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# Enhancing climate resilience in Ecuador's Pichincha Province and the Jubones River Basin

Ecuador has begun to implement a project to build climate resilience and enhance food security in four provinces. The project links local communities and authorities, several arms of the national government and the United Nations World Food Programme. Its two-pronged approach is developing community awareness and concrete plans for adaptation actions, set within an ecosystem-based approach.

## Overview

Ecuador's geographical location and rugged topography make it particularly vulnerable to climate change impacts. Already, rainy and dry seasons have shifted or become longer and more intense, moorlands are degraded, glaciers have receded (losing 30 per cent of their mass in the past 30 years), and ecosystems' ability to regulate water supply is constantly challenged. Climate variability and change threaten livelihoods, food and nutritional security and communities' food sovereignty. It is expected to make challenges from extreme weather events more frequent. In the past decade, Ecuador has lost more than US\$4 billion from droughts alone<sup>1</sup>, and the country lost US\$70 million to flooding in 2012.<sup>2</sup>

Climate-related disasters affect key sectors such as agriculture, water resources, fisheries, infrastructure and tourism, and especially affect rural areas with large populations of indigenous and Afro-Ecuadorian people. Climate variability, including more frequent and intense El Niño and La Niña phenomena, combined with pockets of food insecurity and poverty, have led Ecuador to prioritise sound planning and replicable implementation models to address these threats.

Ecuador's central and regional government has developed a project in cooperation with the United Nations World Food Programme (WFP), supported by the UNFCCC Adaptation Fund, to build community and ecosystem resilience, and reduce climate vulnerability, with special attention to food insecurity.

Four provinces, Pichincha, Azuay, Loja and El Oro have been selected, containing two important watersheds. The prioritised area covers 12 cantons, 50 parishes, approximately 120 communities and 15,000 families. It encompasses varying ecological systems, cultural traditions, ethnic composition, and dependency on natural resources.

The project, which began in 2011 and runs until 2016, aims to gather more and better climate information, but also to identify communities' priorities for climate change adaptation and to build environmental sustainability. It is organised around two broad components:

- develop community-level awareness and knowledge on climate change and food insecurity related risks; and
- increase adaptive capacity for climate change and

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## JOINED-UP APPROACHES

**Box I. Who's who? Key players in Ecuador's climate resilience project**

**The Ministry of Environment (MAE)** is responsible for interagency coordination and implementation, including awareness raising and education. It is the national entity in charge of climate change responses and has the capacities not only to implement the project but also to ensure climate change expertise is developed across the provinces.

**The Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP)** is responsible for agricultural policies, including management, regulation and training for food sovereignty. MAE and MAGAP are working together to align all project activities with the government's decentralisation policy.

**The World Food Programme (WFP)** provides technical support to national and local governments on vulnerability analysis, food security assessments and risk management, and is helping develop a project framework that integrates food security, adaptation to climate change and gender issues. WFP brings an international perspective to the project and is technically and financially responsible to the Adaptation Fund.

**The Public Consortium of the Jubones River Basin (CCRJ)** is formed by local, provincial and municipal governments in the provinces of Azuay, Loja and El Oro and is responsible for managing water resources for present and future generations.

**The Autonomous Decentralized Government of the Pichincha Province (GAD-PP)** is the local authority of Pichincha Province. Its role includes poverty reduction, food security, water management and enhanced environmental quality.

climate variability, and so reduce recurrent risks facing highly food-insecure communities.

water availability. Ensuring that multidisciplinary teams participate in developing project baselines has helped to build local capacities and broaden understanding of climate risks in the project area.

## Interventions and impacts

Developing cross-sectoral approaches and mainstreaming gender issues are key strategies in the project, requiring involvement and commitment from many stakeholders across central government, provincial, canton, parish and community levels. Thus national entities must engage strongly with local actors. The Ministry of Environment (MAE) and WFP are working closely to design and implement the project through a transparent and inclusive consultation process, involving all stakeholders at all levels. The participatory planning approach is building strong horizontal and vertical links across sectors and stakeholder levels. MAE, as the national executing agency, has a central role ensuring that the consultation process considers national priorities right down to the local level, and also that local priorities are well reflected in all planning and implementation processes.

With leadership from MAE, stakeholders at all levels have developed a methodology to study vulnerability: providing a key tool for identifying climate change risks related to food security and gender. Together, and with coordination led by MAE, stakeholders have jointly analysed climate-related risks and prioritised implementation in cantons with high levels of chronic malnutrition and high risk of fluctuating rainfall and

The project has also developed a capacity building plan and, with support from UN Women, a gender mainstreaming strategy (so broadening the partnership base). In addition, a number of National Secretariats, including Risk Management, Water, International Cooperation, and Planning and Development are engaged in various ways that ensure a cross-sector sense of ownership for the project's implementation. These links help build coordination among national and local entities that work directly with communities.

At the provincial, canton and parish levels, the CCRJ and the GAD-PP have direct contact with the different local governments and communities and so are central to successful project implementation. They provide a coherent vision for action, consistent with local risks and priorities.

MAE is also implementing six other adaptation projects, and is drawing in lessons from these, particularly on suitable methodologies, for example when developing the vulnerability assessments. The Ministry's experience with community planning approaches and a Community-based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL) methodology is also contributing to the project.

*Ecuador's rugged topography includes the Leon River in the Jubones area*



Verónica Alvarado, WFP Ecuador

#### **Developing community awareness of climate change and food insecurity related risks.**

This component of the project supports the national strategy for climate change by addressing local exposure to climate change risks and high vulnerability, in particular to food insecurity. It also strives for gender equality. It is designed to ensure that MAE, MAGAP and local governments mainstream climate change adaptation with local level plans and strategies. Activities include integrating climate change threats into local planning and educating local government staff and communities about climate change adaptation, food and nutrition security, food sovereignty and women's empowerment.

This component recognises the importance of traditional knowledge in addressing climate change risks and for generating and using climate information. Participatory methodologies, tools and planning approaches are being developed, which should also eventually find broader application in other Ecuadorian watersheds.

**Increasing adaptive capacity and reducing recurrent risks.** This component focuses on implementing adaptation actions, designed with community members to be in line with canton and parish priorities. Adaptation actions are expected to:

- increase women's participation in decision making and in asset creation activities;
- bolster community organisation and social cohesion (for example by reducing local migration rates);

- increase capacities at all levels to protect and manage natural assets;
- increase incomes for vulnerable families (for example by reducing climate-related losses, raising productivity or identifying environmental goods and services such as timber and water); and
- improve food and nutrition security of rural communities.

Environmental benefits will play an instrumental role and adaptation actions will support ecosystem management. For example, access to good and stable water supplies may be improved by tackling soil erosion, using native and adapted species to help degraded land to recover, or implementing better management systems for using water. Such approaches support livelihood, food security and food sovereignty objectives both for direct participants and downstream water users.

### **Main achievements and challenges**

This large and 'joined up' project is still in its early stages, fostering extensive interaction among the five main partners: MAE, MAGAP, WFP, GAD-PP and CCRJ. Meetings, workshops and studies were initially promoted by WFP but have now come under MAE's leadership.

A main achievement has been that this project was designed and is implemented by all partners: national government, an international agency, local

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governments and communities. But such partnerships also bring challenges, particularly in the form of limited experience in implementing adaptation actions at local government level.

To address this, MAE has organised training sessions to develop capacity and transfer skills to local government staff and community members, drawing on MAE's own experience with methodologies used in other programmes.

Such awareness raising and training provides a route to combine communities' practical experience with technical knowledge, so identifying climate change impacts and prioritising activities to address them. It is already clear that such training, which has a strong focus on gender equity and women's participation, will be valuable – and easily replicable – in different parts of the country.

But even with shared objectives, the partnership has faced challenges establishing clear roles and responsibilities. Consultations and a dynamic collaborative process are underway with national and local organisations to clarify roles and define responsibilities based on recognised capacities. For example MAE is now in charge of capacity building, drawing on a detailed and agreed plan. MAE is leading and coordinating vulnerability analyses and local food security adaptation plans, with MAGAP providing advice on food security policy. Local partners are in charge of implementing the adaptation actions defined in the plans, with the full coordination and participation from communities.

Another challenge has been to distinguish between development and climate change actions – partly because of political pressure when it comes to prioritising community actions.

Overall, and perhaps not surprisingly for such a 'joined-up' project field, implementation remains challenging. Knowing the national adaptation framework is important because as more information is generated, policies will change and be strengthened. At present, the community-based approach is not always understood or prioritised by national or local government agencies.

Finally, implementing food security adaptation actions within an ecosystem approach is difficult because the project is still building knowledge of what will work best in different local conditions, and is still developing institutional arrangements that will allow targeting and implementation of activities at the watershed and micro-watershed level.

## Lessons

**Effective collaboration requires ongoing communication, review and adjustment of roles and responsibilities.** Strong coordination and communication among stakeholders is a key factor for a successful project. This can only happen with clear communication procedures and predetermined processes, as well as clear roles. An important lesson is that these procedures, processes and roles must be established before the start up of a project and must be reviewed constantly to make sure that they are still appropriate as needs and capacities evolve.

**Collaborative approaches require considerable time and investment.** It is very important to involve all stakeholders in the different stages of design and implementation to make sure of effective participation and commitment. Although the results of the project are likely to be more appropriately designed and sustainable because of the multi-stakeholder approach, the time and costs involved in these approaches should not be underestimated.

**Joined up approaches require attention to both vertical and horizontal levels of collaboration.** This project seeks to achieve collaboration across disciplines and scales, from local to national. One of the main roles of MAE has been to bring together the perspectives and knowledge of different stakeholders through an iterative process of consultation and planning.

**Multi-stakeholder collaboration requires ongoing negotiation and trade-offs.** This project has been working hard to balance the differing priorities of the main stakeholders.

## Notes

- <sup>1</sup> National Committee for Climate, Ministry of Environment. 2001. *Vulnerability adaptation and mitigation to climate change in Ecuador: compendium of actions, strategies and profiles of projects in the energy sectors, forestry, agriculture, coastal marine and water resources*. Ecuador. ■<sup>2</sup> Ministry of Agriculture, Livestock, Fisheries and Aquaculture. 2012. *Emergency in the Ecuadorian coast*. Government report.



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