

21 Mali

An overview of community seed and gene banks

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Goals and progress

The first seed and gene banks in Mali were established in 1991 with the support of USC Canada, a nongovernmental organization (NGO) (Chapter 22); they were in the cercles (administrative units) of Douentza and Mopti. Later, seed banks were extended to the cercles of San, Tominian and Ségou thanks to the efforts of the Unité des Ressources Génétiques at the Institut d'Economie Rurale and its partners, Bioersivity International, the Food and Agricultural Organization (FAO) and NGOs, such as the Fondation pour le Développement au Sahel and Aide au Sahel et à l'Enfance au Mali and donor support from the International Fund for Agricultural Development and the Global Environment Facility.

The seed and gene banks aim to contribute to food security through the conservation and sustainable use of plant genetic resources. Their specific objectives are to:

- safeguard local material threatened with extinction by consolidating local knowledge and community-level mechanisms for seed conservation, multiplication and distribution;
- improve knowledge of plant material and the traditional methods developed by village communities to conserve this material through its use;
- enable farmers in the target areas and others in similar climate conditions to obtain sufficient quantities of quality seeds that are adapted to their needs;
- address frequent losses of family seed supplies;
- decentralize seed production to the farmer level while reinforcing farmers' capacities in this domain;
- make up for the shortcomings of the formal seed system and end the purchase and use of poor-quality and 'fake' seeds;
- document farmers' knowledge about available genetic resources (agricultural and forest).

Through field interventions, seed and gene banks also enable the development of a favourable framework for the coordination of various actors in the formal and informal seed sectors.

The community bank concept has evolved over time. Diverse forms exist in different regions: banks initiated and managed by local communities, such as Diagani and Fodokan in the cercles San and Ségou, and banks set up by development projects for local communities, such as Pétaka and Basiari in Mopti. Community banks are often started by a small group of participants headed by a patriarch who initiates the activity. As people become aware of the benefits such banks provide, particularly the possibility of obtaining seeds after catastrophes and acute crises (prolonged drought, flooding, locust invasion, etc.), the number of members increases. Community gene banks are known for their contributions during crises, but they are not registered nor are they officially recognized by public authorities.

Functions and activities

Most of the banks play the dual role of conserving varietal strains (genes) and providing seeds for production. The conserved seeds come from various sources (producers, farmers' organizations, diversity fields and NGOs). Table 21.1 shows the species stored in the community banks and their provenances. At the beginning of the crop season, participating farmers receive a given quantity of seeds; once the harvest is complete, they return double that quantity to the bank. Banks are open to all farmers, both men and women. Women are more interested in market gardening and peanut and cowpea seeds. In some cases, they develop small seed conservation units that are often guarded by the

Table 21.1 Number of cultivars by species stored in the banks

| Bank and supporting organization | No. of cultivars | | | | | | | |
|----------------------------------|------------------|-------|----------|-------|------|--------|-----------|-----------|
| | Millet | Maize | Sorghum | Fonio | Rice | Peanut | Cowpea | Groundnut |
| Pétaka (USC Canada, Bioversity) | 7* | 4* | 10† | — | 33 | 2† | 4† | 7 |
| Basiari (USC Canada) | 7* | — | 40 | 1* | 6 | — | 13 | 1 |
| Fodokan (FDS, ASEM) | 7‡ | — | 12† | — | — | — | 38 12† | 16 |
| Diagani (FDS, ASEM, Bioversity) | 3* | — | 12† | — | — | — | 9 | 18 |
| Marka (FDS, ASEM, Bioversity) | 7‡ 10 | — | 3* 15 | — | — | — | 12† 21 | — |

Note: ASEM = Aide au Sahel et à l'Enfance au Mali, FDS = Fondation pour le Développement au Sahel.

*Varieties from Douentza.

†Varieties from the diversity fields.

‡Improved varieties from the diversity fields.

eldest women in their group. Certain farmers specifically ask to deposit their seeds at the bank, and then withdraw them at the beginning of the cold season.

The seeds of neglected and underused species are generally conserved in the form of genes for a period of one to five years depending on demand for their use, for both production by farmers and research by the National Research Institute, the University of Katibougou, Bioversity International and the FAO. The number of species in this category has grown considerably with the activities of NGOs and Bioversity. Innovative farmers, who are interested in domestication, collection, varietal creation and introduction of new varieties, also bring their discoveries to the banks.

Supervision and management

The management of a bank is under the supervision of the president of the farmers' group, which may be a farmers' association, a group of diversity field member farmers or a field school. The position is honorary and unpaid. At the bank managed by a diversity field in Pétaka, all information regarding the cultivars conserved and the inflow and outflow of material is recorded in a registry. Women work in the banks to make and clean storage containers. The women manage all of the tasks related to the conservation of market garden seeds and the seeds of other neglected species that are preferred by women.

Technical questions

The selection of varieties is carried out by the farmers themselves, based on their own criteria: resistance to drought, diseases and insects; productivity; and cooking and organoleptic qualities. The seeds of ancient varieties that have disappeared from a village are brought to the banks if they are discovered in other villages or at banks managed by research institutes or NGOs.

Seeds brought to the banks for storage are dried, cleaned and placed in an appropriate container (Plate 11). The task of cleaning and packaging most often falls to members of the farmers' groups. Information on bank activities is disseminated during member meetings and at seed fairs. NGOs and those involved in farm-based seed diversity conservation projects periodically organize capacity-building sessions for group members. Information received by farmers who are project participants is diffused to others through visits and village-level meetings. Important challenges include financing of the system and building the capacity of various actors.

Support, links and network management

The banks receive support from national research bodies, such as the Unité des Ressources Génétiques at the Institut d'Economie Rurale, NGOs and international research and development institutions in the form of capacity-building support and small equipment. Beyond this, despite tacit recognition

of their important role in the conservation of local varieties and in facilitating farmers' access to seeds for production, the banks do not benefit from any financial or material support.

The banks are connected to farmers' organizations, which are the main facilitators. Currently, the banks are not linked through formal ties, i.e. there is no community bank network. Nonetheless, thanks to the Unité des Ressources Génétiques, certain banks have established collaborative relations with researchers and other banks. This has allowed for the medium-term conservation of the seeds of certain local banks in Unité des Ressources Génétiques' freezers. As a result of visits organized by farmers from Sikasso/Siramana to Douentza, a bank is to be started in this village and local varieties were exchanged.

All laws and policies encourage local initiatives to maintain and conserve the diversity of plant genetic resources. They particularly support these banks, which constitute the only means for rural populations to access seed supplies following poor crop years. The rights of farmers are tacitly recognized, which justifies the country's ratification of the International Treaty on Plant Genetic Resources for Food and Agriculture.

Costs

The main costs of setting up and maintaining the banks are related to the construction of the premises and the equipment. Each member contributes his or her labour to erect walls and locate construction materials. Materials that must be purchased are paid for with funds generated by the joint activities of members in community fields (diversity fields, school fields, etc.) or donations from the more affluent members of the group or village or from NGOs and projects.

With regard to equipment, the storage containers and items needed for conservation are mainly made by members using local materials. Those acquired on the market are paid for by members' resources or donations. The banks can function without outside assistance because of their very low management costs. However, the establishment of a minimum bank user fee would facilitate payment for maintenance tasks by removing the need to wait for donations or for members to become available to provide their labour.

Accomplishments

The community banks have been highly effective in:

- conserving varieties of neglected and underused species;
- increasing genetic diversity at the village level by conserving and providing farmers a wider range of varieties, including some that have disappeared or those newly introduced from other areas or through research;

Box 21.1 Examples of community knowledge and practices

Women's local knowledge

The women of Doutza make a solution using diseased peanut plants to protect their fields from future attacks. When diseased plants appear in a peanut field, the women randomly remove one of these plants, bring it back to the village and mix it with potash and water in a traditional terracotta pot. The mixture is brought to a boil and then cooled. It is then taken back to the field and poured on the ground as a remedy to stop the disease from invading the whole field.

Men's local knowledge

When grasshoppers attack, the men of Dansa do the following: The person in charge of the task gets up without speaking, eating or drinking to collect some grasshoppers in various fields which he then brings to the shaman (féticheur). The shaman boils the grasshoppers in a clay pot with some tree bark and his 'secret' ingredient. Once cooled, the mixture is poured on the ground. Following this treatment, birds fly in from elsewhere to eat the grasshoppers.

- conserving and valorizing local knowledge related to the production and conservation of seeds of various species;
- capacity building among various actors in seed production and conservation;
- reinforcing cohesion between group members seeking solutions to shared problems.

The community banks are organized and managed on the basis of indigenous knowledge. Some of these local knowledge-based practices prove to be highly effective and inexpensive for farmers. These practices work equally well on field crops and on conserved seeds. Certain practices are specific to women and others to men (see Box 21.1).

Policy and legal environment and sustainability

Policy, laws and formal and informal institutions do not have a direct influence on the banks. The banks operate following traditional standards and rules, however, without traditional authorities exercising any particular control over their mode of operation. The banks do not receive any support from these authorities.

The sustainability of community banks will depend on the recognition and support they receive from local and national decision-makers. This recognition

and support could be translated into laws recognizing the production and sale of seeds of local cultivars that are favoured by farmers. The sustainability of banks also will depend on reinforcing the cohesion of their founding members with a view to ensuring a commitment to the smooth functioning of the banks that goes beyond the investment of their labour. This commitment could evolve towards cash payments for bank services. Progressive payment for the time that members spend on daily bank infrastructure maintenance should also be considered. The community banks could be part of national, regional and international networks if they can reach a joint agreement on how material should be exchanged at different levels.