

# Strengthening the Local Seed Systems and Disadvantaged Communities: Success and Evolution of the First Community-Managed Seed Production Company in the Hills of Nepal

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## Introduction

Nepal is a mountainous country which extends from the Indo-Gangetic plains in the south (60 meters [m] above sea level or masl), to the high peaks of Mount Everest (8,848 masl) in the north. The country is divided into five ecological regions: the Himalayas (over 4,000 masl); high mountains (2,000–4,000 masl); mid-mountains (1,500– 2,000 masl); the Siwalik range (300–1,500 masl); and the extension of the Indo-Gangetic plains in the southern part of the country also known as *Terai* (less than 300 masl). The climatic conditions range from tropical in the south, to freezing alpine in the north.

Nearly 66 percent of the Nepali people rely on agriculture for their livelihood (National Sample Census of Agriculture 2011/2012). The rural poor suffer due to the “subsistence” nature of their agricultural productivity. Millions of people in the country, most of them very poor and disadvantaged groups (DAGs) from the hills, derive their livelihoods from farming maize.

Maize is the most important food crop in the hills of Nepal, where it is grown mainly by small-scale, resource-poor farmers. It is the traditional crop, cultivated as food, feed, fodder and fuel. After rice, maize is Nepal's most important cereal, both in area-under-cultivation and in total production. The crop is cultivated on approximately 0.875 million hectares (ha) with an average yield of 2.5 tons per ha (t/ha) (MoAD, 2013). In the hills, where 78 percent of the maize in Nepal is grown, the strategic importance of the crop in food security is summarized in the common proverb: “If there is no maize, there is nothing to eat.”

Many resource-poor farmers in Nepal, greatly rely on maize grain for their food and employment. As a result of poor-productivity and production, the per capita availability of food grains has decreased (Paudyal et. al., 2001). A major reason for the low- and stagnant- maize yield is that farmers’ have less exposure to new technologies and poor access to seed of new varieties. Moreover, the crop is grown under rainfed conditions. Most of the farming households in the hills, are of subsistence type in which farmers

traditionally integrate crops, livestock and agro-forestry components to fulfill both food and non-food needs of the household.

In Nepal and especially in the hills, presence of the private sector in the seed business is very weak and public sector institutions have limited capacity to produce and supply improved seeds to the farmers. In this context, the Hill Maize Research Project (HMRP) facilitates formation and strengthens local institutions (Community Based Seed Production Groups, Cooperatives and local seed companies) to produce and supply quality seeds following formal seed delivery mechanisms. HMRP has been working with more than 220 CBSP groups and cooperatives.

The Hariyali Community Based Seed Company Pvt. Ltd., is the first seed company of its kind in Nepal. The company is situated in the Sindhupalchok district in the central hills of Nepal. Households in the districts of Sindupalchowk and Dolakha comprise diverse communities of the caste system, including *Brahmin, Chettri, Dalit* and several indigenous communities such as *Adibasi and Janajatis*, communities. Socially discriminated groups (women, Janajatis, Adibasi and Dalits) having food self-sufficiency for less than six months are considered to be disadvantaged. The seed company, in addition to generating profit, also seeks to strengthen local seed systems, marketing networks and enhance the capacity of disadvantaged groups and women farmers to produce and market quality seeds at local as well as national levels. Seed production has been found an attractive business especially among the small producers in the hills of Nepal.

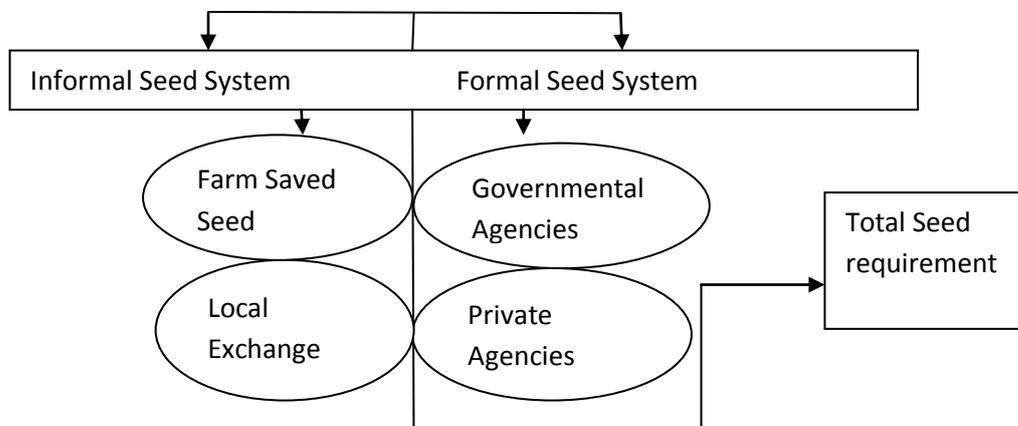
## Seed system in the hills of Nepal

The “seed system” depicts a whole scenario: from seed production to seed supply for specific policies and socio-economic environments. As in many countries in the developing world, seed systems in Nepal may be categorized as formal and informal systems (Figure. 1). In the hills of Nepal, more than 96 percent of the seeds are supplied through informal seed systems (National Seed Vision, 2013). The prevailing informal seed systems are comprised of

farmer self-saved seed, local exchanges and informal seed markets.

The formal seed systems which supplies less than 4 percent of seeds, typically include governmental, institutional and private seed companies which produce and sell seeds following national seed

certification systems as prescribed by laws and regulation. In Nepal, the formal systems are the source of modern varieties and certified seed, developed through public breeding programs.

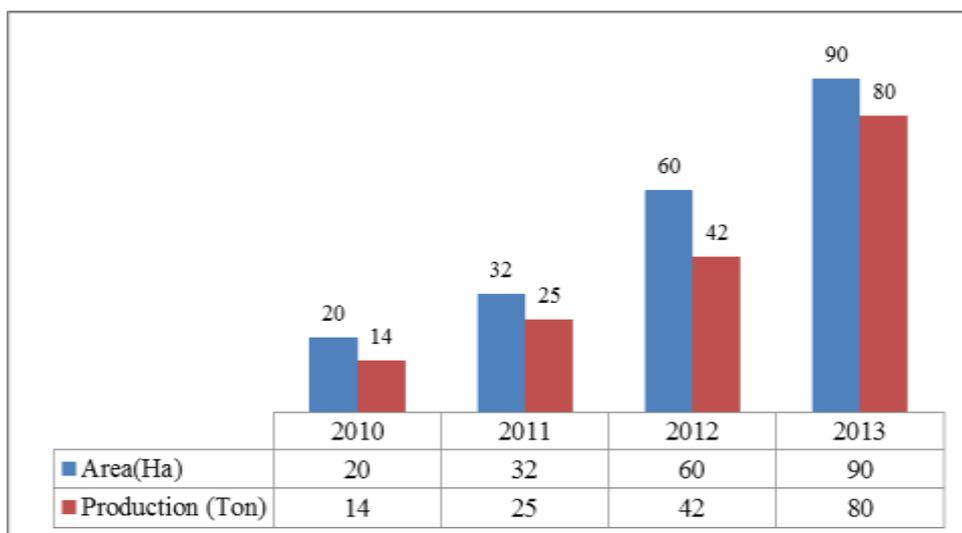


**Figure. 1.** Component of seed supply system in Sindupalchowk and Dolakha districts of Nepal.

**Gradual shift from the informal to the formal seed system**

The company has been instrumental in improving and strengthening informal seed systems in which seed production and marketing activities are gradually evolving into a formal system. The company started producing quality seeds of maize from 2005, with 25 farmers who produced 2.5 tons of maize seeds. In 2013, the company diversified commodities and

produced 80 tons of maize, rice, wheat, millet and vegetable seed worth \$80,000 (Figure 2). The company is promoting the wider use of truthful labeling for all the seeds that is produced and marketed. Branding and marking strategies of the company has helped significantly to maintain company’s visibility and trust among the farmers nationwide.



**Figure 2.** Seed production and marketing by company (2010-2013)

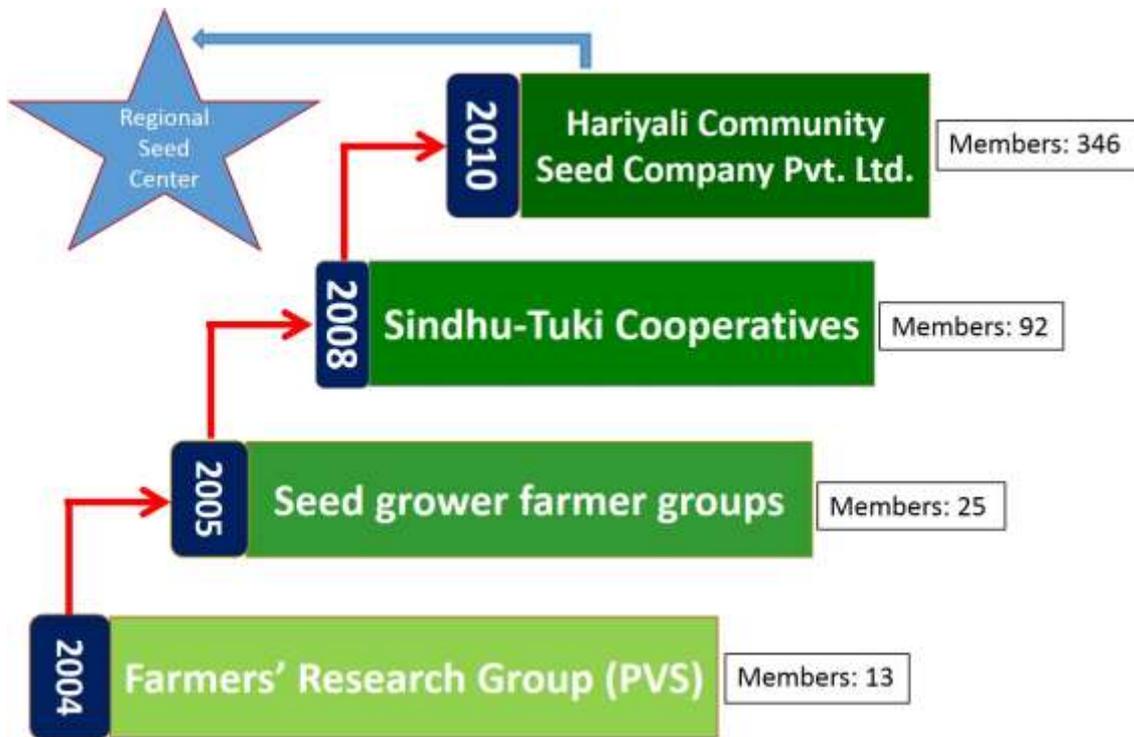
**Institutional evolution of CBSP**

HMRP through the TUKI Association (a local NGO) contacted 40 men and women farmers of Thumpakhar VDC-7, Sindhupalchok district in 2004 to conduct maize PVS and intercropping trials. After a maize season, farmer showed interest in the multiplication of

maize of Manakamana -3 varieties identified through participatory varietal selection. The project provided training to the farmers to produce quality seed. In 2005, farmers formed a community based seed program (CBSP) group called "Shindu Tuki CBSP Group" registered under the district agriculture

development officer (DADO), Sindhupalchok. More than 100 farmers (98 percent female) joined this seed production group until 2007. In 2008, farmer's formed a cooperative called "Sindhu - Tuki Seed Producers' Cooperative Ltd" which was registered under government cooperative division office. The CBSP cooperative turned into the Hariyali Seed Company, a first community- managed private seed company in the hills of Nepal. Figure 3 below illustrates the

organizational growth in the CBSP. Currently, 346 farmers are organized into 26 CBSP groups under this seed company, producing maize seed in 90 ha. The company has facilities such as a seed collection center, a seed-storage facility, a grading machine, a threshing floor etc. and a agriculture graduate and an administration-finance assistant are employed by Company and Cooperatives.



**Figure. 3.** Organizational evolution of Hariyali Community Seed Company

### Evolution of partnerships in the seed company

The company has diverse public- and private-sector partners representing key networks including: Nepal Agriculture Research Council (NARC); CIMMYT; Department of Agriculture (DoA); Seed Quality Control Center (SQCC); Seed Entrepreneurs' Association of Nepal (SEAN); non-governmental organizations (NGOs); Agro-input retailers; private seed companies; National Seed Company (NSC); Agricultural Input Corporation (AIC); and food processors etc. In the last 10 years, partnerships in CBSP, have evolved significantly. The first-level of partnerships developed with the Hill Maize Research Project (HMRP) jointly, is implemented by CIMMYT International and NARC. Under this collaboration, a

number of promising maize open pollinated varieties (OPVs) were tested on-farm in PVS from which farmers selected Mankamana 3 and Deuti for the improved agronomic traits of these varieties suitable for the local socio-economic, agro-ecological and cultural settings. The second-level of partnerships emerged when the Department of Agriculture (DoA) joined HMRP. The community seed bank program was implemented by the DoA in Sindupalchowk district, through a collaboration with the Sindhu Tuki seed cooperative. Lastly, the third-level of partnerships occurred when private seed companies and the district development committee joined with the seed cooperative to promote the adoption of improved maize varieties.

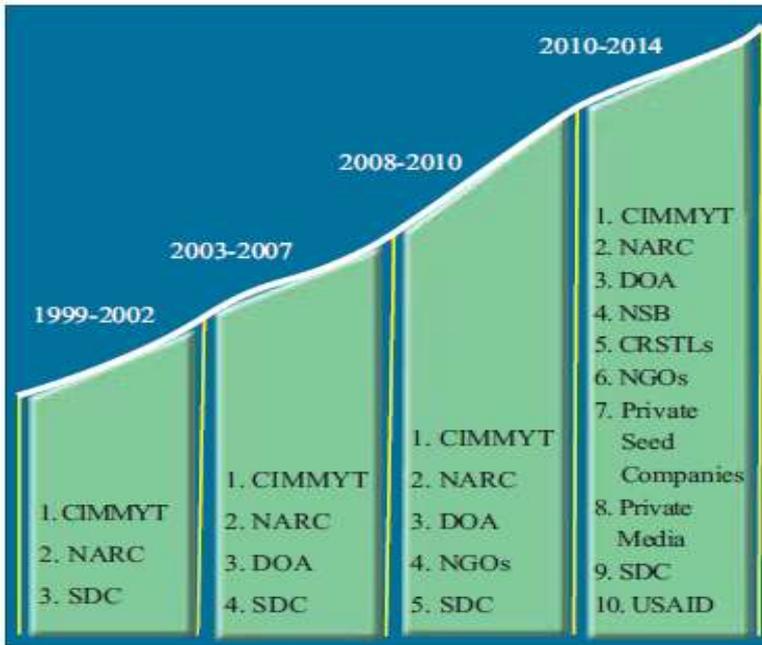


Figure 4. Evolution of partnerships in seed business (2004 to 2014).



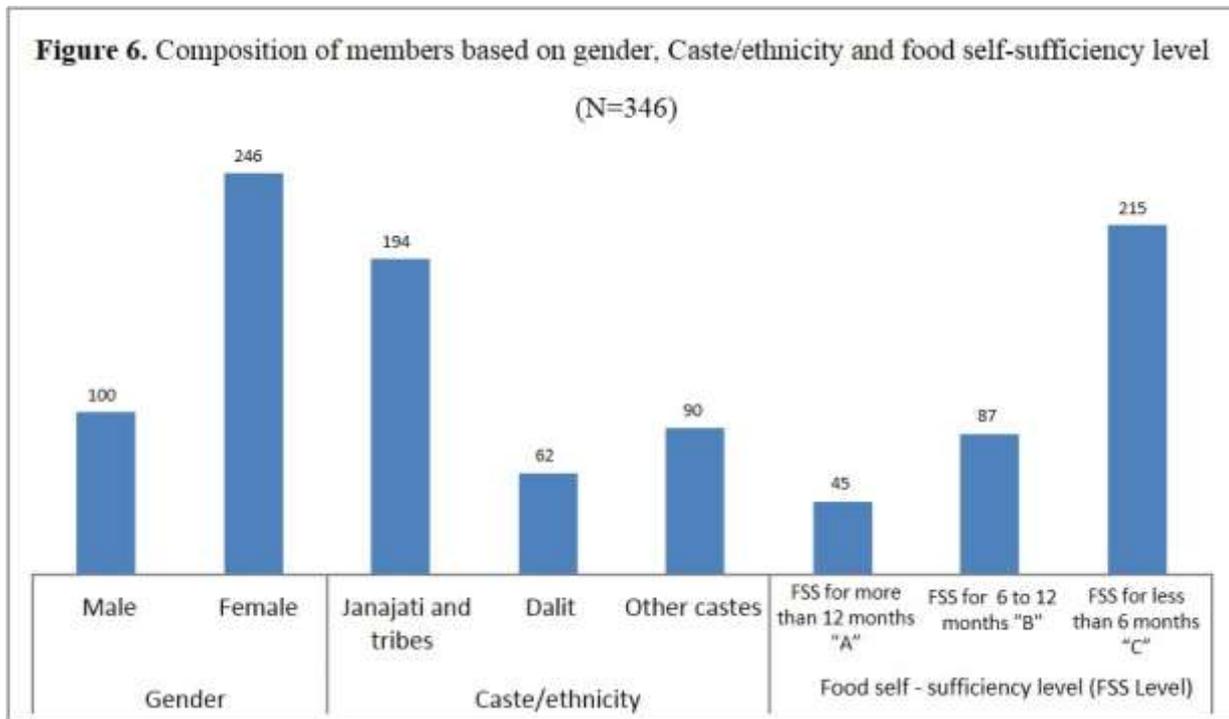
Figure 5. Evolution of partnerships in seed business (2004 to 2014).

### Gender equity and social inclusion (GESI) in the evolved seed business

Organizations of labor-division in agriculture, in the hills of Nepal, are complex. The division provides specific farming roles to specific members in families based on their knowledge, age and gender. In seed production and marketing, a wide-range of activities falls under the purview of women farmers. Women farmer's role in seed production evolved from their specialized knowledge and skills inherited over many generations. Several decisions on planting, harvesting, processing, exchanging and acquiring seeds possess gender dimensions. In the context of increased male youth migration in the rural areas of Nepal, the importance of empowering women in agriculture has been very important.

Likewise, the working districts (Sindupalchowk and Dolakha) of the company encompass a significant number of disadvantaged communities representing different castes, ethnic and tribal populations. In Nepal, the Janajatis, Dalits and tribal communities are considered socially and economically marginalized groups.

In these socio-economic and cultural contexts, the company has been emphasizing gender, equity and social inclusion (GESI) in its seed production and marketing strategies, with the aim to develop seed entrepreneurs among women and disadvantaged communities (Janajati, Dalits and Tribes). Figure 6 summarizes the composition of the households involved in seed production and marketing activities.



### Conclusion

CBSP approach is one of the most successful approaches in the hills of Nepal, where the production of quality seeds occurs and this enhances the adoption of improved crop varieties. Sustainability of the program depends on the ability of local institutions to develop effective partnerships with the national and international research- and extension-systems. The seed business can be an important source of income for the rural poor who usually have small-land holdings. However, seed quality control and the ability of the company and cooperative to timely purchase the seeds are challenging. Participatory research and development strategy of HMRP helped women and small producers to access and gain benefit from the modern scientific innovations.

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