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Adaptation



CCAA Annual Report 2007–2008

# Enhancing African Adaptation to Climate Change

Canada

The International Development Research Centre (IDRC) is a Canadian Crown corporation that works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.

The Climate Change Adaptation in Africa (CCAA) research and capacity development program was launched in 2006 and is jointly funded by IDRC and the United Kingdom's Department for International Development (DFID). It is hosted and managed by IDRC from headquarters in Ottawa and three regional offices in Africa. Its original mandate is for five years of programming activity, gradually devolving to African institutions, with initial funding of approximately CA \$65 million.

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**Cover photo: A cart driver smiles in spite of Dakar's flooded streets.**

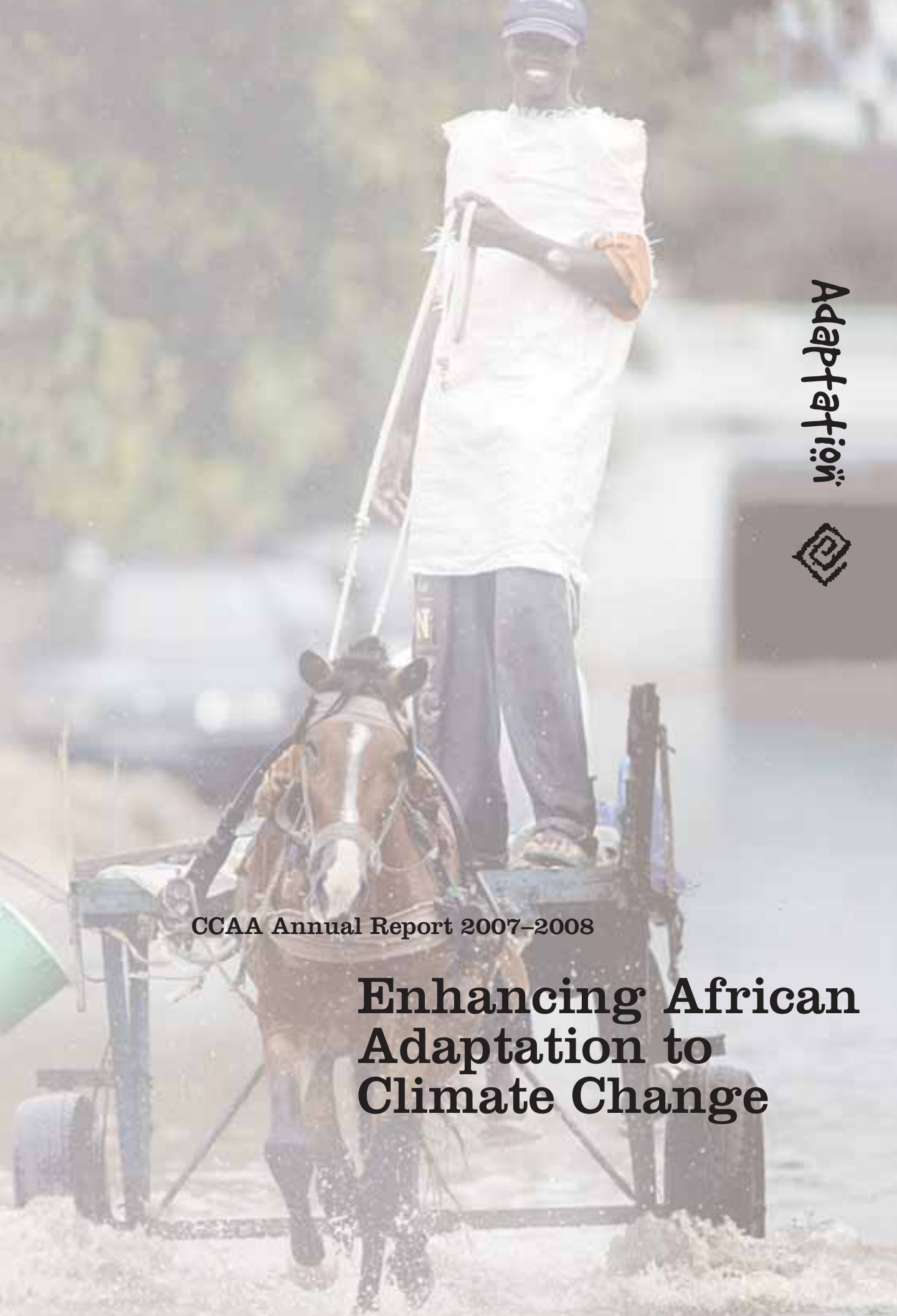
*Photo: Norman Blouin*

Adaptation



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# Knowledge is key to resilience



## Message from Shem O. Wandiga Advisory Board Chair, Climate Change Adaptation in Africa program

*Approximately two years have passed since the establishment of the Climate Change Adaptation in Africa (CCAA) research and capacity development program. I have had the pleasure of chairing the Advisory Board of this program since its launch, and as I leave, it gives me great delight to reflect back on what we wanted to do and what we have achieved.*

First, I must say that two years is a time barely sufficient to make a beginning of a program with such scope and such potential. Yet in this short time, the program has seeded some two dozen research teams that actively link African scientists, decision makers, and community representatives to explore how their livelihoods, their environment, and their future may be vulnerable to climate change, and what they can do to adapt.

The inspiration has been the African people who have willingly participated in the many activities supported by the program. CCAA's initial and continuing aim is to have Africans doing things for themselves with, as needed, some assistance from experts outside the continent. Communities at risk are most likely to accept new ideas if they are assisted in fulfilling their dreams and aspirations, within their own means. The program's activities have started to build confidence in these communities, involving them directly in supported projects. By acquiring critical knowledge and technology, these communities – who are the most vulnerable to climate change – will become more resilient.

Africa – covering 30.1 million square kilometres and with a population of 708 million people – is too big and diverse to be easily addressed through a few research projects. Individual projects, no matter how many they may be, cannot find solutions to every adaptation need. But when diligently implemented, action research should bring forward new knowledge that will help communities at need cope with climate change. Internalizing this new knowledge will take time and repeated attempts, and will not always be successful. But both successful and unsuccessful projects must be analysed and assessed for critical learning to take place.

I am glad to note that this year, an external assessment of the CCAA program was initiated through an independently commissioned Mid-Term Review. The results of this review will be invaluable in guiding future program directions. I leave my role in chairing the advisory board for this unique initiative confident that a strong team and strong strategies are in place to pursue the program's vision of a resilient Africa.



*This report covers the second year of programming for the Climate Change Adaptation in Africa program (CCAA), a joint initiative of Canada's International Development Research Centre (IDRC) and the United Kingdom's Department for International Development (DFID). The CCAA program was launched in 2006 to support research and capacity development in Africa and to improve the resilience and adaptive capacity of those most vulnerable to climate change.*

# Executive Summary

Activities this year built on foundations laid in 2006-2007, when the program strategy was developed, an advisory board established, staff engaged and trained, a first call for concept notes issued, and 10 action research projects funded. In 2007-2008, even as new projects have been developed to address thematic and geographic gaps, there has been a sustained focus on strengthening project teams' capacities to carry out research on adaptation that will contribute to policies and practices that benefit the most vulnerable.

The progress recounted here shows capacity building happening at all levels of the program, from farmers and municipal decision-makers sharing knowledge and adaptation experience to project leaders and researchers developing skills to include local knowledge in their research and to work across disciplines. Program staff and managers have also expanded their skills to mentor southern partners who are now leading complex participatory action research projects.

Highlights of CCAA's work with African partners to enhance adaptation to climate change include:

- More than \$CA 14.5 million allocated in 2007-08 to see 13 new projects underway. Together with those funded in 2006-07, the CCAA program at year end was supporting 23 research and capacity building projects across the continent.
- CCAA coordinated four capacity building workshops for project teams, from August 2007 to February 2008. Almost 150 African researchers, policymakers and other project-related stakeholders attended workshops on climate risk assessment; monitoring and evaluation using outcome mapping; gender and climate change; and bridging the gap between research and policy. An additional workshop on proposal development was held for 41 prospective program partners.
- Funding for an African Climate Change Fellowship Program was approved, to increase doctoral and post-doctoral studies and curriculum development on climate change and adaptation in Africa.
- CCAA and IDRC's Ecohealth program collaborated in developing and funding four pilot research projects that explore connections between water, health and climate change.
- Progress was made in more directly benefiting groups at risk from climate change, including laying foundations for a new fund to support action research proposed by community-based associations, and recording the adaptation experiences of West African communities through an Adaptation Stories initiative.
- A monitoring and evaluation network was initiated among project teams with support from outside monitoring experts and the CCAA team, to help partners measure progress towards adaptive capacity.

## Building skills for climate risk assessment in Tanzania and Malawi



**In semi-arid areas of Tanzania, windmills are a potential power source for drawing water.**

*Photos courtesy of IRA, University of Dar es Salaam*

Smallholder farmers are the backbone of sub-Saharan countries such as Tanzania and Malawi. But declining productivity of their land is exacerbating poverty for families already living marginal existences. Climate change and related disasters such as drought require greater innovation to adapt successfully.

Researchers, farmers and policymakers in Tanzania and Malawi are working as a multidisciplinary team to build on existing local knowledge to test strategies of adaptation to decreasing rains and depleted soils that plague African farmers.

The project team has added climate trend analysis to its research plans and is examining vulnerability and adaptation strategies currently being used in Tanzania and Malawi. In developing these components of their research, the team benefited from taking part in a CCAA-led capacity development workshop on integrated climate risk assessment.

The research on local farming systems may have wider application. Farmers in Malawi, for instance, have been using a form of irrigation farming in valley bottoms called vinyunyu which could be used more widely in other areas of the two countries. Drought resistant crops and early maturing varieties are also being tested.

The addition of information about climate-related risks will increase understanding of the current vulnerability of smallholder farmers in both favoured and less-favoured areas. It will inform both countries' national action plans to respond to variable rain patterns, droughts and floods that have become increasingly threatening to poor farming communities in eastern Africa.

*"Strengthening local agricultural innovation systems in less favorable and high potential areas of Tanzania and Malawi" is led by the Institute of Resource Assessment at the University of Dar es Salaam.*



**Project leader Dr Amos Majule**



**Researchers evaluating alternative crops in Zambia through the project “Resilience and the African Smallholder” led by the University of Zimbabwe.**

*Photo courtesy University of Zimbabwe / P. Mapfumo*

*The second year of programming has seen substantial progress towards CCAA’s core objectives. Significant efforts in capacity building have helped to strengthen research teams as the program’s first projects got underway. The program supports research that is policy relevant and will bring tangible benefits to groups at risk from climate change. It does this by funding and nurturing participatory action research (PAR) projects, carried out by multidisciplinary teams that actively involve key stakeholders – in particular, policymakers and affected communities. Additional capacity building activities help these teams improve their skills in engaging research users, in applying specific research methods, and in monitoring and communicating their progress and findings effectively.*

## Second year progress

To measure the progress of the CCAA program, a hybrid evaluation approach which combines logical framework analysis and outcome mapping – an IDRC innovation – is used. Program staff use outcome journals to describe the progress of projects and program strategy journals to describe progress in programming support in three key activity areas – supporting PAR, education and training, and communication and networking, as well as overall organizational performance. Evidence from these journals has been used to report on results expected in the program’s foundational logical framework, as reflected on pages 32-34.

The four objectives at the core of CCAA’s mission, and central to the program’s logical framework agreed to by DFID and IDRC are:

- To strengthen the capacity of African scientists, organizations, decision-makers and others to contribute to adaptation to climate change.



- To generate better shared understanding of the findings of scientists and research institutes on climate variability and change.
- To support adaptation by rural and urban people, particularly the most vulnerable, through action research.
- To inform policy processes with good quality science-based knowledge.

The sections below provide details of progress achieved through both project and program level activities towards these four objectives.

Monitoring and evaluation is an important focus for the program. As well as developing systems for monitoring the whole program, CCAA has worked to strengthen the capacity of partners and project teams to do their own monitoring and evaluation. Outcome mapping was included in a training workshop held for partners in Cairo in September 2007. The program also supports a number of networking and mentoring activities, led by strong African institutions that are helping to nurture an emerging community of practice using outcome mapping to monitor and evaluate climate change adaptation.

## Strengthening capacity

*Outcome Area 1:* Research Institutions are better able to assess climate-related vulnerabilities and to evaluate and develop adaptation options.



**University of Zimbabwe partner, the Soil Fertility Consortium for Southern Africa (SOFECSA), working with women farmers.**

*Photo courtesy University of Zimbabwe / P. Mapfumo*

A central focus of the Climate Change Adaptation in Africa program this year was to strengthen the capacity of African researchers and institutions to assess climate change risk and develop adaptation strategies. Much research on climate change adaptation has been through physical sciences – for example, using climate information and modeling to decrease uncertainty about future climate change. The participatory action research supported by the CCAA program aims for a more complete understanding of social and other dimensions of vulnerability. Training workshops provided this year helped a number of newly funded project teams to extend and share their understanding of various dimensions of vulnerability as their first stages of research got underway.

The program also approved funding to launch the African Climate Change Fellowships program this year, which will widen the base of African expertise on climate change and adaptation.

## Strengthening African scholarship on climate change adaptation

To increase African research and institutional capacity to apply scientific knowledge for climate change adaptation, CCAA approved funding for the African Climate Change Fellowships program in November 2007.

The program will offer policy fellowships to help early- and mid-career African professionals gain experience and understanding of climate change adaptation, as well as providing doctoral and post-doctoral students with research experience to improve the scientific quality and policy relevance of their research. Teaching fellowships will permit faculty members to develop and implement new courses related to climate change at African universities.

Calls for proposals have been developed and will be issued in August of 2008 with first fellows expected to begin their research in late 2008.

Four adaptation seminars are planned to provide the opportunity for selected Fellows to share their learning with policymakers and with their host institutions.

*The African Climate Change Fellowship program is led by the Pan-African Committee of START (the global change SysTEm for Analysis, Research and Training), in collaboration with the Institute of Resource Assessment of the University of Dar es Salaam, and the African Academy of Sciences.*



**Students and practitioners with faculty at the University of Dar es Salaam, Tanzania**  
*Photo courtesy of the Institute of Resource Assessment*



**CCAA partners and policymakers at a Johannesburg workshop exploring research to policy linkages, October 2007.**  
*IDRC / V. Orindi*

A workshop held in Nairobi in August 2007 covered issues related to climate risk and vulnerability assessment and concepts related to climate change adaptation. Training in gender analysis provided in Dakar in February 2008 further helped research teams understand the ways in which men and women may be vulnerable to climate change in different ways.

The training in some cases has had immediate applicability for research teams, strengthening their approaches to addressing vulnerability. In Morocco, for example, a project team looking at the physical risks and impacts of climate change is also addressing

gender and other determinants of vulnerability. It is conducting surveys at the household level to assess dependence on water, land, and other resources. These household surveys help, for example, to address women's limited participation in formal decision-making groups and to identify vulnerabilities related to income and resource dependency and control.

Project teams in Tanzania and Malawi involved in research on innovations to sustain productivity in smallholder agriculture have included climate trend analysis in their review of adaptation strategies, after baseline studies and stakeholder consultations – including with community members and agricultural extension workers.

An underlying principle of CCAA's approach has been to rely on local institutions as partners as much as possible in capacity building. Collaborating with African capacity development organizations through a pre-planning workshop helped establish a francophone and anglophone network of capacity development organizations that have experience applying their concepts to climate change adaptation issues. International programs often rely on Northern-based capacity developers. The fact that these workshops were, in almost all cases, led by African institutions sent a clear message that the continent has considerable expertise in capacity development. The identification of and collaboration with strong African resource people was a significant achievement for the program.

**Table 1:**  
CCAA-supported capacity building workshops held in 2007-08

Topic, date, location	Aim	Target participants	Language groups	Lead institutions
<i>Integrated climate risk assessment</i> Nairobi, Kenya; August 27-31, 2007	Provide a basic climate change background covering natural and social science concepts and methods in risk analysis	CCAA project teams and suppliers and users of climate data	29 anglophone 12 francophone	<ul style="list-style-type: none"> <li>• Université Cheikh Anta Diop</li> <li>• ICPAC</li> <li>• AGRHYMET</li> </ul>
<i>Applying outcome mapping to project monitoring and evaluation</i> Cairo, Egypt; September 10-14, 2007	Enable teams to integrate outcome mapping in the design, implementation, monitoring and evaluation of their projects	CCAA project teams and their partners	21 anglophone 16 francophone	<ul style="list-style-type: none"> <li>• West African Rural Foundation</li> </ul>
<i>Proposal development</i> Addis Ababa, Ethiopia; September 24-28, 2007	Strengthen participants' abilities to develop fundable research proposals	Proponents of promising but unsuccessful concept notes	25 anglophone 16 francophone	<ul style="list-style-type: none"> <li>• Organization for Social Science Research in Eastern and Southern Africa</li> <li>• West African Rural Foundation</li> <li>• University of Dar es Salaam</li> </ul>
<i>Research to policy linkages</i> Pretoria and Johannesburg, South Africa; October 15-19, 2007	Enhance research responsiveness to the needs of policymakers and enable policymakers to make better use of scientific research results CCAA project	teams and policymakers	19 anglophone 15 francophone	<ul style="list-style-type: none"> <li>• Centre for Policy Studies</li> <li>• Kenya Institute for Public Policy Research and Analysis</li> <li>• l'Université d'Abomey-Calavi</li> </ul>
<i>Gender analysis and mainstreaming</i> Dakar, Senegal; February 18-22, 2008	Strengthen gender mainstreaming in climate change adaptation projects	CCAA project teams	19 anglophone 17 francophone	<ul style="list-style-type: none"> <li>• Makerere University</li> <li>• Université Cheikh Anta Diop</li> </ul>



## Sharing learning

*Outcome Area 2: At risk groups, policy makers, and researchers share learning and expertise on climate vulnerability and poverty.*



**Libantè villagers discuss local adaptation strategies in the farm sector, northern Benin.**

*Photo courtesy IDID-ON / S. Kolawole Hounkponou*

Research projects supported by the CCAA are already engaging at-risk groups, but it is vital that the resulting knowledge is communicated and used to benefit vulnerable communities. This requires building capacity in research communications and supporting knowledge sharing within and between projects, while engaging other strategic users of research knowledge – such as community representatives, decision-makers, and donor agencies.

A new project to enhance communication and networking in support of adaptation in Africa was approved in December 2007. The three-year project, a collaboration between the Institute for Development Studies (IDS), ENDA-Tiers Monde (ENDA-TM), the Forum for Agricultural Research in Africa (FARA), and the IGAD Climate Predictions and Applications Centre (ICPAC), will explore how the livelihoods of vulnerable people can be improved by sharing climate adaptation knowledge between CCAA research partners, policymakers, civil society organizations, and vulnerable groups themselves.

A range of tools and activities are planned to support continent-wide networking and knowledge exchange, including a web-based platform to link network members, print and audio-visual resources, and face-to-face networking events.

The direct involvement of policymakers and representatives of at-risk groups, as is the case in “Strengthening the capacity to adapt to climate change in rural Benin” and a number of other projects, is one of the most effective means of sharing knowledge and experience with them.

To widen participation by key stakeholders, most projects held inception workshops over the past year where key local community representatives and decision-makers were invited to learn about the objectives of the project and discuss issues of importance to vulnerable communities and policymakers. Teams then began their research by carrying out vulnerability assessments using a variety of methods that drew on the experiences and perspectives of affected groups. Such stakeholder meetings with project partners and communities have been very important as spaces for sharing knowledge.

In West Africa, members of rural communities were involved in an Adaptation Stories project that recorded their experiences and strategies for coping with, or adapting to, past climate-related crises. The CCAA film documentary project underway will share the lessons and knowledge from these communities more widely, giving researchers, decision-makers, and members of other communities insight into the social dimensions of vulnerability and adaptation. It captures, for example, the experience of Fulani herders in the Tilabery region of north-east Niger who had to settle and raise crops to improve their livelihoods after severe droughts in the 1980s made nomadic cattle herding unsustainable. The support of community leaders proved essential in helping them through this transition. Farming in river delta lands required adopting forms of land management and land tenure that were new for the Fulani nomadic herders and the adjustments were difficult for many.

As project teams develop and apply their monitoring and evaluation frameworks, the CCAA program has supported networking and learning through workshops and an electronic discussion forum. This has laid the groundwork for knowledge exchange among fellow climate change research teams across the regions of Africa, supported by strong African institutions such as the Sahara and Sahel Observatory, West African Rural Foundation, and OtherWise. Participants are now sharing ideas about how they are

tracking important elements of projects that need to be monitored such as gender analysis and participation of communities at risk.



**In addressing the needs of smallholder farmers, local leaders such as Miguel Sigarreta of Chitewe village, Mozambique are key links between communities and different levels of government.**

*Photo courtesy University of Zimbabwe and SOFECSA / P. Mapfumo*

Recognizing the importance of web communication in sharing knowledge, a number of projects have developed web sites and CCAA is encouraging all other projects to follow their example. Some projects are using their sites as valuable places to post meeting reports and share research processes as they progress. By putting their own documents online they offer fellow researchers, decision-makers, and members of the public access to their findings.

Media has also been used successfully to share knowledge in several countries. Some projects, such as “Managing climate risks for agriculture and water resources in South Africa” and “Strengthening the capacity of farmers to reduce the impact of climate change on agricultural productivity in Benin” were able to engage national television coverage of their early project activities.

## Improving adaptation strategies

*Outcome Area 3:* The poor in rural and urban environments apply their experience of adaptation with the knowledge and technologies generated by research to implement improved and effective adaptation strategies.



**Table terraces in a home garden in Tae village, Tanzania.**

*Photo courtesy Sokoine University of Agriculture, K. Placid*

Actively testing new approaches to adaptation, or validating existing ones, are at the heart of participatory action research. As most projects are still at initial stages of this shared process of learning, it is yet too early to point to significant new strategies. Yet some, with active involvement from at-risk groups, are beginning to use new resources and approaches to benefit local communities. A number of projects involve farmers and other community groups directly in testing innovative adaptive strategies.

In Benin, for example, co-operation among farmers, researchers, community leaders and meteorologists has led to improved access to climate-related information for farmers and new opportunities to learn from others' experience and from trial and error in applying new strategies. Farmers have been brought together for field schools and, with assistance from facilitators, are beginning to test novel farming techniques and share their knowledge. In this country so recently devastated by flood, drought, and unpredictable rainfall patterns, developing an early alert system based on national meteorological information and past experience with weather related crises also offers farmers and villagers a strategy and tools to prepare for extreme weather events in the future.

Collaborative development of these early alert bulletins is an important initiative, as rural people until now have not had access to national meteorological data in forms they could use. Weather alert committees have been set up in 35 rural municipalities in Benin to date. The municipalities have created a communication network to distribute meteorological bulletins through rural radio and traditional communication channels. This information will help farming communities to prepare for the onset of rains or anticipate drought and adjust planting schedules accordingly.



**Meeting of a weather pre-alert committee in Cotonou, Benin. These committees work at the local level to improve information flow to farmers.**

*Photo courtesy IDID-ONG, S. Kolawole Hounkponou*

While the active participation of at-risk groups in research activities has been encouraged from the launch of the CCAA program, efforts are ongoing to find ways to expand their involvement in research on adaptation options and innovations. Progress was made this year in developing a fund that will benefit at-risk groups more directly, supporting NGOs and community-based associations working directly with these groups, and working with relay institutions to strengthen the capacity of these organizations. As a first step, funds have been put aside for small projects to be launched in the coming year in North and West Africa. Program staff has been working with representative organizations in these regions to help them develop viable research proposals.

## Informing policy processes

**Outcome Area 4:** Policy processes are informed by good quality science-based work on vulnerability and adaptation, and by experiences of the rural and urban poor.



**A representative of Madagascar's National Action Plan on Adaptation (NAPA) committee attends a project workshop in Boeny, Madagascar.**

*Photo courtesy of Université d'Antananarivo, L. Rabeharisoa*

A number of CCAA-supported research projects, such as “Vulnerability and adaptation to climate change: Agricultural systems in Madagascar” and “Strengthening the capacity to adapt to climate change in rural Benin” have made bridges to policy development processes by having national or local decision-making bodies included in research activities. This has allowed these projects to plan research activities with a clear sense of the potential policy applications their work will serve. They also are better informed on the specific needs of these ministries and other bodies, and are better positioned to take advantage of policy openings their findings can feed into.

Other projects such as “Strengthening the capacity of smallholder farmers to adapt to climate change through radio drama” in Nigeria and “Adapting fishing policy to climate change with the aid of scientific and endogenous knowledge” in West Africa have developed good relationships with national or regional authorities and have established regular meetings to share learning.



## Planning for sustainable coastal livelihoods in Morocco

Morocco's rural north east coast is increasingly vulnerable to the effects of climate change – sea level rise, storm surges, and coastal flooding. An international research team is working in two neighbouring provinces to integrate a better understanding of climate change impacts within development plans and land use guidelines to meet the region's many competing needs.

While the southern Mediterranean draws tourists, the coastal landscape is changing. Development pressures are destroying wetlands that act as natural buffer zones against flooding and erosion. As climate change brings more severe and frequent storms and rising seas, the very assets that attract more tourists and investment are threatened.

Both a local action plan for integrated coastal zone management and a new national law on coastal zones are in the works. But to date, there has been little solid information on what climate change may bring, or how local communities might adapt.



**Inshore fishermen face an uncertain future as coastal dynamics change. IDRC/ M. O'Neill**



**Coastal erosion is destroying the foundation of this seaside home. IDRC/ M. O'Neill**

Researchers aim to fill that gap and widen participation in planning for a future marked by sea level rise and other climate change impacts. They are doing this in part by pooling their knowledge of climate data analysis, coastal dynamics, and social research to produce a range of possible scenarios that can inform planning choices.

Project leader Abdellatif Khattabi sees this as a first experiment in Morocco with undertaking coastal zone action planning with such a high degree of local and expert input. National and regional officials in environment, agriculture, education, health, tourism, forestry, water and land planning departments are actively involved, as are locally elected representatives and civil society groups.

*“Moroccan coastal management: Building capacity to adapt to climate change through sustainable policies and planning” is led by Morocco’s Ecole nationale forestière d’ingénieurs.*



Where policy-making bodies are not involved directly within project teams, their input and involvement has been sought in a variety of ways, including participation in stakeholder workshops, organizing meetings of local people under the patronage of local leaders, and using government information channels at local, district or national levels to disseminate information. A project studying “Adaptation to climate change in two rural communities on the plains and in the mountains of Morocco” is working with the national ministry of agriculture by organizing a joint workshop for the coming year on how to reform agricultural policies to reduce vulnerabilities to climate change. The results will be available to the Moroccan ministry of environment for inclusion in their Second National Communication to the United Nations Framework Convention on Climate Change.

While it is too early yet to point to specific policy impacts of supported research, the engagement process is clearly underway in a number of projects. In Madagascar, for example, research examining agricultural systems has engaged with national decision-makers on the country’s National Action Plan for Adaptation by creating a steering committee under the national committee’s authority. This link to policymakers

ensures research results on adaptation options and mapping of soil sensitivity to climate change will be relevant for refining the national adaptation plan.

In South Africa’s Western Cape, a project team is working with the Berg River Catchment Management Authority, a body that represents and mediates among all urban and rural water users. Through its involvement with this research project, the catchment authority has added climate change to its agenda and stands to benefit from the climate change scenarios being developed by the research team to plan cooperative and sustainable long term water management for the basin’s many competing water users.

To strengthen the capacity of research teams to better understand policy processes related to climate change in Africa, and how their research findings can be more accessible and relevant to policymakers, the CCAA hosted a training workshop on research to policy linkages in Nairobi in October 2007.



**The livelihoods of Western Cape fruit workers depend on careful management of dwindling water resources.**

*IDRC/ C. Van Rooyen*

## Linking climate change research to preventative health policy and planning

East Africa is experiencing outbreaks of malaria in highland areas that have little experience with the disease. Temperatures in the East African highlands have risen by half a degree Celsius in the last 50 years, mostly since the late 1970s. Even this small change is believed to be increasing the prevalence of malaria-carrying mosquitoes. Malaria is now considered endemic in some highland areas.

Working with health ministries in Tanzania, Uganda and Kenya, researchers are combining climate observation with medical research to better predict the likely onset of highland malaria outbreaks so local officials can better prepare for them.

After noting the surprising coincidence of outbreaks of malaria in Kenya's highland districts in 1997-98 and during other episodes of El Niño, researchers began working on tools that would help to correlate weather forecasting information with local health data. By 2001, the team had developed a correlation model that could warn of a



**Project leader, Dr. Andrew Githeko of the Kenya Medical Research Institute. Photo courtesy of KEMRI**

possible epidemic two to four months before it occurred. The challenge now is to improve the predictive strength of the tool and put it in the hands of local health officials.

"Our mission," says project leader Andrew Githeko, "is to develop and deploy an instrument that health system managers can use to reliably predict the onset of a malaria epidemic in areas not traditionally prone to the disease, and to manage it better."

Health officials collaborating in the research include Uganda's Ministry of Health, Tanzania's Institute of Medical Research, and the Malaria Control Division of Kenya's Ministry of Health.

*"Transferring the malaria epidemic prediction model to users in East Africa" (IDRC project 104707) is led by the Kenya Medical Research Institute.*



**Testing for malaria in Kakamega in the Kenyan highlands. Photo courtesy of KEMRI**



## Investing in research and capacity for adaptation: CCAA expenditures for 2007-2008

The CCAA program allocated a total of CA \$18,347,894 this year, of which CA \$14.5 million went to support 13 projects led by partner institutions. In addition, the program funded a range of training, knowledge sharing, and monitoring and evaluation activities to strengthen research partners' abilities to contribute to adaptive capacity in Africa.

Table 2 below shows the range of new projects led by partner institutions. Most entail participatory action research on climate vulnerabilities and adaptation options within a given regional or national context. Some projects however focus explicitly on capacity building, and will serve a role in strengthening the wider community of researchers, policymakers, and at-risk groups concerned with climate change adaptation in Africa. Among these are the African Climate Change Fellowship program; "Promoting participatory action research through structured learning on climate change adaptation in Africa"; and "Knowledge sharing for climate change adaptation in Africa."

Figure 1 shows the breakdown of total spending between support for PAR, capacity development activities, monitoring and evaluation activities, and activities aimed at working more directly with at-risk groups. Capacity development activities included both training workshops organized by the CCAA program team, and capacity strengthening projects led by partners, such as those listed in Table 2. While the majority of PAR activities are carried out with the participation of at-risk groups, the additional funding reflected in Figure 1 for this target group captures the Adaptation Stories initiative described above, and workshops carried out with representatives of vulnerable groups to explore how the program may better support research defined and led by these groups.

The program has aimed from its launch to have continental reach, and to address climate vulnerability across a range of priority sectors, including health, rural livelihoods, water management, coastal and urban vulnerabilities. Figure 2 shows the distribution of newly approved PAR projects by theme, while Figure 3 indicates the geographic distribution of PAR support for this year. A more cumulative picture of the reach of CCAA-supported PAR can be seen in the map provided in Figure 4. This does not capture activities that are continent-wide in their application, such as the Fellowship program and other capacity strengthening projects.

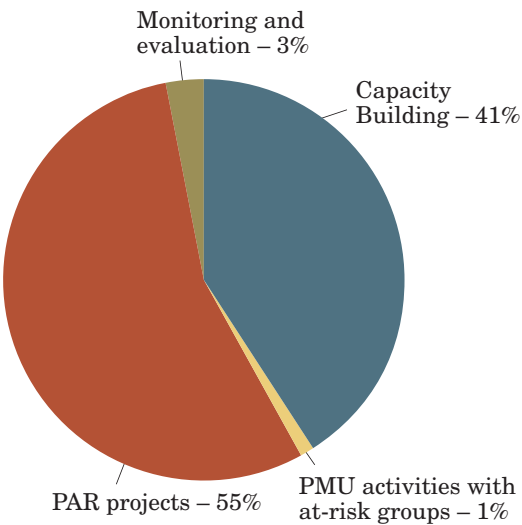


**Table 2: New projects approved from April 1, 2007 to March 31, 2008**

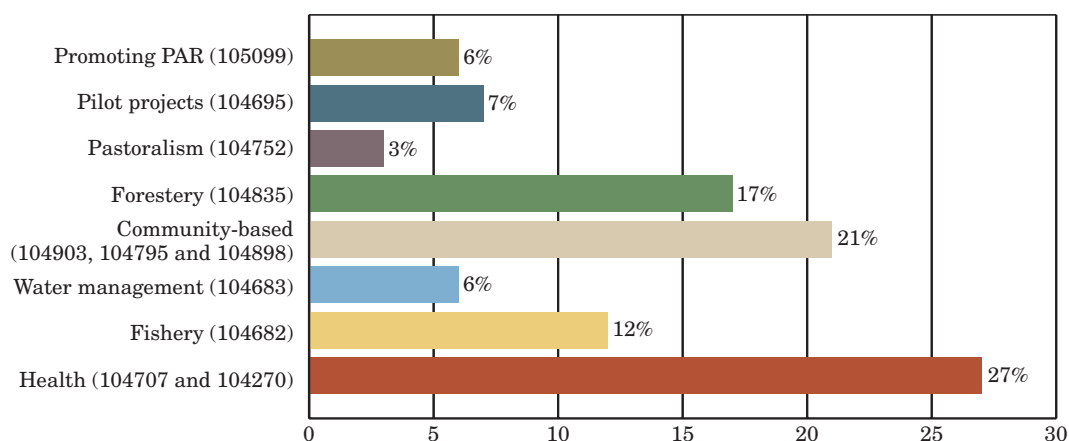
<b>Title</b>	<b>Funding (CA \$) and duration</b>	<b>Research Location</b>	<b>Lead institution</b>
Adapting fishing policy to climate change with the aid of scientific and endogenous knowledge	1,235,200 over 36 months	Cape Verde, Guinea, Gambia, Mauritania, Senegal, Guinea-Bissau	Environmental Development Action in the Third World (ENDA-TM)
InfoClim: Platform for helping vulnerable communities adapt to climate change	420,600 over 36 months	Senegal	Centre de suivi écologique
Altering the climate of poverty under climate change: The forests of Congo Basin	1,699,900 over 36 months	Central Africa	Center for International Forestry Research
Rural-urban cooperation on water management in the context of climate change in Burkina Faso	600,800 over 39 months	Burkina Faso	Institut de l'environnement et de recherches agricoles
Advancing capacity to support climate change adaptation: Five pilot projects	745,500 over 24 months	Burkina Faso, Ethiopia, Kenya, Cameroon, South Africa	United Nations Institute for Training and Research (UNITAR)
Transferring the malaria epidemic prediction model to users in East Africa	941,600 over 36 months	Kenya, Tanzania, Uganda	Kenya Medical Research Institute
Pastoralist livelihood security: Developing adaptive capacity with a focus on nomadic livelihood production under climate change	305,800 over 24 months	Kenya	Intermediate Technology Development Group
Community-based adaptation to climate change in Africa 104898	1,398,500 over 36 months	Sub-Saharan Africa	African Centre for Technology Studies
Water, health and climate change adaptation in Africa	1,765,229 over 42 months	West and North Africa Algeria, Ivory Coast, Guinea, Egypt, Morocco	IDRC administered fund Recipients to date include: <ul style="list-style-type: none"> <li>• Institut national de la recherche agronomique (Morocco)</li> <li>• Near East Foundation / Center for Development Services (Egypt)</li> <li>• Centre Suisse de recherches scientifiques en Côte d'Ivoire (Ivory Coast)</li> <li>• Centre d'études et de recherche en environnement, Université de Conakry (Guinea-Conakry)</li> </ul>
African Climate Change Fellowship Program	1,964,000 over 30 months	Sub-Saharan Africa	START (the global change SysTem for Analysis, Research and Training)
Integrating indigenous knowledge in climate risk management to support community based adaptation	315,000 over 24 months	East and Southern Africa	IGAD Climate Prediction and Application Centre (ICPAC)
Promoting participatory action research through structured learning on climate change adaptation in Africa	620,855 over 18 months	Sub-Saharan Africa	Center for International Forestry Research
Knowledge sharing for climate change adaptation in Africa	2,695,800 over 36 months	Sub-Saharan Africa	Institute of Development Studies



Figure 1: Allocations by component



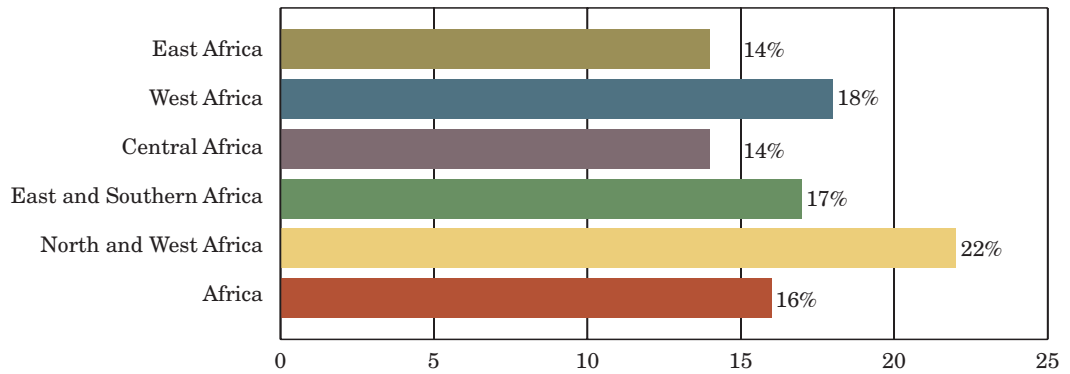
Component	Allocation (CA \$)	Percentage
Capacity building	7,556,535	41%
PMU activities with at-risk groups	168,500	1%
PAR projects	10,048,984	55%
Monitoring and evaluation	573,875	3%
Total	18,347,894	100%

**Figure 2: Distribution of PAR projects by theme, 2007-08****PAR projects 2007-08 by theme**

Theme (project number)	Allocation (CA \$)	Percentage
Health (104707 and 104270)	2,706,829	27%
Fishery (104682)	1,235,200	12%
Water management (104683)	600,800	6%
Community-based (104903, 104795 and 104898)	2,134,100	21%
Forestry (104835)	1,699,900	17%
Pastoralism (104752)	305,800	3%
Pilot projects (104695)	745,500	7%
Promoting PAR (105099)	620,855	6%
Total	10,048,984	100%

Note: Numbers in brackets indicate IDRC project numbers, searchable within Centre databases.

**Figure 3: Distribution of PAR project funding by region, 2007-08**

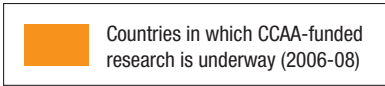


PAR projects 2007-08 by geographic region			
Region	Project numbers	Allocation (CA \$)	Percentage
East Africa	104707, 104903, 104752	1,562,400	16%
West Africa	104682, 104683, 104795	2,256,600	22%
Central Africa	104835	1,699,900	17%
East and Southern Africa	104898	1,398,500	14%
North and West Africa	104270	1,765,229	18%
Africa	105099, 104695	1,366,355	14%
Total		10,048,984	100%

Note: Numbers in brackets indicate IDRC project numbers, searchable within Centre databases.



**Figure 4: Map of Africa showing countries in which PAR projects have been funded, 2006-08**



Note: Excludes continent-wide activities, such as capacity building, conference support funding, and Fellowships program.



**Working with rural women in northern Nigeria to develop radio dramas on adaptation.**  
*Photo courtesy of Women Farmers Advancement Network (WOFAN)*

*The process of learning and applying lessons from programming experience was greatly helped this year by the involvement of program staff in compiling strategy and outcome journals based on observations of project and program activities. Analysis of these journals provided a means of identifying progress and gaps in relation to the program objectives and strategy. These observations feed into team planning discussions to improve program strategies.*

# Lessons learned

## Working with partners



**IDRC program officer Guy Jobbins and research team leader Dr Abdellatif Khattabi survey a study site on Morocco's northern coast.**  
*IDRC / M. O'Neill*

Through its three strands of activity – supporting PAR, education and training, and communication and networking – the program has established strong collaborative ties with and among African institutions key to improving the continent's adaptive capacity.

Even as it has worked to strengthen CCAA-supported research teams this year, the program engaged with a range of regional and international organizations actively addressing climate change adaptation in Africa. The program's relationships with these institutions, and the spaces it creates for shared learning and exchange, are helping to lay the groundwork for greater synergy among key actors.

## Working with partners to build capacity

As noted above, five training workshops were held this year to strengthen the knowledge of project proponents and their partners, even as first research projects were getting underway. Four of the five aimed to strengthen key methodological or project management skills among supported research teams; a fifth, in proposal development, aimed to help some of the more promising, yet unsuccessful proponent institutions identified in CCAA's first call for concept notes develop fundable research.

These workshops were evaluated by both participants and outside experts with the intent of providing constructive feedback to strengthen subsequent workshops. Among the key learnings this year on capacity building was the value of pre-planning. A preparatory workshop held in Nairobi in August 2007 that brought together trainers and IDRC staff proved invaluable in ensuring a common vision and understandings on the methods and aims of the workshops. It allowed for fine tuning of all aspects of the proposed workshops – especially presentation methods and workshop content – and gave trainers the opportunity to share creative and innovative ideas. This workshop was thus vital to the organization and success of subsequent training activities.

While the workshops were fairly well balanced between French and English language groups, some thought is being given to the value of continuing to bring francophone and anglophone groups together rather than holding these workshops separately, given the logistical challenges and geographic distribution of French and English speakers. Analysis of the workshop participation also shows there are improvements to be made in gender representation which will be addressed with project leaders in advance of future trainings.

A table summarizing the workshops held this year can be found on page 8.

## Strengthening collaboration among research teams

Building networks through inception workshops, capacity development training and stakeholder meetings has been a significant focus for the second year of the program. Interaction at workshops and training sessions encouraged sharing of knowledge and helped to build affinities. The workshops themselves have reinforced the value of participatory action research and project teams have been able to develop and improve on strategies to actively engage stakeholders in this collaborative environment. In some cases the program has seen attitudinal changes in researchers and a greater openness to more actively involving vulnerable groups in testing and learning.

Meetings organized by CCAA have helped forge links between IDRC and its partners as well as helping partners to understand the expectations of DFID and IDRC and integrate them into their research activities.

The idea of a community of practice linking researchers who have similar requirements for monitoring and evaluation has been embraced by partners. Given the complexity of the tasks related to coordinating such a community, and the aim of devolving CCAA activities to African institutions, it was recognized that a combination of virtual communication tools and face-to face activities are needed.



As noted in Section 2 above, networking on adaptation will be further strengthened through the continent-wide knowledge sharing network to be developed by IDS, FARA, ICPAC, and ENDA-TM. The intention is for network activities to be entirely run by the African organizations after the second year of the project.

In a number of projects, CCAA's objective of strengthening the capacity of African institutions to contribute to adaptation is addressed by pairing strong international and African partners in project implementation. This is the case for example with the knowledge sharing project cited above. The partnership taps into IDS' extensive international experience in research communication, capacity development, and coordinating adaptation-focused networks such as Linking Climate Adaptation and the Spider Network. FARA for its part has a continent-wide mandate to support agricultural research, and serves as an umbrella organization linking sub-regional bodies. ICPAC brings expertise in climate prediction and climate information dissemination, and is also working to improve understanding of climate-related information among at-risk groups. ENDA brings experience in a range of development initiatives working with vulnerable groups, and an ability to work within and beyond French West Africa.

Where proposals brought together North-South partnerships that had not worked together previously, it was necessary to underline CCAA's goal of seeing leadership by African institutions. Many initial concepts were turned down because they lacked strong or leading roles for African partners. Others were accepted for proposal development only after adjustments were made to the team composition to ensure strong roles for African partners and ensure long term sustainability of African action on adaptation.

In both the proposal development process and monitoring of supported projects, this question of building African capacity for leadership on adaptation research is continuously addressed.



**Participants at a 2007 proposal development workshop in Dakar on knowledge sharing for adaptation.**

*IDRC / A. Kaere*



## Strategic partnerships with regional and international organizations

Analysis of the evidence gathered in outcome and strategy journals confirmed that most CCAA engagement to date with policymakers has been through project teams. Approaches to more directly engage with policymakers were in development in early 2008 for follow up in the next fiscal year.

The program has however fostered relations in various ways with key regional and international organizations that can strengthen policy frameworks for adaptation in Africa. A joint CCAA and United Nations Economic Commission for Africa (UNECA) regional workshop, “Towards a regional strategy in

climate change adaptation: Sharing knowledge on climate risks and adaptation options,” held in Addis Ababa, Ethiopia in April 2007 was an important first step in this process. At that time CCAA staff also met with representatives of UNECA, the African Union and the African Development Bank collaborating in the ClimDev initiative (Climate Information for Development Needs: An Action Plan for Africa) to discuss knowledge sharing channels among existing African institutions.

The program also engages with other UN bodies addressing climate change adaptation in Africa. The program is collaborating with the United Nations Institute for Training and Research

(UNITAR) to support the Advancing Capacity to Support Climate Change Adaptation (ACCCA) initiative. The ACCCA experience in communicating risks from climate change and promoting concrete adaptation actions complements CCAA's objectives. The program's support for five pilot projects will see participatory action research added as a new dimension of ACCCA's research on adaptation.



**Abdoulie Janneh, Executive Secretary of UNECA, opens the joint CCAA-UNECA regional workshop, “Sharing Knowledge on Climate Risks and Adaptation Options,” April 2007.**

*IDRC / M. O'Neill*

## Good practice and innovation



**Nigerian farmer displays her harvest of groundnuts.**

*Photo courtesy of African Radio Drama Association (ARDA), M. Yule*

CCAA has acted as a catalyst for expansion of research on innovative practices in climate change adaptation largely through its support for capacity building. This year's workshops on gender analysis, project management, and climate risk assessment have served as opportunities for partners to define needs and as spaces for knowledge sharing.

Gatherings of scientific experts, stakeholders and policymakers across disciplines allowed them opportunities to explore how to involve communities in developing research agendas and consider innovative practices that could be applied in other communities.

Adaptation stories collected in West Africa helped vulnerable groups rethink certain environmental strategies and link these to climate adaptation. Filming these real life experiences will allow CCAA to share knowledge from at-risk communities more widely than through localized meetings or field schools.

A key area of innovation that the CCAA has helped to incubate is in helping African institutions apply participatory action research to climate change adaptation. This approach is still relatively new on the continent, and demands a fundamentally different relationship between researchers and research users such as affected communities, and decision-makers.

The proposal development process involves negotiation between partners and the program team, providing an excellent opportunity to give constructive input on proponents' practices and the orientation of research. In a number of cases, research teams had originally proposed extractive research, where vulnerable communities were studied rather than being fully involved, and where linkages to policymaking were planned for only after the research would be done. Interaction between program officers and the research teams allowed vulnerable groups to be included as actors of the research and for links to be made with policymakers from the outset.


IDRC is also supporting collaboration between CCAA and other Centre programs to address thematic areas that were under represented in the response to the first call for proposals. The CCAA program and IDRC's Ecohealth program, for example, are jointly supporting a research and capacity-building program to explore the interconnections between water, health, and climate change. Eight research teams from institutions in West and North Africa took part in a project proposal development process, involving training, support, and feedback from IDRC program staff. Four of these projects received funding this year.

The aim is to produce innovative and evidence-based strategies for coping with the impact of climate change on the health and livelihoods of the poor. The resulting research will touch on such issues as climate impacts on water-borne diseases; how changes in water access affect the vulnerability of populations; and how dams and other water-related adaptation strategies impact on the health of local people.

The initiative addresses thematic and geographic gaps in CCAA programming, increasing the number of projects in North Africa while diversifying research to address the important implications of climate change on health. Collaboration with the Ecohealth program has also increased the investment by IDRC in climate change adaptation research, and brought a new element to the work of Ecohealth research partners.

CCAA and IDRC's Urban Poverty and Environment program have also been exploring areas of mutual interest in addressing climate-related vulnerabilities and adaptation options in Africa's urban communities.

## Communications



**“Adaptation is...” research profiles show the climate change challenges facing African in plain language for media and policymakers.**  
IDRC / M. O'Neill

Communications are integral to the achievement of all of CCAA's objectives from capacity building of the most vulnerable communities to improving the understanding of scientific findings and increasing the impact of research on policy and planning.

### External communication

In the first year of programming for CCAA, developing information products about the program was a priority. This year, the focus has shifted to increasing visibility and public awareness of the research supported by the program, while deepening public understanding of the climate change challenges Africa faces, what adaptation means, and why it is imperative for the continent.

The CCAA web site developed in the first year has been the primary means of disseminating information about the program and supported projects. It provides an overview of the program's aims, origins, activities, and news, as well as hosting downloadable program resources. Web statistics indicate 290,778 page views by 13,717 site visitors for the year, more than double the web traffic in the program's first year. All information is available in English and French, with core program information available in Arabic.

To expand the reach of the web site, an electronic bulletin entitled "Adaptation Africa" was launched, now reaching more than 1200 individuals. Three editions of the bulletin have been sent, each time resulting in immediate substantial increases in visits to the web site and contributing to the steady overall increase in visitors to the site.

The web and related bulletin increasingly highlight supported research, with available partner web sites linked to the CCAA site to give wider access to their documented progress.

This year, the program launched a series of short and accessible project profiles, entitled "Adaptation is...". In keeping with the CCAA focus on building African capacity, these profiles were written by locally based writers. The profiles were designed in a media-friendly format, using a story-based approach that highlights both human impacts and hard evidence that journalists need when covering issues.

Initial feedback on these profiles indicated they are also useful for African policymakers interested in how the adaptation challenges they face are being addressed in other areas. Additional profiles planned for 2008-09 will build on these research-to-policy connections.

CCAA led the IDRC presence at the 13<sup>th</sup> Conference of the Parties to UN Framework Convention on Climate Change in Bali, Indonesia in December 2007. The event was an important opportunity to share information

about the program with key international players in the climate change arena, including international research consortia, donors, and multilateral development agencies that influence decisions on adaptation in Africa. CCAA co-hosted a side event, "Adapting to climate change in Africa: Toward regional solutions" with several key African partners, and a half-day dialogue featuring adaptation experiences from rural Africa, through the eyes of farmers, action researchers, and rural representatives.



**CCAA Leader Fatima Denton and Youba Sokona, Executive Secretary of the Sahara-Sahel Observatory, lead a panel discussion at COP 13, Bali, December 2007**

*IDRC / M. O'Neill*



At the 19<sup>th</sup> International Society of Environmental Epidemiology held in Mexico City in September 2007, CCAA and IDRC's Ecohealth program co-hosted two symposiums, a poster-driven seminar and a pre-conference workshop exploring the connections between climate change and health in developing countries.

Both program and project activities were the subject of media coverage over the year. National media coverage of projects in South Africa and Benin offered wide dissemination of information about adaptation to climate change to stakeholders in those regions. Inception meetings were the focus of media coverage for several projects.

## Internal communications

Given the distances between offices and the degree of collaboration needed, teleconferences and email remain critical means of internal communication for the programming team.

Face to face discussion has been indispensable to forward planning and reflections on progress. In 2007-08, the team once again held two staff retreats to reinforce team cohesion and planning. This will scale back to one team meeting in the next year.

Progress journals used to gather and consolidate information on project and program activities also served as a means to share programming information within the team, in addition to being the backbone of our monitoring and evaluation process.



**Team retreats are vital to reconnect CCAA team members who work at great distances from one another. Here, Nathalie Beaulieu, Innocent Butare, Victor Orindi, and Marie-Jeanne Diouf rehearse an adaptation song with other IDRC colleagues.**

*IDRC / K. Benessaiah*



**Addressing the vulnerabilities of urban Africa will be among CCAA's priorities for 2008-09.**  
IDRC / J. Gerard

*As CCAA's second year of programming concludes with 23 research projects underway across the continent, significant new capacities are being developed and applied on the ground. As experience with participatory action research deepens, supported research teams are actively involving affected communities and African decision-makers in exploring ways to adapt to climate change.*

## Looking ahead

With a call for applications expected in fall 2008, the African Climate Change Fellowships program will draw upon the wider pool of skills and talents of mid-career African professionals and academics to contribute further to the field of adaptation.

Projects launched in the first year of the program have established baselines, involved stakeholders in planning research, and begun active enquiry to pinpoint vulnerabilities and identify options for adapting to climate change. Research currently addresses a broad range of climate-sensitive areas most at risk in Africa: commercial and small holder farming systems; water resources; pastoralism; vector- and water-borne disease; coastal zones; and fisheries. In the next year, research on urban vulnerabilities to climate change will be added to this portfolio.

From the launch of the CCAA program, IDRC and DFID have envisioned a program of action research that would inform policies to strengthen adaptation, and this remains a key priority. With preliminary findings beginning to emerge from supported research, increasing resources will be devoted to translating findings into practical forms that can be widely accessed and used.

A photograph of a man in a white tunic and blue cap, smiling while driving a horse-drawn wooden cart. The horse is brown and white, and the cart is made of wood with large wheels. The background is a blurred field with trees and a building.

**CCAA Annual Report 2007–2008**

# **Annexes**



# Annex 1: Logical framework

Progress against outcome areas for April 1, 2007 to March 31, 2008

<b>Programme Goal:</b> The poor across Africa are resilient to climate volatility and change.		
<b>Objectively verifiable indicators (OVIs)</b>	<b>Progress observed</b>	<b>Risks and assumptions</b>
Indices of the vulnerability of the poor to climate related stressors are minimized.		
<b>Programme Purpose:</b> Significantly improve the pro-poor adaptive capacity of African societies.		
<b>Objectively verifiable indicators (OVIs)</b>	<b>Progress observed</b>	<b>Risks and assumptions</b>
The poorest people and communities gain effective adaptation strategies.		<ul style="list-style-type: none"> <li>• Strategies are able to deal with the full extent of climate related stressors.</li> <li>• Reaction times are adequate.</li> <li>• The poor can find ways to access these processes.</li> </ul>
<b>Outcome Area 1: Research Institutions are better able to assess climate-related vulnerabilities and to evaluate and develop adaptation options.</b>		
<b>Objectively verifiable indicators (OVIs)</b>	<b>Progress observed</b>	<b>Risks and assumptions</b>
1.1 African researchers do assess vulnerability to impacts of climate volatility and change.  1.2 African researchers do develop options for enhancing adaptive capacity.  1.3 African researchers do engage with the poor, their ideas are taken up, and they consider concerns and needs of others.	1.1.1 The program provided first project partners with training in climate vulnerability assessment. Many teams have integrated vulnerability assessment into their project focus and have conducted vulnerability surveys.  1.2.1 Many projects have conducted field surveys and literature reviews to identify promising adaptation options.  1.3.1 Project teams carried out field surveys with stakeholders and baseline studies engaged poor farmers in research planning in several countries (Tanzania and Malawi project 104141, Benin project 104142)	Functional linkages and coordination between organizations are established.





Outcome Area 2: At risk groups, policy makers, and researchers share learning and expertise on climate vulnerability and poverty.		
Objectively verifiable indicators (OVIs)	Progress observed	Risks and assumptions
<p>2.1 Climate-related and other information on vulnerability is used by diverse groups (CBOs, NGOs, planners, policymakers, researchers) to support adaptation that benefits the poor.</p> <p>2.2 Governments, regional authorities, development sectors, and vulnerable sectors of society communicate vulnerability issues in ways that enhance capacity for effective collaboration on adaptation.</p> <p>2.3 Local end-users are able to use climate forecasts and other assessment results in planning their adaptation.</p> <p>2.4 Experiments in adaptation take place whereby researchers, the poor, decision makers, and others are active participants.</p>	<p>2.1.1 and 2.4.1 Most projects have held inception workshops involving key stakeholders including decisions makers and representatives of at-risk groups, to share research objectives and discuss needs of policy makers and at-risk groups.</p> <p>2.1.2 Some projects are developing pre-alert systems to inform farmers and other at-risk groups of short term weather threats. Many projects are working with climate change models and scenarios to develop adaptation strategies.</p> <p>2.2.1 and 2.4.2 Many projects have developed websites to share information. Several used media coverage for wider dissemination of issues facing communities.</p> <p>2.2.2 Many teams have created or are building on multi-stakeholder groups such as municipal or national committees (eg. projects 104142 and 104143 in Benin and Madagascar), and river basin authorities (project 104150 in South Africa) in the context of their participatory action research. These are spaces that allow policymakers, at-risk groups and researchers to share concerns about vulnerability.</p> <p>2.3.1 A project team is fine tuning malaria prediction in East Africa's highlands using health data and measurements of temperature and precipitation to enable health workers to prepare for possible outbreaks. (Project 104707)</p> <p>2.4.1 Benin farmers and meteorologists in project 104142 have set up early weather warning committees in 35 communes to allow farmers to adjust planting to changeable rainy seasons</p> <p>2.4.2 A project in eastern Africa (104903) is combining traditional indigenous seasonal weather forecasting methods with Western scientific climate forecasts to make more accurate predications that can be used locally.</p>	<p>Political development agendas take on board constraints presented by climate volatility and change and the need for pro-poor adaptation.</p>



Outcome Area 3: The poor in rural and urban environments apply their experience of adaptation with the knowledge and technologies generated by research to implement improved and effective adaptation strategies.		
Objectively verifiable indicators (OVIs)	Progress observed	Risks and assumptions
3.1 Tested adaptation options are taken up by the poorest. 3.2 Cases of increased resilience to climate volatility by the poor are documented. 3.3 Adaptive learning and adaptive management processes are put in place.	3.1 Evidence not yet available 3.2 Evidence not yet available. 3.3 Evidence not yet available.	The severity of the plight of the poor does not preclude their joining collective action on climate adaptation.
Outcome Area 4: Policy processes are informed by good quality science-based work on vulnerability and adaptation, and by experiences of the rural and urban poor.		
Objectively verifiable indicators (OVIs)	Progress observed	Risks and assumptions
4.1 African researchers carry out research activities in support of adaptation projects and programs such as the National Adaptation Programs of Action (NAPAs). 4.2 African researchers feed the results of their research into the policy-making process. 4.3 All stakeholders understand better how policy affects adaptive capacity.	4.1.1 In Madagascar (104143), Tanzania and Malawi (104141) project teams have included NAPA members in steering committees or made linkages to the national committees to ensure their research is used in national planning  4.2.1 A number of project teams include representatives from national ministries or other decision making bodies. Policy makers have also taken part in workshops held by research teams or the program management unit. Some teams have developed partnerships with decision making bodies to provide them with results of models or meteorological data (eg. South Africa (104150) with the Berg River catchment management agency, or Benin (104142) with the authorities of 35 municipalities.  4.2.2 and 4.3.1 Project teams received training on making linkages between research and policy at workshops held in Johannesburg in October 2008.	The wider political environment is conducive to inclusive policy-making processes.

# Annex 2:

## Financial summary 2007-2008

Budget vs actual allocations  
April 1, 2007 to March 31, 2008

	2007-08				2008-09 Budget	2009-10 Budget	2010-11 Budget	TOTAL
	2006-07 Actuals	Budget	Actual Allocations	Variance				
Operations:								
PMU Staff	\$627,041	\$1,041,672	\$1,013,671	\$28,001				
Technical Support	160,675	293,563	171,256	122,307				
Advisory Board	57,072	50,000	57,734	-7,734				
Other	734,691	828,257	811,433	16,824				
Dissemination/ Communications	0 <sup>1</sup>	90,000	90,835	-835				
	1,579,479	2,303,492	2,144,928	158,564	2,209,276	2,275,554	2,343,821	10,553,057
Programming:								
Expert Network	225,000	1,000,000	0 <sup>2</sup>	1,000,000				
Monitoring and Evaluation	0	2,000,000	573,875	1,426,125				
Research and Capacity Development	10,206,804	16,000,000	17,774,019	-1,774,019				
	10,431,804	19,000,000	18,347,894	652,106	13,175,340	5,500,000	1,762,101	49,217,139
TOTAL (CAD)	\$12,011,283	\$21,303,492	\$20,492,822	\$810,670	\$15,384,616	\$7,775,554	\$4,105,922	\$59,770,196

Note 1: Expenditure on disseminations/ communications for 2006-07 was reported under Other.  
Note 2: Expenditure for technical expertise was captured this year in Operations and under Research and Capacity Development.

