Farmers teach farmers in Burkina Faso

To overcome decreasing soil fertility and achieve food security in North East Burkina Faso, rural communities have started to engage in farmer-to-farmer trainings on agroecological techniques. These techniques have shown their effectiveness in restoring soil fertility and thus increasing production, thereby improving farmers' resilience.

Farming in Burkina Faso

Agriculture constitutes the main economic activity in the east of Burkina Faso. More than 90% of the active population in the region is involved in agricultural activities. They practice subsistence and, for the most part, rain fed agriculture. The most important crops are cereals (such as sorghum, millet, maize and rice), which constitute the staple foods of the population, and legumes (cowpea, peanuts, sesame).

Just like anywhere else in the Sahel, the Eastern Region, particularly the North, is confronted by climatic hazards such as irregular and low levels of rainfall. Currently floods and droughts alternate in an unpredictable manner.

Moreover, demographic pressure is making it more difficult for farmers to leave their land to fallow in order to restore soil fertility. Combined with the persistence of slash and burn agriculture and various other farming practices, this contributes strongly to the decrease in soil fertility, the accelerated degradation of natural resources and the decrease in agricultural production. This is leading to quasi-permanent food insecurity and continued impoverishment of most households. This is especially hard since most producers have not diversified their economic activities to create other sources of income. Conscious of this crisis, some government institutions as well as some NGOs and farmer organizations are supporting the intensification of agroecological farming as a viable way to restore soil fertility and achieve food security.

Family farmers of the Eastern region have mobilized and found new sustainable farming solutions from inside and outside of their communities. Yet these agroecological alternatives are not widely known or adopted by all communities as a way to overcome the linked crises of food production, soil degradation and climate change. Producers of the communes of Gayéri and Bilanga and some of their partners called on ANSD (l'Association Nourrir Sans Détruire, a local NGO.

Responding to farmers' needs

Why did the communities call upon ANSD? Our extensive experience of supporting farmers in similar agricultural zones has allowed us to identify sustainable systems of production that can ensure food security for the population while preserving natural resources. These agroecological techniques are appropriate for adoption by small-scale farmers and well adapted to their local context. By continuing to improve these techniques and strengthening the capacities of farmers organizations to spread them, ANSD and partners are supporting the transition towards more sustainable and productive farming systems. In that context, we identified farmer-to-farmer training as an effective strategy for the large-scale experimentation, diffusion and adoption of these techniques to improve household resilience and wellbeing.

In response to the concerns of family farmers in Gayéri and Bilanga, we invited research institute INERA (the Institut de l'Environnement et de Recherches Agricoles), the Ministry of Agriculture, and other local NGOs for a meeting with village representatives. At the meeting, we jointly deepened the analysis of the local situation, agreed on potential solutions and elaborated an action plan.

At the end of this meeting, we developed a plan for farmer-to-farmer training in the communities for the promotion and implementation of agroecological techniques.

Preparing and implementing the training

First, we selected high potential agroecological techniques through participatory assessments with farmers. As a next step, we identified major peasant innovators, including women, based on both their commitment in applying agroecological techniques and their willingness to share their knowledge with other farmers.

The last step in the preparation was to select training sites that were accessible and close to main roads (to attract attention and facilitate guided tours), and to supply them with necessary material and equipment for the training.

After this, the training itself could begin. It was carried out in three sessions. The first session consisted of exchanges between participants and the technical trainers on the importance of agroecology. Integrated management of soil fertility was emphasized, and discussions included the role and advantages of each technique. During the second session, benefits of each of the chosen techniques were presented and demonstrated. Following these presentations, the producers implemented what they had learned in the final session. Once back in the villages, most trained farmers applied the techniques they learned to their own fields. They also held training sessions to present what they had learned during the training, and trained other producers that had shown interest in the techniques After some time, ANSD organized a follow-up session in the respective villages to assess the results of the training. It was encouraging to learn that our assumption about the training as a strategy for spreading was validated: many farmers had begun to test and adopt the agroecological techniques.

Through the training, 60 farmers including 20 women in 10 villages learned about simple agroecological techniques to preserve water and stop erosion:

Zai pits are small basins that farmers dig in barren soils. The earth is rejected towards the downstream to capture runoff. A handful amount of organic manure is put inside each basin before planting.

Contours bunds are stones barriers to stop or break water runoff placed along the contour lines to reduce erosion and increase soil moisture.

"Half-moon" is a semi-circular basin dug in barren land to capture water runoff for crops. In the basin, the top soil is mixed with organic manure, which helps increase crop production.

Farmers learning about half moon technique to conserve soil and water.

Factors of success (and a few difficulties)

The training strategy allowed a large number of farmers to be trained in each of the villages and this strategy to spread rapidly to new villages.

Several factors contributed to this success. For one, the renewed interest of the government and several other organizations in the promotion of agroecological techniques to intensify production and improve food security has created a favorable environment. It helps to mobilize resources and build on these techniques.

Logotoripoa, the midwife in the village of Lonadenie in the commune of Gayeri, has implemented Zai on her plot and compared it with a control without Zai. She harvested four donkey-carts on the plot with Zai and two times less on the control plot. She found that the stalks from the Zai plot were much bigger than in the control.

Another important factor was the competence of the farmers and their availability in the community. Producers have become more aware of the link between productivity and the integrated management of soil fertility, which increases their commitment to agroecological techniques. Farmers' capacities were key in spreading the practices and in observing and discussing achievements.

The various stages of the preparation were also important. This includes the involvement of all stakeholders from the beginning, especially in the problem analysis and planning, the choice of farmers willing to both implement the techniques and share their knowledge with others, the establishment of a quota for female participation, the existence of successful experiences in some villages and the choice of sites that are visible and accessible.

Despite the achievements, there were also a few difficulties. Our follow-up assessment demonstrated that some producers had not implemented the techniques in their own fields or did not respect all the recommendations set out in the training. There were various reasons. Some of the farmers had

Farmers learning to construct rock barriers on contour to conserve soil and water.

Farmers implementing zai technique (mico water catchments for planting) for experimentation.

not mastered the techniques sufficiently over the course of the training. Several others were associated with paternalistic, foreign development programs that contradicted agroecological and farmer innovation approaches. We also recognized a lack of follow-up sessions led by trained technicians that could help 'trouble shooting'.

Conclusion and recommendations

The effectiveness of the farmer to farmer training strategy is confirmed by the rapid expansion of agroecological techniques in the villages of North East Burkina Faso, leading to notably healthier soils in these areas. Furthermore, the training increased endogenous capacity in the villages and passed on ownership of the techniques to community members.

An additional benefit is that working with multiple-actors (farmer leaders, local NGOs, INERA, Ministry of Agriculture trainers) promotes positive collaboration and synergy, and ensures wider ownership of and enthusiasm for the process by these organizations. Based on lessons learned in this process, we make the following recommendations to further improve this strategy:

1. Reinforce the follow-up sessions in the villages;
2. Reinforce the farmers capacities in training of other farmers;
3. Organize exchange visits between more farmers and communities.

In May 2013, organizations from across West Africa convened in Ghana for a workshop on amplifying agroecological solutions. This story was written during the workshop by **Fatou Batta, Tsuamba Bourgou and Clarisse Diasso of the Association Nourrir sans Détruire in Burkina Faso.**

September 2013