

# AGROECOLOGY CASE STUDY



*Farmers planting the maize seed in the model garden – Photo by PELUM Uganda*

## Promoting Indigenous Maize in Bugiri District, Uganda

### Approach and Activities

In surveys conducted by the Organisation for Rural Development (ORUDE) from 2010 - 2012, maize stood out as the second most important food and cash crop in Busoga after sweet potatoes. Due to climate change, farmers desired to have drought-tolerant seed varieties. However, lack of formalized maize seed supply systems made it difficult for resource-poor farmers to access good quality seeds for planting.

Before the 1990s, farmers in Bugiri District in Uganda used to have control over the quality and variety of the seeds they would plant. With the emergence of new technologies, indigenous seed was disregarded and a decline in seed security among rural communities emerged. Farmers were convinced that they could earn more income quickly from fast-maturing hybrid maize seed varieties than

from their indigenous maize seed varieties.

In a system that was unregulated, the market became flooded with hybrid seeds which were at times not viable and gave poor yields. The expected higher returns on hybrid seeds did not materialise in a climate change environment. Unsuspecting rural farmers made losses in the long run.

Accessing genuine seeds on the market was complex, leading to a decline in the volumes of maize yields in Bugiri District in Uganda, which resulted in household food insecurity and decline in income streams.

With traditional maize seeds, however, farmers are always assured of returns regardless of harsh climatic conditions. Farmers have also testified that traditional varieties are more nutritious, tastier, heavier and more easily marketable than the hybrids. The solution was to equip farmers with technical skills on maize seed selection, multiplication, storage and replication within the communities.

## Maize Seed Multiplication Project

In 2011, ORUDE, in partnership with PELUM Uganda, initiated a project to promote best practices in the selection and multiplication of indigenous maize seed. This was implemented in Nankoma and Kapyanga Sub-counties in the Bugiri District. A total of 500 households, organized into 20 farmer groups, participated directly in the project.

In May 2011, two farmer meetings were convened to discuss the seed security challenges faced. A total of 40 farmers (25 women and 15 men) participated. The farmers resolved to prioritize maize as the crop for intervention.

Twenty groups, with a membership of 25 household representatives each, were identified to benefit from the pilot project. The selected groups were already members of Savings and Credit Cooperatives (SACCOs).

Each group selected two representatives who were to be trained in seed conservation. Four training sessions were conducted for 40 selected farmers from each of the two sub-counties. The training focused on the identification of viable indigenous maize seeds (relying largely on indigenous knowledge), seed multiplication, and appropriate seed storage. Each of the 40 trained farmers was then tasked to train other farmers in their respective groups in seed conservation.

In one of these training sessions, farmers identified “mawalampa” as a viable traditional maize seed variety that they were familiar with. The viability of a maize seed can be identified by biting it. A good seed, if properly dried, will break easily. On the contrary, a hybrid seed is hard to bite through.

A seed revolving scheme was hatched which would require farmers to pass a proportion of their maize seeds to other farmers after harvest. Of the 40 farmers trained, 28 were selected and provided with foundation seeds for multiplication. ORUDE had procured 224 kg of foundation seeds from a model farmer, Mrs. Ngiya Margret, in Nankoma Sub-County.



*Farmers receive maize seed for planting. Photo by PELUM Uganda*

With support from district agricultural extension officers, the farmers were encouraged to plant their maize gardens with a recommended spacing of 2 feet by 2.5 feet and two seeds per planting hole. This was to avoid competition for and exhaustion of soil nutrients, which would in turn lead to a decline in yields.

In addition, a communal demonstration garden was established in Namuganza Village at the boundary between Nankoma and Kapyanga Sub-counties. Community members would go there to learn about proper seed management and maize seed multiplication. Farmers then replicated the good practices observed in the garden on their own plots.

A modern granary was also established at the demonstration garden site. It was intended to showcase improved storage of maize seed harvested by the multiplication centers. Farmers participated in its construction and, with the skills gained, were expected to construct similar improved granaries at their homes.



Farmer-led seed multiplication is the best alternative for ensuring farmers' access to planting materials

Out of the 28 model farmers, eight farmers were selected and provided with four iron sheets each to construct granaries at their homes. This improved seed storage. Gardens expanded and became additional learning centers for improved seed storage at the household level.

Two fora were organized for sharing experiences. Attendees included farmers, government officials, the National Agricultural Advisory Services (NAADs), and district commercial officials. Participants shared experiences and lessons on seed multiplication and management as well as challenges faced by the farmers in the marketing of maize.

## Gains from the Project

There has been a remarkable change in attitude among the local farmers towards the use of the indigenous seed. Farmers who had previously adopted the improved varieties are gradually returning to planting indigenous seeds. "We should be patient to gain profits (rather) than rush to make a loss", says Ngiya.

Mr. Kaswabuli, a beneficiary farmer from Nankoma Sub- county, says: "There is a very big difference in the yields between the indigenous and modern seed. 100 kg of indigenous maize gives you 80 kg of processed maize flour whereas 100 kg of modern varieties of maize only produce about 60 kg of processed maize flour".

The 28 model farmers registered a surplus maize harvest to the tune of 12,800 kg, an achievement they had never realized before. The improved harvests have contributed to better household food and income security.

By the end of 2011, SACCO records indicated an increase in average savings from 5,000 Ugandan Shillings (UgSh) to 20,000 UgSh per member per month. Farmers are now able to pay for the school fees of their children. Last but not least, engaging the district extension service providers has improved the flow of information from the district offices to the beneficiaries.

Radio talk shows were conducted to reinforce awareness on the identification of genuine and fake seeds. Project experiences and success stories were also shared.

Insufficient foundation seeds to meet the needs of all the farmers and the reluctance of some farmers to adopt indigenous seeds were the major challenges.

As production increases, access to markets will soon emerge as a challenge with farmers requiring market information as well as mechanisms for collective marketing.



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## Lessons Learnt

Three particular lessons learnt from the project are noteworthy.

**1** Farmer-led seed multiplication is the best alternative for ensuring farmers' access to planting materials.

**2** On-site training helps simplify technical terminology. The learning centers at the community level in this case played a big role in transferring knowledge and

**3** Effective extension plays a crucial role in training farmers in seed production and is a prerequisite in establishing effective seed production systems.



Margaret Ngiya describes to other farmers how to make a maize crib – Photo by PELUM Uganda



“We should be patient to gain profits (rather) than rush to make a loss”  
**Ngiya**



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## CONTACT

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