

BUILDING ADAPTIVE CAPACITY:

Lessons from Canadian development organizations on climate change adaptation



Canadian Coalition on
**Climate Change
& Development**

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The impacts of climate change present a serious threat to the lives and livelihoods of millions of people in developing countries. The fact that the poorest and most socially marginalized women and men are the most vulnerable to climate change demonstrates the critical linkages between poverty reduction, social justice and climate change adaptation. As these case studies illustrate, Canadian development organizations are working with their partners in developing countries to better understand these linkages and to support actions by communities that address both the causes of poverty and the negative impacts of current and future climate variability and change.

Vulnerability to climate change is reduced with increased adaptive capacity. The Intergovernmental Panel on Climate Change (IPCC) defines adaptive capacity as “the ability or potential of a system to respond successfully to climate variability and change, and includes adjustments in both behaviour and in resources and technologies.”¹ For the majority of organizations engaged in the Canadian Coalition on Climate Change and Development (C4D), the systems of interest are communities. Consequently, these organizations are increasingly focused on helping to build adaptive capacity in the communities where they work.

Adaptive capacity at the local level integrates a number of critical dimensions.² The resource base upon which communities rely for livelihoods and food security determines the range of adaptive options available to people. This resource base includes physical, natural, social, political and human resources. A system with high adaptive capacity enables equitable access to and control over these resources across different gender, ethnic, social and economic divisions. It also facilitates equitable participation and influence in important institutions and decision-making processes, including by the poorest and most vulnerable people. This in turn must be supported by governance structures that are responsive, transparent, flexible and forward-looking.

Access to information is critical for informed adaptation decision-making at the local level. This includes climate information, as well as information about markets or availability of different seed varieties, for example. To act on this information, communities require knowledge of

appropriate adaptation options and their relative costs and benefits in light of different climate scenarios. Skills to analyze information and use it for decision-making are essential for adaptation planning and prioritization of actions. The ability to innovate enables communities to respond to an increasingly dynamic context. All of these dimensions at the local level are influenced by decisions, policies and institutions at higher levels, which can enable or constrain appropriate action at community level. They are also influenced by social dynamics, which can limit the adaptive capacity of particular groups within communities based on gender, ethnicity or other issues that result in social or economic marginalization.



Noor Jelle, a farmer in Fafi District, Garissa County, Kenya (CARE).

1 Intergovernmental Panel on Climate Change (IPCC), 2007. *IPCC Fourth Assessment Report: Impacts, Adaptation and Vulnerability, Working Group 2, Chapter 17.*

2 Africa Climate Change Resilience Alliance (ACCRA), 2011. *The ACCRA Local Adaptive Capacity Framework.* Retrieved from <http://community.eldis.org/.59d669a8/Research.html>



Janika Kumari of the Dudoli Riverbank Conservation Committee, East Central Nepal (USC)

Natural resources such as land, soil, water and forests are sensitive to the impacts of climate change and essential for community adaptation. Sustainable resource management in support of healthy, resilient and biodiverse ecosystems is a fundamental foundation of adaptation efforts, particularly in communities reliant on agriculture, pastoralism and fisheries. Efforts to protect and preserve natural resources, such as the riverbank rehabilitation efforts described in the Nepal case study by USC, can make a significant difference in building ecosystem resilience as well as expanding the range of livelihood options available to people. To be effective and sustainable, community-level natural resource management efforts must be backed by effective and participatory land use planning processes and appropriate regulation.

In many cases, communities are already strongly aware of the changes that are taking place in their local environments. They report changes in rainfall patterns, shifts in the timing of seasons, and changes in other environmental indicators, such as the appearance or disappearance of particular plants, pests and wildlife. Often, they have identified strategies to manage these changes, yet the effectiveness may be limited by a lack of information, resources or appropriate supports. In order for communities to engage in effective adaptation, local knowledge must be complemented with scientific knowledge. Processes such as CARE's Participatory Scenario Planning (PSP) approach enable communities and other actors to collectively analyze and evaluate available information, in this case seasonal forecasts, in order to systematically assess risks and prioritize different adaptation options. These types of processes are essential, not only to facilitate adaptation planning, but also to build the capacity of local actors to analyze information, evaluate risks and make appropriate decisions to respond.

Indigenous knowledge is not only important in understanding climate change and its impacts on the environment and livelihoods. As demonstrated in the CFTC case study from Ghana, indigenous knowledge can also provide evidence and practices for managing climate change risks. In this example, local seed varieties and agricultural practices were determined to be more resilient to climate variability than the 'improved' varieties promoted by the government and other actors. This highlights the importance of valuing and applying indigenous knowledge in adaptation processes, while complementing it with scientific knowledge to enable innovation and adaptive management of livelihoods.

Each of the case studies highlights the important roles played by different actors at the local level, including community leaders, service providers, farmers' groups and civil society organizations, in supporting community adaptation efforts. These institutions link communities to information and knowledge from external sources. They provide critical services like credit and insurance, as in the World Vision case study. They mobilize communities to take collective action and bring local needs and priorities to the attention of decision-makers at higher levels. Strong, equitable and responsive institutions are essential in enabling community adaptation, and thus institutional strengthening is a key element of supporting local-level adaptive capacity.

The issues highlighted here are not new for organizations working with local communities. However, climate change provides an even stronger imperative to address these challenges. The critical implications of climate change for the lives of poor people demand that development actors must actively and systematically address climate risks across sectors and regions, and support communities to build their adaptive capacity. This requires new approaches, additional resources and new partnerships. Yet, as the case studies demonstrate, such actions can truly make a difference for communities.



Kids at the new rehabilitated area in Phapherbari, Mwanakapur, East Central Nepal (USC)

C4D's Adaptation Learning Program Case Studies

C4D has developed two sets of case studies on climate change impacts and adaptation solutions in response to the learning priorities identified by our members. Drawing directly from the experience of Canadian NGOs and their partners in the global South, these case studies highlight solutions that communities are employing to adapt and reduce vulnerability at the local and national levels. All of the case studies are available on the C4D website: www.c4d.ca

2013 Case Studies

CARE International

The Adaptation Learning Programme (ALP), implemented in Africa by CARE International, is supporting communities and local governments to use seasonal climate forecasts and information on climatic uncertainty for decision-making, as part of the community-based adaptation (CBA) approach. Participatory Scenario Planning (PSP) is a key component of the ALP CBA approach, providing a multi-stakeholder learning platform that is integrated into development planning and adaptation processes. Seasonal PSP processes facilitate flexible, weather-based planning using forecasts and thus enable different actors to adapt to seasonal variability, while at the same time building evidence and capacity for longer term adaptation planning.



World Vision Canada

Smallholder farmers are becoming increasingly vulnerable to extreme weather patterns but they have fewer resources, including affordable credit, for adaptation. At the same time, micro-finance institutions (MFIs) are often reluctant to provide loans to smallholder farmers as their default rate is generally high due to weather-related crop losses. In cooperation with its partners in the field, World Vision has developed a weather index insurance policy that is bundled with credit products. This insurance protects farmers from unpredictable weather-related events, provides credit to invest in improved technologies, and enables financial institutions to offer loans in higher-risk areas.

World Vision



USC Canada

In East Central Nepal, local NGO Parivartan Nepal, local farmers and USC have been rehabilitating riverbanks to reduce risks associated with landslides and flash floods. A combination of steep terrain and increasingly variable rainfall make this region prone to these events, which cause destruction of crops, damage to infrastructure and displacement of families. Through a process of community mobilization, a range of sustainable land management actions have been put in place, resulting in stabilized riverbanks as well as improvements in soil fertility, biodiversity and watershed management.



Mennonite Central Committee



Mennonite Central Committee

The hilly, arid region of Amhara, Ethiopia, north of Addis Ababa, has faced recurrent droughts, floods, heavy rains and strong winds, which have led to chronic food insecurity, land degradation, soil erosion and loss of biodiversity. Climate change is increasing the frequency, intensity and unpredictability of these climate-related hazards in the Amhara region. In 2012, Migibare Senay Children and Family Support Organization (MSCFSO) completed a four-year project to rehabilitate the Dejel watershed in the East Gojjam zone of the Amhara region. The project, supported by Mennonite Central Committee (MCC), was designed to increase soil and water conservation, restore biodiversity and increase food security in the watershed. In exchange for working to improve the land, the area's poorest residents received payment in cash and in-kind assets, such as farm animals. As a result, these farmers are less vulnerable to climate-related shocks and stresses and have improved food security.

Canadian Feed The Children Canada

Smallholder farmers and elders of rural communities possess the knowledge and skills that can enhance farmer productivity and mitigate the negative impacts of climate change on rural agricultural systems and livelihoods. The Climate-Seed-Knowledge (CSK) project developed in-country strategies to enhance climate resilience by reviving traditional seed diversity and knowledge in the Zoosali community of Ghana's Northern Region. The project resulted in promising gains in awareness of the effects of climate change, as well as improved biodiversity, food security and resilience.



2010 Case Studies

International Institute For Sustainable Development (IISD) and Centre for Science and Technology Innovations (CSTI) (with 2013 epilogue)

In Kenya, drought events associated with climate change have become more pronounced in recent years, adversely affecting the lives and livelihoods of smallholder farmers. In response, IISD and CSTI have undertaken a pilot project that links together the provision of downscaled weather forecasts, improved agriculture practices, increased access to reliable water, and a revolving microcredit system for women's self-help groups. Together, these initiatives contribute to improved and diversified livelihoods, and facilitate the integration of climate change in policies related to disaster management and sustainable development.



Canadian Foodgrains Bank (CFGB) (with 2013 epilogue)

In the Nkayi District of western Zimbabwe, chronic food insecurity is the result of recurring and persistent droughts stretching back nearly a decade. A three-year project of the Foodgrains Bank and Christian Care – a local partner – has demonstrated that promoting conservation agriculture can increase yields, decrease chemical inputs and lower capital investment required from farmers. The result? Increased food security and greater resilience to climate change in a drought-prone area.



Oxfam Canada (OXC)



In the lowland communities of Bolivia, there is a widespread perception of unpredictability of rains, warmer temperatures, and increases in extreme weather. Terrible flooding in Beni in 2007 and 2008 motivated local communities to enlist in a project known as the camellones ('raised fields'). This farming practice draws on both ancient techniques and modern science to offer a sustainable solution to flooding, drought and overall food insecurity.

World Vision Canada (WVC) (with 2013 epilogue)

On the Indonesian Island of West Kalimantan, communities concerned about the disruptive forces of deforestation, reduced rainfall, loss of forest productivity and decreased soil fertility participated in a pilot project to realistically assess the environmental stresses and the local capacity to cope with them. Incorporating local wisdom, scientific knowledge of climate change, and risk assessment strategies, World Vision has developed new programming methods and standardized vulnerability assessment tools to better address the complex relationship between climate change, environmental degradation, food insecurity and child malnutrition.

World Vision

Care Canada (CARE)

CARE's 'case study' stands apart from the others; rather than focusing on the lessons of one particular project, CARE has examined the process of developing National Adaptation Plans of Action in Malawi and Niger. Worryingly, gaps in the NAPA process as identified by CARE demonstrate that the priority actions included in the NAPAs are inadequate in addressing the needs of the most vulnerable groups. CARE recommends improvements to better support inclusive and transparent national adaptation planning, and that plans recognize and address the differentiated vulnerability and the different social, economic and political determinants of adaptive capacity within a country's population.



About C4D

The Canadian Coalition on Climate Change and Development (C4D) is a coalition of international development and environmental organizations working together to share knowledge and take concerted action to address climate change. C4D was formed in 2006.

The objectives of the coalition are to:

- build the capacity of the international development community to address the challenges climate change poses to sustainable development.
- bring the voice of the international development community to the debate on Canada's response to climate change.



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To access additional case studies and other online resources, please visit the C4D website at www.c4d.ca.

Your comments and feedback on the case studies are welcomed, and should be emailed to the ALP Coordinator at pc@c4d.ca or via our website, www.c4d.ca.