

CLIMATE CHANGE ADAPTATION

NEW KNOWLEDGE FOR AN UNCERTAIN FUTURE

Long before the term “global warming” appeared in headlines, Canada’s International Development Research Centre (IDRC) was supporting research on climate change.

We recognized, early on, that a warming climate threatens not just the physical environment, but human development too. The people bearing the heaviest burdens from climate-related impacts — for example, desertification, erosion, and rising sea levels — have often been the poor and the marginalized.

While the causes of climate change are well understood, relatively little research has been done on how to respond to it. We need to know what strategies will best protect vulnerable people, their communities, and their livelihoods from these environmental crises. And when these calamities do occur, we need the right kind of knowledge to help people cope.

For years, IDRC has supported research and strengthened local institutions so that the world can better prepare for an uncertain future. Here are some examples of our current efforts to help developing countries adapt to climate change.

EFFECTIVE STRATEGIES, LASTING SOLUTIONS

In Africa, widespread poverty, fragile ecosystems, weak institutions, and other issues compound the effects of climate change. For millions of people, food and water security, livelihoods, shelter, and health are all at risk.

In 2006, IDRC partnered with the United Kingdom’s Department for International Development to launch an ambitious six-year research program called Climate Change Adaptation in Africa (CCAA). As of 2011, this groundbreaking effort had funded 46 projects in 33 countries across the continent.

The initiative has sought to build a broad base of African expertise on climate adaptation. It has helped make the continent less vulnerable to the changes that are already underway — by involving communities directly, by informing policy with high-quality research, and by strengthening African scientists, decision-makers, and organizations in their work on adaptation.

The program links scientists and vulnerable communities in a form of learning-by-doing that is called “action research.” This approach

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UNIVERSITY OF ZIMBABWE: P. MAPFUMO

A farmer in Zimbabwe’s Hwedza district displays a bumper crop of drought-tolerant red sorghum.

BUILDING ON SUCCESS

IDRC’s five-year Climate Change and Water (CCW) program draws on the Centre’s decades of experience in water management research. This effort aims to help people adapt to challenges such as flooding, water-borne diseases, and water scarcity. It also explores the role of innovation, for instance, how information and communication technologies can support climate change adaptation.

While this program is global in scope, its work in Africa is focused on the new African Adaptation Research Centres (AARC) initiative. This effort builds directly on the lessons learned from the CCAA. With funding from the Canadian government, IDRC supports at least six African universities and research centres that study climate change adaptation.

The goal is to increase the ability of these institutions to deliver timely

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About Canada’s International Development Research Centre

IDRC supports research in developing countries to promote growth and development. The result is innovative, lasting local solutions that aim to bring choice and change to those who need it most.

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EFFECTIVE STRATEGIES *(continued)*

allows all parties to test indigenous knowledge — what people already know and rely on — alongside new ideas, and then to transfer skills to those who will use them over the long term. The result: effective strategies and lasting solutions.

Research completed so far has addressed the continent's most pressing adaptation priorities. These relate to agriculture and rural livelihoods, water, health, and urban and coastal adaptation.

Results have been documented on topics such as fishing policies in West Africa, poverty in the Congo basin forests, risk management and traditional weather forecasting in Kenya, water demand and supply in South Africa's Western Cape, smallholder agriculture in Zimbabwe, coastline management in Morocco, and malaria prediction in the East Africa highlands.

Already the program has helped Africans create better informed, more effective policies and plans to confront the threats from climate change. These achievements have inspired new IDRC-supported research initiatives, in Africa, Canada, and elsewhere.

As the program wraps up, it focuses on sharing these results and on putting the findings to practical use, by decision-makers and scientists, and by Africans in their local communities. It will also transfer leadership of some activities to strong African institutions that will continue the work.

For more information about the CCAA program, visit its website at www.idrc.ca/ccaa.

BUILDING ON SUCCESS *(continued)*

scientific advice and assessments, and thus help ensure that policy decisions are well informed and that adaptation investments are well targeted. The funding aims to create a solid base of scientific evidence about adaptation (including rigorous economic analysis) and to strengthen these centres so they can engage more effectively with African governments.

The program seeks to ensure, for example, that promising developing-country researchers and students will choose to remain in their home territories, and that African scientists working abroad will return to the continent and will be able to conduct rigorous investigations.

Some likely lines of study are the links between climate change impacts and: water resources management, agriculture and food security, transboundary resource management, and urban vulnerability.

Among other objectives, the program expects to boost the capacity of African research institutions to monitor and evaluate adaptation projects, to adopt a transdisciplinary approach in their investigations, and to contribute toward developing and implementing National Adaptation Programs of Action in their home countries.

For more information, visit the Climate Change and Water website at www.idrc.ca/ccw.

STAYING ON THE CASE

Climate change is already a reality, and IDRC will keep looking for ways to deal with it. In addition to managing these partnership initiatives, we continue to support research on adaptation as part of our overall work. To learn more, visit www.idrc.ca and check out these programs:

- [Ecosystems and Human Health](#)
- [Agriculture and Food Security](#), including the [Canadian International Food Security Research Fund](#)
- [Environmental Economics](#)
- [Connectivity and Equity in the Americas](#)



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ALLIANCE FOR LEARNING

We also support the [International Research Initiative on Adaptation to Climate Change \(IRIACC\)](#), a unique collaboration of Canadian researchers and counterparts in developing countries. These scientists work together in interdisciplinary teams — alongside a wide range of partner agencies — to tackle five urgent adaptation issues in Africa, Asia, and the Americas, including Canada. The topics under investigation are:

- The relationship among the allocation of water resources, climate variability, and health risks — such as vector-borne disease — both in West Africa and in Canada.
- The dilemma of coastal river-delta megacities — specifically Bangkok, Lagos, Manila, and Vancouver — that must address climate change impacts such as rising sea levels.
- The vulnerability of agricultural and indigenous communities to extreme climate events, in Argentina, Brazil, Chile, Colombia, and Canada.
- The use of scientific and indigenous knowledge to empower indigenous populations — Uganda's Pygmy, Peru's Shipibo and Shawi populations, and Canada's Inuit — to adapt to the health-related effects of climate change.
- The effects of sea-level rise, coastal erosion, and storms in low-lying small-island countries of the Caribbean and in coastal communities of Atlantic Canada.

The initiative involves another kind of unique partnership: it is being managed by IDRC and funded jointly by IDRC and Canada's three main research funding agencies. Known as the Tri-Councils, these are the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council.

For more information about IRIACC, visit the IDRC website at www.idrc.ca, or contact iriacc@idrc.ca.