

# Adaptation

## Climate Change Adaptation in Africa

*The Climate Change Adaptation in Africa (CCAA) research and capacity building programme was jointly launched by the International Development Research Centre (IDRC) and the Department for International Development (DFID) in 2006 with initial funding of CA \$15 million from IDRC and GBP 24 million from DFID. It aims to improve the capacity of African countries to adapt to climate change in ways that benefit the most vulnerable.*

## Policy Brief

### Strengthening African adaptation: Emerging lessons from the CCAA programme

CCAA contribution to the 3<sup>rd</sup> Special Session of AMCEN, Nairobi, 25-29 May 2009

#### Key messages

1. Sustain diversity to protect food security, health and livelihoods in the face of climate extremes and uncertainty
2. Build on indigenous knowledge in strengthening climate information systems in Africa
3. Support local level governance for successful adaptation
4. Build Africa's research and capacity building needs into financing for adaptation

## Introduction

The objective of the Special Session of AMCEN on Climate Change is to provide a forum for African Ministers of the Environment to deliberate and attain outputs that include inter alia:

- a.) a common African negotiating position on a comprehensive international climate change regime beyond 2012; and
- b.) a draft concept for a comprehensive framework of African climate change programmes.

Research on climate change is crucial to inform decisions on Africa's future. Governments will need evidence-based options for timely, strong and responsive policy choices, and to inform their position in international negotiations on a future regime to address climate change.

The Climate Change Adaptation in Africa (CCAA) programme is the largest single research initiative focusing on adaptation in Africa, implemented by staff based in Dakar, Nairobi and Cairo, and with the majority of projects led by African institutions. The programme's focused support for research, capacity building and knowledge sharing on adaptation provides a unique vantage point on the adaptation needs of the continent. In particular, the form of research privileged by the programme - participatory action research (PAR) - brings vulnerable people such as farmers and slum dwellers together with local authorities, civil society representatives and government decision-makers as co-learners or co-researchers, so that they can collaboratively address the urgent challenge of adapting to climate change.

Three years into its mandate, the programme is generating lessons, developing capacity, and sharing learning across the continent. The insights summarized below from CCAA's research and capacity building experience to date may inform AMCEN deliberations, particularly in the areas of knowledge and financing for adaptation, and capacity building.

### Lessons from research supported by the CCAA programme

#### 1. Sustain diversity to protect food security, health and livelihoods in the face of climate extremes and uncertainty

In settings as different as Madagascar, Benin, Morocco, and South Africa's Western Cape, communities working with CCAA supported research teams attest to what the IPCC and other scientific assessments tell us: rather than a simple trajectory towards greater drought or higher temperatures, many regions of Africa are

experiencing a deepening of climate extremes, and a wider range of variability. Rains do not come as predicted, and when they do they may be torrential, washing away rather than nourishing precious soils. Farmers and others dependent on natural resources struggle with forecasts that provide little certainty, and extremes that exceed the limits of their experience and the resources they have to cope with.

The degree to which communities recover from adversity is in part a function of the range of livelihood choices they have at their disposal. An example of a resilient household would be one in which income derives from a number of sources - such as where one family member farms, another drives a taxi, while another sends remittances from overseas. Diversification is key, and this applies to agricultural activity as well.



*Working with local leaders such as Miquel Sigarreta of Chitewe village is key to protecting vulnerable farm communities in Mozambique. Photo by P. Mapfumo, courtesy of SOFECSA and University of Zimbabwe*

In a number of supported research projects, farmers are trying various combinations of seed types and planting techniques, working with factors such as the duration of time before harvest, drought tolerance, and soil improvements to identify strategies that are robust across a range of possible weather outcomes.

A number of potential implications flow from this need to focus on resilience.

1. Supporting diversification requires coordination across sectors, and will require such diverse policy actors as those working on transportation, immigration, finance, agriculture, tourism, health and education to work together.
2. A singular focus on “yields” as a measure of the value of agricultural and other natural resource investments needs to be balanced with the contribution of the investment to enhancing

overall resilience within the complex systems that support a given community.

## 2. Build on indigenous knowledge in strengthening climate information systems in Africa

In many parts of rural Africa, traditional forecasters predict the rains and seasonal changes based largely on close observation and interpretation of plant and animal behaviour. These “rainmakers,” as they are sometimes known, may prove powerful allies in helping communities adapt to climate change because of their specialized local knowledge and the credibility they enjoy with rural communities who have limited access to or faith in scientific forecasts. A number of CCAA supported research projects are attempting to bridge between modern and indigenous forecasting methods. Experience to date suggests that linking with traditional forecasters improves the dissemination and accessibility of climate information for rural users, without compromising the quality of forecasts.

Farmers in Ethiopia, Kenya, Sudan and Tanzania working with researchers on a project led by Tanzania’s Sokoine University of Agriculture are increasingly relying on seasonal forecasts from both traditional forecasters and national meteorological services. This information is being integrated into decision aids that advise farmers on when and what to plant. In the Same District of Tanzania, for example, groups of traditional forecasters have now been recognised by the Tanzanian Government and linked to the local station of the Tanzania Meteorological Authority (TMA) . For one of these groups, 12 of the 14 forecasts reported since commencement of the exercise have come to pass as predicted. The local TMA station integrates these traditional forecasts in the preparation of weather advisories. Research teams are using the integrated seasonal climate forecasts as the first line of information to identify the crops, varieties and management options that will make best use of the season’s potential.

Similarly, the IGAD Climate Prediction and Applications Centre (ICPAC), a regionally mandated climate information provider that serves the Greater Horn of Africa, is leading a project in western Kenya that links scientific and traditional climate knowledge so that communities at risk from climate change will have more reliable information in local languages to help them protect their health and livelihoods. Local government officials and development agencies participating in this project are helping convert the harmonized weather forecast information into advisories targeting vulnerable sectors including community health and agriculture for the coming season. The resulting consensus forecast and advisories have been



translated into the local Luhya language and Kiswahili, and disseminated through community gatherings and radio, endorsed by local leaders.

### **3. Support local level governance for successful adaptation**

Governance and social institutions are important components of adaptation. Given that adaptation strategies need to be highly localized, forms of governance that allow for local-level decision-making and resource flows responsive to local needs should be encouraged. The decentralized decision-making of the Tanzanian Meteorological Authority (TMA) within the project cited above is one example, where the central TMA headquarters has given a free-hand to district-based station officials to collaborate with traditional weather forecasters in integrating modern and IK-based forecasts.

In Morocco, researchers led by the Institut national de la recherche agronomique (INRA) are exploring factors that support adaptation in contrasting plains and mountain settings. Among their observations to date are that social cohesion, and the strength of local producers associations, is one of the factors helping mountain communities articulate plans for adapting to declining water resources and other impacts of climate change. A number of other CCAA-supported projects are looking at community based adaptation and empowering at-risk groups to define their own research agenda.

Local adaptation processes alone will clearly be insufficient to address the scale of changes expected this century, but supporting local-level governance structures will make wider policy frameworks more responsive to local need.

### **4. Build Africa's research and capacity building needs into financing for adaptation**

The cost of generating new knowledge to inform adaptation in Africa is high. In addition to sustaining research that

involves communities in defining their vulnerabilities and options for adaptation, African governments will need significant resources to improve on climate observation systems simply to be able to monitor and accurately predict climate changes.

African governments should consider whether their budgetary allocations for adaptation adequately reflect the needed research and development costs—particularly in sectors vulnerable to climate change and its impacts; to allow for detailed studies and testing of options generated. Similarly, external development partners and donors should be encouraged to increase their programmatic activity and funding commitments to African institutions that promote participatory research, because of its relevance to adaptation processes.

CCAA experience in supporting adaptation research indicates that capacity building is indispensable, working with a range of institutional partners with varying levels of technical knowledge. CCAA has been introducing its funded partners - even as they implement climate change projects - to a set of varied skills that are enhancing their knowledge base in adaptation and will provide a solid foundation for designing, developing, implementing and monitoring adaptation projects.

### **Conclusions**

The research and capacity building supported by the CCAA programme to date indicates that many vulnerable groups in Africa already have considerable experience of coping with climate extremes and variability. They come to the research process with considerable knowledge to share and great willingness to actively test options. Climate change predicted for this century however is expected to surpass the limits of their knowledge and resilience. A wider framework of African and international policy support should be based on evidence and the active involvement of affected communities, and should ultimately strengthen local processes of adaptation.