

# Seed systems of rice and finger millet in Nepal - between formality and informality

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## BACKGROUND

Although productivity in rice production has increased over the past decades, Nepal has become strongly dependent on food imports. 88% of cereal seed used in Nepal are from informal systems and there are regions and groups of farmers that are not connected at all to any seed networks with external seed supply. Because seed of formal sources have higher yield potential, Nepal's agricultural policies and formal institutions are promoting the development of the formal seed system.

## OBJECTIVES

- To identify impacts of different seed systems on agrobiodiversity, seed value chains and livelihood of smallholder farmers in Ghanpokhara, Lamjung, a mid-hills ecological zone in the Western Region of Nepal.
- Give recommendations on how to improve farmers' access to high quality seed of preferred varieties of rice and finger millet.

## METHODS

Two crops (finger millet and rice) were analysed in two different altitudes. The methods applied in the study include a literature and secondary data review, key informant and expert interviews, quantitative household interviews (40 in depth face to face interviews), value chain analysis (market mapping), and a seed network analysis.



Figure : Finger millet crop ready to be harvested

## RESULTS

- Major factors influencing seed systems of rice and finger millet in the study area are: importance of crops and varieties, market access for seed, extension services, project activities, policy and legislation.
- Challenges: farmers do not trust in other/new seed, no access to/use of extension services and no sources for higher quality seed exist, agrobiodiversity.
- Opportunities: agrobiodiversity, potential access to urban markets, increasing demand of finger millet grains in the market, GEF-Project introduces training on improved seed selection and storage techniques.

Table: Selected characteristics of seed systems along the *continuum of seed systems*, an original concept defined in this study

	<i>Very informal</i> <i>e.g. Ghanpokhara (Nepal)</i>	<i>Informal</i> <i>Kaski (Nepal)</i>	<i>Intermediary</i> <i>Bara (Nepal)</i>	<i>Formal</i> <i>Switzerland <sup>1</sup></i>
<b>Seed source</b>	Own retention, few exchange with neighbours or relatives	Mainly from neighbours, farmers, relatives, few from seed cooperatives	Formal and informal seed supply	Formal seed supply, mainly from external actors
<b>Legal framework, regulations, rules applied</b>	- little/no contact with this system	+ is not very relevant	+++ applied partly	++++ very rigid
<b>Market integration</b> <i>(for crops and seed)</i>	+/-	++	+++	++++
<b>access to new seed and new varieties</b>	+/-	++	++(+)	+++(+)
<b>Allelic diversity</b> <i>(Genetic crop diversity within varieties)</i>	+++(+)	+++(+)	++(+)	+/-
<b>Varietal richness</b> <i>(number of landraces and varieties grown in the region)</i>	++ (medium number of different varieties found, intercropping practiced)	++++ (high number of varieties found, mostly landraces, intercropping practiced)	+++ (high number of varieties found, about half of rice varieties are landraces, half MVs, intercropping practiced)	+/-

++++ = high/ numerous, +++ = medium, ++ = little/few, +/- = low/very few/none few/non <sup>1</sup> fully formal seed systems are not present in Nepal

## CONCLUSIONS AND RECOMMENDATIONS

The varietal diversity along the *continuum of seed systems* is highest in informal seed systems (as defined in this study). Besides the benefit of higher productivity, formal seed systems bear also disadvantages (and risks) for small-holder farmers: higher costs of inputs, dependency from formal seed sources and changes in crop genetic diversity, among others. **Project activities** as well as **extension services** have potential to positively influence local seed systems. **More resources** should be **made available for farmers'** training on seed production, selection and storage techniques. The **organisation in farmer groups** for seed production and marketing (socially inclusive) should be supported in order to produce and supply good quality seed of farmers' preferred varieties. Better organisation and support for site-specific seed production has to be encountered by policy makers and the Government of Nepal (GoN).