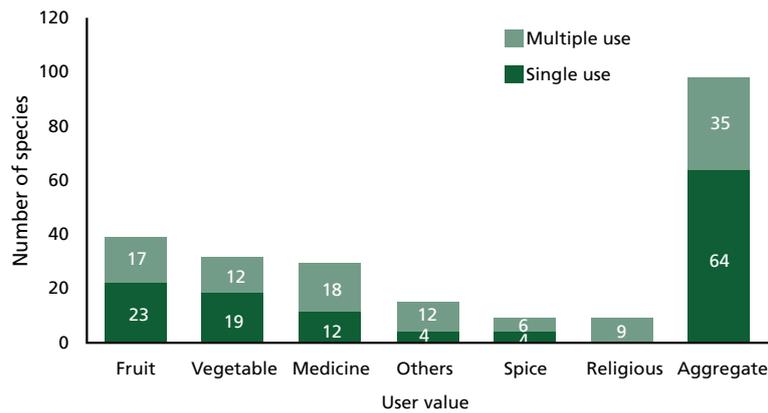


Figure 8: Use of wild and non-cultivated edible plants
Source: Case study authors' own elaboration, 2020.

The study documented 88 crops (vegetables, spices, fruits, beans and pulses, cereals and pseudo cereals) and 235 varieties from 37 botanical families. The highest varietal diversity within major crops was recorded in maize, followed by paddy, wheat and beans. However, only 5 percent of households were able to meet their annual food requirement from their own production; the remainder were only food self-sufficient for 10 months or less. Households adopted multiple coping strategies during the food deficit months, including seasonal migration for work to the district headquarters and to parts of India, sale of agricultural and livestock products, collection and sale of *yartsa gunbu*, the caterpillar fungus (*Ophiocordyceps sinensis*), and collection of wild and non-cultivated edible plants (WNEPs). Besides cultivated crops, the study recorded 101 WNEPs belonging to 60 botanical families. Importantly, nearly 85 percent of households depend exclusively on WNEPs for at least one month of the year.

However, there is erosion and loss of this crop and wild diversity due to the introduction of hybrids, outmigration, the easy availability of other foods, and the seasonal movement of entire villages in search of *yartsa gunbu*.

Wild edibles, crucial during times of food shortage, have the potential to become important alternatives to the usual vegetable crops cultivated by farmers. The study also showed that farmers prioritize those species that provide multiple benefits, such as food and nutrition security, as well as household-level health care. It is

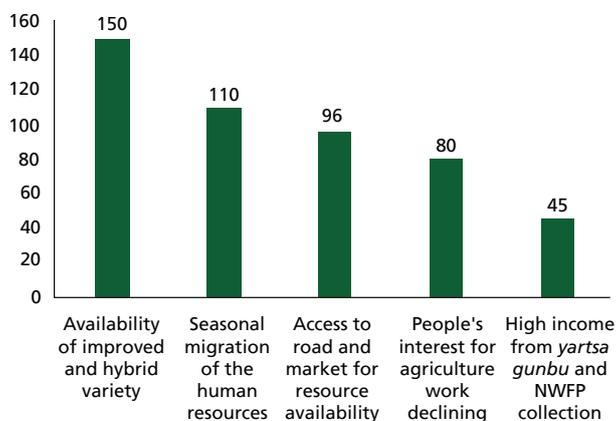


Figure 9: Reasons for the decline of traditional crops
Source: Case study authors' own elaboration, 2020.



Discussing rice variety traits with a farmer in Khar
©ICIMOD/Pradyumna Rana

important that government interventions are designed to conserve this diversity. That could mean developing conservation and restoration plans with an explicit focus on species crucial to household nutrition and health. Domestication in home gardens could be a good starting point for some species, as they offer increased availability of water, a mostly organic-based production system, easier protection against predators and close monitoring by household members.

Changing food habits, taste and lifestyles and the availability of ready-made foods in the local market are contributing to the growing neglect of traditional foods in rural diets. Integrated research and development, including product diversification and marketing of these crops, is needed to promote the conservation of diversity and ecosystems, and secure better returns for producers.

Local people must be involved in the conservation and management of crop diversity, as they are both the guardians and users of the resources and have the greatest knowledge of them. The study highlighted the role of women as seed keepers and the importance of conserving this diversity. It is essential that government and civil society interventions aimed at improving the food security of the Far Western Region place women and their concerns at the centre of research and extension.

When I was growing up, we used to cultivate a diversity of traditional crops like finger millet, amaranth, foxtail millet, proso millet, barley and buckwheat. Everyone loved finger millet, buckwheat and maize bread back then. Our own production was sufficient for our family, and we didn't depend upon the market for our food.

People have stopped planting traditional local varieties such as millets, amaranth and barley. It is even hard to find the seeds of these varieties now. Eating rice is considered modern, while eating millet is considered a sign of backwardness. Programmes such as these will help us conserve traditional seeds. Perhaps my grandchildren will be able to utilize these crops in the future.

Jaymati Badal,

77, a resident of Khar, Darchula, belongs to a women's group that collected seeds, fruits and other plants