IDRC ON

CLIMATE CHANGE ADAPTATION

SEEKING KNOWLEDGE, BUILDING CAPACITY

IDRC was funding research on human adaptation to climate change and variability long before the term "global warming" began to dominate the world's headlines.

This is because climate change is not just an environmental problem: it also threatens development. The most vulnerable populations are those with few resources to cope with climate change impacts such as desertification, soil erosion, and sea-level rise, or extreme weather events like floods and drought. IDRC's response has been to help developing countries adapt by supporting research and strengthening local institutions so they can better prepare for an uncertain future.

In doing so, the Centre works in partnership with other agencies and governments. In 2006, for example, IDRC and the United Kingdom's Department for International Development (DFID) jointly launched the Climate Change Adaptation in Africa program. IDRC is currently discussing the development of an international research partnership on climate change adaptation with other Canadian research funding organizations.

This brochure describes a small sample of the many initiatives on climate change adaptation that IDRC supports.

Maureen O'Neil
President, IDRC

COUNTERING WATER SCARCITY

By 2050, per capita availability of water is predicted to fall by 50% in the already parched Middle East and North Africa. Addressing this challenge is difficult but possible. Among the most promising tools is water demand management reform.

The Regional Water Demand Initiative for the Middle East and North Africa (WaDI*mena*) works to promote that reform. It does so by supporting water demand management research, for instance, on ways of using treated grey-water to irrigate crops. Supported by IDRC, the Canadian International Development Agency, and the International Fund for Agricultural Development, WaDI*mena* also fosters regional exchanges and hosts policy forums.

www.idrc.ca/wadimena

IDRC: P. Jackson

TUNING IN TO CLIMATE CHANGE ADAPTATION

Smallholder farmers — most of whom are women — will be among the most seriously affected by climate change in Africa. Knowledge of expected climate impacts, and of strategies for adapting, may be vital to their survival.

But how can these farmers obtain such crucial information? In Nigeria, the African Radio Drama Association (ARDA) is testing the effectiveness of radio to inform smallholder farmers. With input from the farmers ARDA is producing a 26-episode radio drama that will help smallholder farmers adapt their farming methods.

This project is one of the first 10 supported by the CA$65 million Climate Change Adaptation in Africa (CCAA) program. This IDRC–DFID collaboration will fund research and strengthen institutions across the continent and address a variety of adaptation challenges — protecting food security and rural

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Canada's International Development Research Centre (IDRC) is one of the world's leading institutions in the generation and application of new knowledge to meet the challenges of international development. For more than 35 years, IDRC has worked in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.

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livelihoods, and managing shared water resources. Given the importance of rain-fed agriculture to African economies and to food security, a number of the first projects seek to increase the resilience of agricultural systems.

CCAA and IDRC's Ecosystem Approaches to Human Health program are also funding research in West and North Africa on how climatic change, particularly its effects on water quantity and quality, affects people's health, and on how health — good and bad — improves or reduces the capacity to adapt to climate change. Research proposals have been invited from eight research teams.

www.idrc.ca/ccaa

CLEANER LANDFILLS FOR CLEANER AIR

Garbage. It's more than an eyesore, a health hazard, an environmental pollutant. It also contributes to climate change. Decomposing wastes release methane, a greenhouse gas, and incineration produces carbon dioxide.

The problem is acute in the developing world. Every day in Latin America and the Caribbean, for instance, an estimated 369 000 tonnes of solid wastes are produced, less than 25% of which are deposited in sanitary landfills. Little more than 2% are formally recovered for recycling.

In 2004, IDRC and the Italian Ministry for Environment, Land and Sea joined forces to support much-needed research and training for municipalities on integrated solid waste management (ISWM), a tool to determine the most energy-efficient, least-polluting ways to deal with the various components of a community's solid waste.

Carried out in partnership by the Brazilian Institute of Municipal Administration and the Inter-American Association of Sanitary and Environmental Engineering, this project has led to a clearer picture of the situation, guidelines for solid waste management, and ISWM plans and greenhouse gas emission reduction strategies for seven cities in six countries. A network of municipal technicians was created, and a manual on ISWM was published (www.ibam.org.br/publique/media/rs_esp.pdf). An electronic clearinghouse to strengthen ISWM capacities in the region will be launched in early 2008.

View the video at www.idrc.ca/ev_en.php?ID=117019_201&ID2=DO_TOPIC

INCREASING RESILIENCE TO CALAMITIES

The 2007 monsoon season once again proved deadly for India. Heavy rains and flooding affected some 57 million people: more than 3 300 were killed. In Nepal, torrential rains and landslides devastated thousands of hectares of farmland and displaced 26 000 families.

Finding ways of reducing the vulnerability of communities in coastal zones and on flood plains in Nepal and India is the thrust of collaborative research being carried out by six institutions in three countries (India, Nepal, and the USA) with IDRC support. Led by the Institute for Social and Environmental Transition – Nepal (ISET – Nepal), it builds on earlier ISET research that showed how the flow of goods, services, and funds to affected areas helped populations adapt.

Working with communities, researchers are developing practical interventions based on income diversification, natural resource management, and a variety of communication systems, from street hawkers to early warning systems. The resulting action plan will be shared with national policymakers and others working to prevent and mitigate the havoc wreaked by natural disasters.

www.i-s-e-t.org/

WEATHERING UNCERTAINTY

Farmers and resource managers have always had to adapt quickly to uncertain climate, fluctuating market conditions, and a host of other factors. Their coping abilities will be even more sorely tested as climate change exacerbates shocks and stresses.

The capacity of communities to adapt can be improved if they have access to economic and physical resources, as well as to technology, information, infrastructure, and institutions. Public policies can help provide these resources. But what happens if the policies themselves have difficulty adapting?

Researchers from the International Institute for Sustainable Development, based in Winnipeg, Canada, and the Energy and Resources Institute of India, note that public policies, designed for a range of conditions, often face challenges outside that range. As a result, they can have unintended impacts or fall short of their goals. For instance, India's agricultural price supports have ensured that farmers get a fair price for their crop, but in some areas they have also locked farmers into irrigation-intensive cropping patterns that deplete already limited groundwater supplies.

After analyzing several agricultural and natural resource public policies in India and in Western Canada, the researchers developed a conceptual framework for adaptive policies, which they are testing with communities and policymakers. The goal: to assemble a "tool box" of approaches for formulating water and agricultural policies that increase people's capacity to adapt to climate change.

www.iisd.org/climate/vulnerability/policy.asp

IDRC: S. Colvey