Stories from the field

Research leader observes canal digging in the field
Photo: University of Antananrivo

Seeing climate vulnerabilities through lived experience in Madagascar

Madagascar, the world's fourth largest island, is home to an astonishing range of life forms found nowhere else on the planet. Much of this biodiversity is highly vulnerable to climate change. So too are the rainfed agriculture, fishing, and forestry that sustain the island's 20 million people.

Decision-makers implementing Madagascar's national action plan on climate change adaptation have lacked precise information on the spatial dimensions of vulnerability to climate change – knowing to what factors people and resources are vulnerable, and where. A project led by Madagascar's University of Antananarivo is looking at vulnerability and adaptation options in the island's agricultural sector. Building on its research so far, the team was invited to contribute text on the vulnerability of agrarian systems to Madagascar's second National Communication under the United Nations Framework Convention on Climate Change.

As well as improving information on climate change vulnerabilities, the project is facilitating dialogue between at-risk groups, decision-makers, and researchers. Reflection groups set up at local and regional levels in 2008–09 enable exchanges on both vulnerability and strategies for reducing risk, and the project is in the process of producing a range of vulnerability studies and maps. Seven local reflection groups linking researchers and local people have been established. Each group is made up of 20 men and women, representing different agricultural sectors.

In a first series of seven local workshops, people shared their perceptions of climate change and its impacts on agricultural systems. By and large, across the groups, rural representatives see a clear distinction between the climate 'then' and 'now'. Some see change occurring progressively, while others perceive radical shifts following milestone events such as violent cyclones. Farmers see environmental degradation as the underlying cause – rapid deforestation in particular. Other rural people attribute the changes to a lack of respect for traditional values. They also note negative effects on traditional knowledge, which is seen as losing its sacred power. In the Alaotra region, for example, people testified that local 'witches' used to be able to make the rains come at will, but can no longer.

Gaining a better understanding of local perceptions of climate change is just one element of the team's effort to paint a composite map of climate vulnerability and risk to agrarian systems. These reflection groups validate local experiences, while allowing researchers to share findings with communities on biophysical and other observed and measurable changes. To bring policymakers into the equation, and scale up the dialogue, reflection groups are being established at regional level linking decision-makers, support groups working on climate change and agriculture, and representatives from the seven local reflection groups. Ultimately, this improved, shared understanding of vulnerability will allow researchers to develop adaptation strategies that respond to the risks and priorities identified by community members.

Researchers explore rice fields in the region of Analanjirofo
Photo: IDRC / N. Beaulieu

Lilia Rabeharisoa
Project Leader,
University of Antananarivo,
Madagascar

As leader of the project Vulnerability and Adaptation to Climate Change: Agricultural Systems in Madagascar, Lilia Rabeharisoa sees the challenges local communities face, and how much they must rely on their own initiative to address them.

Increasing productivity to achieve food security is the greatest need. Rabeharisoa points out that local decision-makers don't have the funds to help farmers confront the basic problem of water scarcity in rice production: "Many rural producers need only starter funding and technical advice to launch their own initiatives and organize themselves. But the State cannot provide all of the necessary means to effectively implement the farmers' ideas, so other options, such as support from international and private donors, are crucial to their chances of success."

In spite of the challenges, Rabeharisoa looks to the future with hope. She sees a silver lining to climate change adaptation, if it serves as an engine for developing such innovative practices as conservation agriculture. Of all the countries in the Indian Ocean, she sees Madagascar as having the greatest potential to become an agricultural leader.

"My most optimistic vision? To see Madagascar attain food self-sufficiency in 10 years, have a fully adaptive agricultural system in 20 years, and to become the breadbasket of the region in 50 years."

*This project illustrates progress towards CCAA's **outcome area 1**: R esearch institutions are better able to assess climate-related vulnerabilities and to evaluate and develop adaptation options; and **outcome area 4**: Policy processes are informed by good quality science-based work on vulnerability and adaptation, and by the experiences of the rural and urban poor.*

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