



Adaptation is...

Informing and involving farmers in Benin

In rural Benin, adapting to climate change will depend on improving farmers' access to information and actively involving them in decision-making. A grassroots action research project aims to reduce farmers' vulnerability and improve food security.

"The floods spoiled our harvests and we are in debt because we have no control over the climate. We're in deep trouble."

– Honoré Hossou, farmer,
Lalo municipality, Benin



Agriculture in Benin

employs **70%** of the work force

accounts for **88%** of export revenues

may see cotton yields drop by **30%** by 2025

The challenge: facing climate chaos

In Benin, agriculture accounts for roughly 36 per cent of gross domestic product and 88 per cent of export revenues, along with meeting local demand for farm products. But this vital sector is under threat. While it is far from the only development challenge facing local farmers, extreme variations in the climate of West Africa in the past several decades have dealt the region a bad hand. Drought and flood now follow each other in succession.

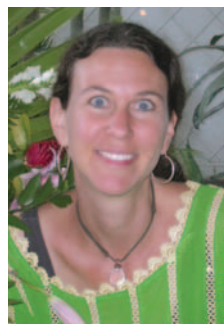


For example, growing seasons are no longer what they used to be in Tori-Bossito, a rural township of 45,000 people; 85 per cent of them are farmers growing maize, pineapple, cassava, and beans. The crop cycle here in Southern Benin was long dominated by two dry and two rainy seasons. But the rhythm of farm life is no longer set by these seasonal swings. Maize grown between mid-March and July was traditionally dried under September's sun, during the short dry season. This is no longer possible now that September brings rain which rots the harvest.

In a 2003 simulation exercise, Benin researchers calculated that if nothing is done to adapt agriculture to climate changes, yields of maize, peanuts, cassava, cowpeas, and rice may fall by six per cent by 2025. Production of that all-important cash crop, cotton, could decline by almost one-third.

How can farmers access information that would enable them to plant and to harvest on time under such variable conditions? How can they be involved in the information-gathering process and in developing measures to address climatic upheaval? These are some of the questions at the heart of an action research project engaging the broad spectrum of relevant stakeholders to strengthen rural Benin's capacity to adapt to climate change. The project

brings together researchers, farmers, and local decision-makers to find ways of sharing knowledge on climate variability, to reduce farmers' vulnerability, and to increase food security.



This project was developed by the non-governmental organisation (NGO) Initiatives pour un développement intégré durable, together with Jeunesse environnement solidarité sans frontières – Centre international d'initiatives pour le développement économique et social, and the Groupe de recherche et d'appui aux initiatives de base pour un développement durable. To implement the project, the three NGOs work with the Institut national des recherches agricoles du Bénin, the faculty of agronomy at the University of Parakou, and Benin's national meteorological service.

The idea: linking stakeholders, research and action

This project stands out for its action research approach, which favours practical action and shared learning among researchers and many of those most affected – farmers, village elders, meteorologists, agronomists, academics, local leaders, government officials, and civil society organizations.

Cover: Cotton, one of Benin's major export crops, is vulnerable to climate change. Photo: Panos/S. Torfinn

Page 2, left: Sô-Ava Mayor André Todje, one of a number of local officials involved. Photo: IDID-ONG

Page 2, upper right corner: Nathalie Beaulieu, IDRC senior program officer, and Saïd Hounkponou, project leader, IDID-ONG. Photos: IDRC/M. Côté and IDID-ONG

Page 3: Representatives of partner NGOs attend a project ceremony. Photo: IDID-ONG



According to Nathalie Beaulieu, senior program officer at IDRC, “this is a fine example of co-operation among all stakeholders, including the farmers themselves, which illustrates how each can do his or her part in addressing climate change.”

The project is based on Benin’s network of rural municipalities or “*communes*”. Meteorological pre-alert committees in 35 municipalities will bring stakeholders together in collecting and sharing information on the risks of drought and tropical storms, among other hazards. Field schools will also be set up for farmers.

Through this participatory approach, adaptation strategies suited to local conditions will be developed, tested, and implemented to reduce farmers’ vulnerability. By working together, farmers and others will be not just better informed but more involved in sharing their knowledge, opinions, and concerns.

In the field: *giving farmers information they can use*

The floods of September 2007, which affected more than 600,000 people in 18 African countries, destroyed close to 50 villages in Benin, leaving many victims and ravaged crops.



Grappling with such catastrophic events and caught between declining yields and hungry mouths to feed, farmers are left helpless. They sorely lack key information to help them develop both adaptation and prevention strategies.

“Producers have been unaware of how their own practices may be worsening the effects these climate extremes have on them,” explains agro-economist and project leader Saïd Houngponou. “And they’re unaware of the connection between their difficulties and the present climate upheavals.”

Farmers had no access to meteorological reports distributed to government ministries by the National Meteorological Service (SMN) and were thus unprepared to face unexpected climate variations. To address this gap, a weather pre-alert dissemination system will be introduced. A national committee for agro-meteorological interpretation, comprised of experts and beneficiaries alike, will analyze forecasts provided by the SMN and transform them into information useful to farmers. The information will be broadcast on rural community radio and through various village networks. Although they will not provide precise forecasts, the alerts will help reduce uncertainty and allow communities to better prepare for severe conditions.

Another key element of the project seeks to improve the knowledge base and build the capacity of farmers in all the *communes*: rural experiential learning committees will bring farmers together to set up field schools on their land. With the support of facilitators, they will test farming techniques and pool their knowledge. Exchange visits between farmers are also planned.



Expected results: *preparing farmers for uncertain times*

By helping to develop adaptation strategies, the project seeks to fight rural poverty. Based on information, dialogue, and experimentation, these strategies should strengthen farmers' capacity. The overall aim of the project is to break farmers' isolation and lift their crippling despair in the wake of climate change.

The Government of Benin is following project activities closely in order to develop pertinent strategies. To address drought, these strategies will need to consider adjustments to the agricultural calendar, the adoption of cultivation practices that retain soil moisture, the introduction of drought-adapted plant varieties, and better management of rainwater runoff and wells. Dealing with tropical storms will demand improvements in building standards and discouraging construction on flood-prone and unstable land.

Crucial information garnered through this project will also help local leaders to better realize the agricultural potential in their *communes*: they will be better able to plan land use, infrastructure construction, storage, and crop marketing.


The future: *confronting change with greater certainty*

Still in its early stages, the project is making great strides. As of October 2007, 16 co-ordination committees had been established at the municipal level. As the new national interpretation committee prepares to issue its first agro-meteorological report, the team is concerned with finding the best way of issuing timely weather warnings in collaboration with the Ministry of the Environment. Crop experiments will soon begin with the inauguration of rural field schools.

"Cultivation practices may improve and exchanges between producers will intensify," says Saïd Hounkponou.

But above all, the project team hopes that adaptation strategies will enable farmers to deal more confidently with climate variability.

"Without being a panacea, the project is better equipping farmers to face this problem," says Hounkponou, who believes the benefits will endure long after the project ends.

The team also hopes that lessons learned from this project will benefit other West African countries that must in their turn adapt to an uncertain future. 

Habibatou Gologo

The research project, "Strengthening the Capacity to Adapt to Climate Change in Rural Benin," led by Initiatives pour un développement intégré durable (IDID-ONG), is supported by the **Climate Change Adaptation in Africa (CCAA) research and capacity development program**. The CCAA program is jointly funded by Canada's International Development Research Centre (IDRC) and the United Kingdom's Department for International Development (DFID).

For more information, visit: www.idrc.ca/ccaa