Implementing a national community seedbank strategy for South Africa

Background and context
South Africa’s smallholder seed systems are increasingly coming under pressure. Factors such as drought, crop failure, difficult storage conditions and poverty are having a negative impact on both the amount of seeds and the number of plant varieties available to farmers. In addition, as a result of agricultural modernization, farmers are increasingly purchasing more seeds of modern varieties, leading to the loss of locally adapted varieties along with the associated traditional knowledge and skills in selection and seed storage. This is contributing to the weakening of social seed networks through which seeds traditionally have been exchanged.

South Africa’s Department of Agriculture, Forestry and Fisheries (DAFF), in collaboration with Bioversity International, has initiated a community seedbank strategy to support smallholder communities to revive and improve their traditional seed-saving practices for the sake of food security, sustainable agriculture and conservation of the country’s agricultural biodiversity. Two pilot community seedbanks were recently set up in South Africa: one in Gumbo village of Limpopo province in the North East, and the other in the Sterkspruit district of Eastern Cape province in the South East.

A community seedbank represents a simple community-based solution for improving access to and availability of plant genetic resources and safeguarding these in case of adversity. More than just the physical place where seeds are stored, it is an agreement among individuals to jointly conserve their traditional varieties of crops and exchange these genetic materials with others. Over the past 30 years, seedbanks have been established all around the world, from Guatemala to Uganda and Nepal, to maintain seeds and make them available to local communities. They are especially important in areas where farming systems are subsistence-oriented, deeply connected to local food culture and situated in complex, risk-prone and low-input environments.

The Gumbo village case study was particularly interesting because of the active participation and interest of women farmers in the initiative. Although there are different examples of seedbanks mainly managed by women, what is unique about this case is the women’s strong, spontaneous involvement from the start of the project. Today 40 women farmers manage the community seedbank.

Gumbo is a remote dryland village situated about 150 km from Mutale near the border with Zimbabwe, with poor access to the market and far from government agencies and services. The women seedbankers in the
village have chosen to give priority to nutritious crops and varieties with good taste that are easy to combine in traditional dishes, require few inputs, are drought, pest and disease resistant, and have a short growing cycle and long-term storage quality.

Gumbo and Sterkspruit seedbanks are good examples of the benefits seedbanks offer local smallholder communities to revive and improve their traditional seed-saving practices for the sake of food security, sustainable agriculture, and conservation of the country’s agricultural biodiversity. It also emphasizes the importance of women farmers as active custodians of agricultural biodiversity. The process of establishing community seedbanks in these two sites, contributes to the Aichi Biodiversity Targets, including Target 7 (promoting sustainable management and conservation of agrobiodiversity), Target 13 (safeguarding genetic diversity and wild species) Target 14 (promoting services and opportunities for women, local communities, and the poor and vulnerable) and Target 18 (leveraging traditional knowledge of indigenous and local communities and promoting greater participation of vulnerable groups, especially women).

**Strategies employed and key activities**
The main activities carried out to support the establishment of community seedbanks in Gumbo and Sterkspruit have included an analysis of the existing household and community practices of seed storage and identification of their strengths, weaknesses and opportunities for improvement; a discussion with farmers about how to organize an effective and sustainable community seedbank; and the celebration of local crop diversity through the organization of a food and seed fair in both sites. At the Gumbo seed fair it was no surprise to see 99% of the participants were women, given their key roles in agricultural production in this part of the country. In Sterkspruit, participation at the seed fair also included men. In this region of South Africa, women and men are both active in agriculture.

The farmers received training in various aspects of community seedbank management, including technical and organizational aspects, seed registration and seed health. Throughout, close attention was paid to facilitating the organizational development process of community seedbanks, with particular attention to local power and gender relations. This was done by hosting and facilitating open discussions in which all farmers present had a chance to speak out and deliberate about suggestions made.

Committee members learned about the use of an accession passport data registry to maintain a concise record of the seeds coming into and going out of the community seedbank. They received an example developed by NPGRC and Bioversity International staff in the form of a notebook. The registry includes the name of the farmer, the date of deposit/withdrawal, the crop name, the variety name if known, and the amount of seed deposited/withdrawn. Farmers also received guidance and training in seed selection, treatment, storage and maintenance to improve future collections. In 2015, members of both community seedbanks put together the first seed collections. In 2016, they established the first reproduction plots to multiply the seeds of crop varieties that community seedbank members prioritized in terms of desirable traits, special value and risk of loss. In Gumbo, 11 crop varieties and one tree species were identified, in Sterkspruit eight crop varieties. Bioversity staff is developing a plan to start a small-
scale crop improvement experiment, which will be implemented in 2017.

Results
Biodiversity impacts
In Gumbo, the first seed collection includes: Bambara groundnut, bean, calabash, cowpea, finger millet, maize (red, white, yellow), melon, mung bean, pearl millet, pumpkin, sorghum and sweet sorghum, and water melon. Farmers also contributed maize, pumpkin, watermelon, and ‘wild’ bean (still need to properly identify this bean variety).

In Sterkspruit, farmers offered the following crops: Bambara groundnut, bean, cowpea, maize (red, white, yellow), melon, pea, pumpkin, sorghum and sweet sorghum, water melon and wheat. Farms also contributed a small local potato variety, however it was decided that this crop would be maintained in their own fields (field genebank). The first collection in the Sterkspruit community seedbanks represents less diversity than in Gumbo, which reflects the current farming systems in both sites.

Socio-economic impacts
The various meetings held in Gumbo and Sterkspruit were attended by farmers, local agricultural extension agents and staff from the Department of Agriculture, Forestry and Fisheries (DAFF). For each structure the farmers discussed the role of their community seedbank, and what kind of governance and management structures would be appropriate for their seedbank to work efficiently and effectively. In both sites, farmers agreed to have a committee made up of a chairperson, vice chairperson, secretary, vice secretary, treasurer and two additional members. In Sterkspruit, the farmers elected a committee of three women and four men farmers; in Gumbo, all the members elected were women farmers. Those elected in Gumbo developed and approved a plan to build a new physical structure on a piece of land donated by the village head and with funds provided through a collaborative agreement between DAFF and Bioversity International. The new structure was inaugurated in March 2016. The Gumbo women stated that they will use the new structure not only for their seeds, but also as a new space for women to meet and interact about other village matters.

Sustainability and replication
A promising start has been made: the two new community seedbanks of Gumbo and Sterkspruit and complementary technical support provided by the government will allow farmers to improve seed conservation technologies, increase access to crop diversity, apply crop improvement practices, and explore seed production and marketing opportunities. Positive outcomes have already been recorded with first seed collections, the reproduction of priority accessions, and the increase in women’s participation in the management of the seedbank. In March 2016, Gumbo received its permanent structure while Sterkspruit has developed plans for one.

The Gumbo community seedbank in particular illustrates the key role of women farmers in local conservation efforts and how these efforts in turn have the potential to change the local agro-ecological and socio-economic landscape. As a first step to scaling out the pilot experience to the national level, in March 2016 Bioversity staff trained DAFF colleagues and extension agents from other regions in the methods and techniques of establishing and supporting community seedbanks. In addition, Bioversity staff started work on a community seedbank facilitators’ manual.
Future steps include paying attention to the successes and challenges of such farmers’ efforts and continuing to draw more attention and support to: encourage the safeguarding and improvement of local plant species and varieties maintained by smallholder farmers and their communities recognizing the central role of women; paying special attention to the challenges that climate change and adaptation pose; valuing and rewarding farmers’ collective efforts to safeguard and improve agricultural biodiversity and associated cultural values and knowledge; and supporting farmers technically and financially to organize themselves and strengthen their organizational capacity taking into consideration the leadership role of women.

Key Partners
Department of Agriculture, Forestry and Fisheries, Republic of South Africa
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Suggested readings


All pictures: Bioversity International/R. Vernooy