

This story shows the power of farmers' leadership and self-organisation to revitalise neglected crops. A successful partnership between farmers and socially committed researchers, provided the scaffolding farmers needed to take matters into their own hands. A group of farmers set up a producers' corporation to tackle the constraints to lupin production collectively. Amongst other achievements, thanks to an innovative participatory quality assurance system, they are now recognised as important local seed producers in Ecuador.

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The Andean Region is one of the world's centres of plant domestication. Globally important crops such as quinoa (*Chenopodium quinoa*), amaranth (*Amaranthus* spp.) and lupin (*Lupinus mutabilis*) were domesticated there.

Before the Spanish conquest, these and many other crops played an important role in the diets of high-Andean populations. However, during the colonial and republican periods, the consumption of traditional crops was discouraged to the point that they disappeared from many agricultural systems.

In the case of lupin, its bitter flavour further contributed to its exclusion from diets, placing it at a disadvantage against the foreign pulses that had been introduced by the Spaniards. Although farmers have traditionally processed lupin in order to make its taste less pungent, processing requires intensive use of water. Furthermore, lupin productivity is low in Ecuador due to factors such as cultivation in marginal areas, minimal public and private investment, and lack of rural succession strategies. These factors have resulted in the further neglect of this and other Andean traditional crops, which make up for a considerable part of the region's basic food basket. A group of farmers have taken steps to reverse this situation.

Taking matters into their own hands In 2008, a farmer leader of Guamoto Canton (central Ecuador) visited a field office of the National Institute of Agricultural Research (INIAP) near Quito to ask for information to improve their lupin production and the de-bittering process. The farmer's request was most welcome as it coincided with the institute's interest to expand the activities of their National Programme of

Andean Legumes and Grains (PRONALEG-GA). A year later, extensionists and several farmer leaders joined forces to set up four farmer field schools in four communities interested in revitalising their lupin production. The research team from PRONALEG-GA provided technical and material support for this initiative.

The field schools led to an unexpected outcome

In the field schools, lupin seeds from various varieties and origin were compared under different planting densities. Farmer leaders and technicians facilitated training on seed quality, pest management and using machinery for threshing. Besides taking lessons from the field schools back to their farms, the experience led to an unexpected outcome. The participants saw the potential value of working together to obtain support from governmental and development organisations and decided to form a producers' corporation.

Working together 62 farmers from the four communities set up the Corporation of Producers of Andean Legumes and Grains of the Puruwa Chimborazo Village (CORPOPURUWA), which was legally recognised by the Ministry of Agriculture in July 2010. All of the members, one quarter of whom are women, have equal rights to decision making and sharing in the profits. The corporation is governed by



Farmers meet amongst flowering lupin in Mushuk Pacari, Guamote. Photo: Nelson Mazón

a members' assembly, a board and an ethics committee that ensures the achievement of the corporation's social objectives, such as improving household income. With this new way of organising, the revaluing of lupin took on a new lease of life.

Accessing good quality lupin seed emerged as a key constraint to further cultivation of the crop and so they set out to include seed production as one of their main activities. For seed production, they are focusing on a variety of lupin, *INIAP 450 Andino* (Andean variety), developed in the region with germplasm from Peru. It is valued for its relatively short time to maturity (seven versus 12 months) and is used to complement the local varieties which farmers continue to grow. Combining varieties helps to maintain diversity and yield stability on the farm as well as achieving year-round food security. Two farmers from each community, represented in the corporation, started to specialise in seed production and to supply four corresponding seed banks. Other farmers began to specialise in machinery operation and focusing on value addition (de-bittering and developing products such as flour and ice cream).

The partnership between farmers and researchers from PRONALEG-GA continued after CORPOPU-RUWA was setup. For instance, researchers facilitated

the farmers' access to greater institutional support for their initiatives. They nowadays receive training and financial resources from the Ministry of Agriculture, the provincial government, and FAO.

Seed specialists The seed banks, supplied by the farmers specialising in seed production, complement existing farmer-managed seed systems. So far, the seed banks serve as local reserves of good quality seeds. A limitation is that the seed banks only house a few varieties of lupin, quinoa and barley. But the corporation contemplates the inclusion of lentil and rye to overcome this limitation. Traditional practices of reciprocity and solidarity are respected, meaning that farmers can still obtain seeds as a loan, through exchange and also as gifts.

The farmers decided to implement a participatory seed certification system

The issue of quality assurance became problematic when the corporation decided to expand seed production. Selling lupin seeds requires a sanitary certification that most farmers cannot afford. Inspired by experiences of ‘participatory guarantee systems’ for certification of organic and agroecological production, the farmers decided to implement a participatory seed certification system, overseen by the ethics committee. Each seed bank has a certification committee, made up of farmers trusted within their community and with knowledge on seed production. The committee works with the seed producers and in turn advises the ethics committee which authorises the use of the corporation’s ‘desert seed’ label.

This is a work in progress and the corporation currently distributes seed via both participatory and ‘official’ certification approaches. They currently sell their seeds, both in Chimborazo Province, as well as in other provinces in the central and northern highlands. As the only local producer of high quality seed, the corporation can take credit for the increasing number of farmers growing lupin with locally-produced seed.

Lupin crops in the village of Pull San Pedro, Guamote.
Photo: Nelson Mazón



Gaining ground, growing confident Overcoming challenges on their fields is not the end of the story. Several obstacles existed for revaluing lupin as a food source, particularly amongst urban citizens. Improving the de-bittering process was seen as a fundamental step – both to improve water use efficiency and to ensure the taste and appeal of the grain. Researchers from INIAP developed a pilot processing plant. Subsequently, a family business, *L'verde*, adopted and improved the process. *L'verde* was one of the first businesses to sell lupin to supermarkets, school cafeterias, and restaurants. Such businesses play an important role connecting rural producers and urban consumers. Moreover, researchers from INIAP and CORPOURUWA also promoted lupin consumption through workshops with chefs, nutritionists, students and citizens, the production of a recipe book and radio advertisements promoting its nutritional benefits. These efforts resulted in increased consumption, both by producing households and buyers, and adoption of new recipes.

Their experience has become a reference for other farmers

By rescuing their local knowledge and using their skills, organised lupin farmers of CORPOURUWA have gained autonomy in addressing their own needs. They have improved and increased lupin production and contributed to more local consumption with benefits to their families’ income and diets. In the process, they have gained confidence, and their experience has become a reference for other farmers in neighbouring communities as well as for similar projects promoted by both the public and private sectors. For instance, a similar government programme to revitalise lupin production in Bolivia has been launched.

The farmers’ success can be partly attributed to the way they work together. The successful cooperation, supported through various partnerships and institutions, enabled innovative solutions to be born and also to focus broadly on the different issues that were constraining lupin production – from the seeds to the market.

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