

# Farmers choose best-adapted varieties for testing



In Senegal, 90 percent of the farming area is dedicated to cereal production. Yet three of the main crops, millet, maize and sorghum, are facing progressive loss of genetic diversity in the fields and low variability which has dire effects on the abilities of farmers to achieve good results in their harvesting seasons. Thus, the Treaty Benefit-sharing Fund Project in Senegal pulled 340 samples of millet, maize and sorghum from a database to discuss their merits with local farmers. They specifically chose samples that still are found in farmers' fields, not those that only exist in genebanks. This allowed local farmers to offer practical advice as to which ones would be best to include in on-farm testing that would determine which ones were best adapted to climatic conditions and also which ones met the taste demands of consumers. The farmers chose 55 varieties.

The Treaty Benefit-sharing Fund Project offers a combination of research into and promotion of local varieties, in terms of raising the awareness of farmers and policy-makers of the need to conserve local cereal biodiversity. The focus is on increasing productivity by using a participatory, on-farm conservation approach with the ultimate goal of broadening the genetic basis of local crops and increasing the diversity of plant genetic material available to farmers. Wild relatives of these crops have not been fully used in breeding programmes in Senegal to improve local varieties, mainly because of the lack of knowledge of the genetic value of local cultivars and the lack of valuable seed production systems.

## Orientation meeting taps farmers' expertise

An orientation seminar for the Treaty Benefit-sharing Fund Project was conducted with 12 farmers representing four distinct agro-ecological areas of Senegal. The farmers participated in discussions of the need to sensitize the public to the importance of maintaining crop diversity in the field and the consequences of the increasing loss of varieties. They also gave input on ways to identify local varieties, and what they would consider the best ways to test them, discussed setting up seed banks for exchange and dissemination of genetic materials, and determined the need for training on selection techniques, conservation and production of local seeds.

**The Senegalese Agricultural Research Institute (ISRA, formerly IRAT)** held its initial meeting with farmers representing four agro-ecological zones of Senegal. They conducted participatory assessments through questionnaires that asked farmers their preferences, including questions about taste and ease of cooking. ISRA researchers and the farmers decided together the best way to collect samples of the 55 varieties from fields. ISRA has knowledge of what is available in the fields because of previous collecting missions.

**In addition to studying the 55 selected varieties** in local farmers'

fields, selected farmers worked in the experimental fields of two research stations which had planted the 55 selected varieties. This enabled the farmers to add their insight to production methods and their assessment of the crop's quality in terms of yield, water use and resistance to atmospheric conditions, disease and pests, as well as taste and ease of production. The research station will continue testing the 55 varieties to sort out which are best adapted and then will recommend those varieties to farmers.

### *In just one year...*

**Project objective I:** Conduct participatory evaluation and identification of farmers needs for genetic materials. The project has:

- ◆ identified farmers' need for genetic variety in terms of the taste and variety farmers prefer,
- ◆ added farmers preferences to the database.

**Project objective II:** Assemble the genetic materials to be tested with farmers using a participatory approach. The project has:

- ◆ collected 16 local varieties of millet called souna, 13 varieties of maize and 17 of sorghum,
- ◆ prepared protocols for the farm experiment.

**Project objective III:** Evaluate material from research station and 12 farmer's fields with regard to how it will be accepted by farmers.

The project has:

- ◆ set up two experiments on research stations and in the farmer's field to test 46 cultivars,
- ◆ prepared 46 local crop varieties for the experiment in the two different settings,
- ◆ monitored the growing of those crops and recorded data accordingly.

### *Still to come...*

- ◆ Promote the intensive use of local varieties adapted to the agroclimatic zones by setting up demonstration fields of new varieties adopted by farmers.
- ◆ Reinforce the approach of community seed production of adopted varieties by farmers, and build up a local seed production network and distribution system.
- ◆ Broaden the basis of genetic diversity and make available to farmers resilient crop genetic materials that are adapted to local climate change challenges.



#### **FOR MORE INFORMATION CONTACT:**

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