

## Using Participatory Testing to Build Capacity for Climate Change Adaptation in Burkina Faso

According to the Intergovernmental Panel on Climate Change, extreme climate events will occur more frequently. In Burkina Faso, farmers involved in action research on the vulnerability of rural and urban areas, led by the Institut de l'Environnement et de Recherches Agricoles, have observed a decrease in annual rainfall volumes and an increase in temperatures. This lower rainfall is accompanied by poor temporal and spatial variations in the rains: they have experienced increasingly long pockets of drought during the rainy season, several successive days of rain likely to cause flooding, and

a growing season which narrows over time. The rainy seasons tend to start much later and end earlier than expected. The changes, according to these same producers, are felt most keenly during the cool season between November and January, the period usually reserved for cultivation.

### Climate change adaptation : a major challenge for producers

This new climate context poses serious problems for producers. Under these conditions, for example, they are experiencing low yields of major food crops - millet

and sorghum in particular - due to the shrinking of the rainy season. Furthermore, pockets of drought in the rainy season are subjecting crops to water stress, causing a marked decline in agricultural production, especially when these droughts occur during the stage of seed formation. Local cultivation and livestock practices are losing their effectiveness, thus exposing farmers to greater vulnerability. Adapting to these challenges necessitates building producers' capacity to develop new and more appropriate techniques.



Farmers from Nasso near Bobo Dioulasso, involved in farmer field schools (Photo : VICAB)

### Participatory testing : the experience of the ACCA-VICAB project

A participatory testing process has been used within the project “Rural Urban Cooperation on Water Management in the Context of Climate Change in Burkina Faso” (locally known as ACCA-VICAB) to facilitate farmers’ access to technological innovations that would enhance resilience in their production system. The project used participatory action research (PAR) to establish a framework for discussion and participatory testing involving village communities in different agro-climatic regions of Burkina Faso. Each community has established a monitoring and evaluation committee (MEC) to support all steps relating to farmers’ testing. The main tasks of the MECs include: participatory analysis of the effects of climate change on production systems; joint exploration of potential endogenous and exogenous innovations; selection and testing of innovations adopted; and monitoring and evaluation. These steps constitute the essence of the participatory learning process in which the producers are both the main stakeholders and the beneficiaries of research, with the project team’s role being limited to facilitating the process.

The learning-through-testing process in question takes place in collective field schools, whose installation, management, and monitoring and evaluation are supported by all MEC members. The nature of innovations varies from one region to another according to their unique characteristics. The use of improved cereal crop seeds (such as maize and sorghum), micro-fertilization, and traditional planting techniques such as zai, are all examples of techniques being tested in various field schools. The results of these experiments are very promising in view of the strong adoption of technology by 70% of members of the Monitoring and Evaluation Committee and a growing use of improved seeds by 62% of these members, in individual plots.

Farmers in the three different climatic zones represented in the project have learned new techniques and practices which have enabled them to further assess their effectiveness and adapt the techniques to their socio-climatic realities. For example, they combine technologies tested (such as improved seeds) with their local practices to cope with limited incomes, or to take advantage of the merits of both.

They also show a preference for technologies that take advantage of locally available materials, such as hedges or mulching, to better conserve soil moisture and fertility. Throughout the growing season, the techniques are tested, compared and evaluated in a participatory manner by the experimenting farmers. Producers from neighboring villages have benefited from these experiments, as members of the MEC and have shared the main results.

One of the main conclusions we can draw from this approach is that participatory testing is most effective when farmers are respected and their knowledge considered. Another prerequisite is farmers’ ownership of the process of reflection-action-evaluation-planning and its integration into ways of addressing their constraints. This raises the issue of sustainability of the project achievements, and institutionalization of the procedures and approaches adopted. ■

*The social and experiential learning associated with PAR involves farmers as researchers in seeking climate change adaptation solutions.*



*Members of the Yakouta Dori Monitoring and Evaluation Committee evaluating field school activities and their contribution to farmers' adaptive capacity building (Photo : INERA).*

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