

## Water and Climate Change

### Why water matters for climate change and poverty reduction

Water is essential for life and livelihoods. It meets some of our most fundamental needs – to drink, to cook and to wash in, and to grow the food we need to survive. Healthy, reliable and accessible water resources underpin a functioning and prosperous society, as well as the ecosystems upon which it relies.

But climate change is affecting the water cycle, raising concerns about the prospects for sustainable development and the future of poverty reduction. Climate change can alter the timing, magnitude and duration of rainfall and other weather events, with direct impacts on water availability, quantity and quality, both in the long and short term. Water insecurity is not a new phenomenon, but climate change is seeing a dramatic rise in the unpredictability of water availability.

Climate change often hits the poorest and most vulnerable people first and hardest, and water is often at the core of the impact. To the almost one billion hungry people in the world, water is crucial to survival in many respects. Beyond the basic need of drinking water, small-scale farmers feed 2 billion people worldwide, but many rely on rainfed agriculture and are therefore particularly vulnerable to the impacts of climate change. Unpredictable rainfalls, droughts and floods can damage a whole harvest, putting families and communities at risk.

Water and climate change is also a gender issue. In poor countries, women are often responsible for the household's water needs, and can be forced to walk further to access water because of climate change. Girls are often made to help, missing out on education. The further the water source, the riskier the journey can be, in particular in conflict zones. The struggle to find water can also lead to the use of less safe water sources, with associated health impacts. Farmers are also more often women than men.

We need to recognise that climate change is already happening – and the way we manage water is crucial for how we adapt. The knowledge and experience of poor and vulnerable communities, including women, are vital for understanding the full impact of climate change and to identify viable responses. These efforts must receive appropriate support to ensure poverty reduction is not further undermined.



Dried up watering hole © Joanne Green/Progressio

## El Salvador: Drought and doubt

The husk of the corn makes a dry, loud crackle as Everardo Bairez Rivera peels it away to reveal the distorted corn cob below. The kernels vary in size and color and look dry and shriveled, and the cob is about two-thirds the size of most corn cobs.

*"This corn was planted 20 days ago, and it needs another 20 days of rainy season to be able to bear fruit. If it doesn't rain it won't give fruit and we will lose it all,"* he explains.

Nearby on the milpa (corn field), María Isabel Orellana, 61 years old, says, *"We are distressed. Mother nature doesn't want to give us anything any more. Sometimes we lay down at night, but we don't sleep, thinking about everything we have lost."*

For her and her eight family members, losing their crops means not counting on being able to feed their own family or having any harvest left over to sell, like they have done in years past. For these communities, one bad growing season can break you: the government-funded agricultural packets aren't enough to start over again the next season, especially with no money to cover the extra costs of fertilizers, transportation, and other unforeseen expenses.

This is the reality that most farming communities in rural El Salvador face. There are two seasons in El Salvador: the rainy season, referred to as winter, and the dry season, referred to as summer. The two seasons have been constants around which the majority of the rural populations have built social and economic patterns, especially agricultural communities.

But last year farmers across the country were struck by an extremely dry growing season. The famous "winds of October" that once marked the transition between winter and summer, from rain to heat, no longer necessarily mean what they used to.

70-year-old Basilio Valencia, who has three children, says: *"We live off agriculture, nothing else. I added fertilizer and it didn't work, the Earth is so dry. What will happen? Only God knows."*



Distorted corn cob © Brenda Platero/UNES

For agricultural communities, this climatic insecurity means a deepening of already existing conditions of poverty and vulnerability. That can mean losing entire crops to strong rainfalls that wash away recently planted seeds, or to scorching heat waves and drought in a country that already suffers from hydric stress.

## Peru: The water harvesting feast

Every year the villagers of Tupicocha, high up in the Andes, gather for a Water Harvesting Feast – a celebration to inaugurate the water harvesting practice known by the locals as 'Amunas'.

What at first glance seems like a cheerful event turns out to have a deeper significance and proves to be an ingenious and locally-accepted way to raise concerns without generating conflicts. The celebration unifies the villagers, and increases their sense of responsibility as well as their motivation to protect and manage the water resources.

After the celebration the community members work together to clean and restore canals made of rocks and soil. They use these canals to redirect water from the river during the rainy season to specific places in the mountain where the structure of the rocks and the soil allow a natural absorption of the water to recharge the aquifers.

This water travels downwards very slowly to appear six months later, during the dry season, where it feeds the springs or 'puquios' (underground water ducts) hundreds of metres below, giving the local population access to water for agricultural and domestic purposes. The water recharge also helps to reduce erosion of the slopes and contributes to the conservation of the existing vegetation. This water harvesting system dates from pre-Hispanic times and it is striking to see how, thanks to the collective efforts of the community members, the canals can still be used today.

One thing is certain, Andean communities have always been faced with tremendous climatic extremes. On top of this Peru is one of the most vulnerable countries to climate change, and especially the rural population who are experiencing more droughts, floods, hailstorms and other unpredictable weather events than ever.

People's understanding of the water cycle and the mountains has proven effective in reducing the vulnerability of Andean communities to climatic extremes in the long term.



Water ceremony © Cindy Krose/Progressio

Adaptation to climate change will not just depend on the construction of sophisticated infrastructures and transfer of specialised knowledge. It also entails a long term relationship with the natural environment in a social and cultural context that gives meaning to the protection of these natural resources. National and international initiatives seeking to promote adaptation to climate change should take these ancestral practices into account.

## Water on the agenda

For poor people, climate change is often water change. The importance of water management for climate change adaptation therefore needs to be at the heart of both climate change and development policy, including funding strategies.

Good water management underpins good development and contributes to poverty reduction. It needs to be equitable and sustainable, providing for both people's and the ecosystem's needs. Water's multiple functions need to be recognised, including its importance for food security. Indigenous knowledge should be taken into account, as well as women's often fundamental role as managers of water on a household level.

For an adaptation framework to be efficient, sustainable and reach the poorest and most vulnerable people, it should include the following approaches:

**Community based adaptation:** Communities need to be at the centre of adaptation efforts. Communities themselves often have considerable experience and knowledge of water resources management that is appropriate for their local context. A bottom up approach is needed where the community is a key part of the identification and implementation of adaptation projects.

**Ecosystems based adaptation:** The availability of water resources depends on healthy ecosystems and healthy ecosystems rely on a reliable supply of freshwater. In terms of water, healthy ecosystems are critical natural infrastructure for, for example, water storage and flood regulation. The use of biodiversity and ecosystem services as part of an overall adaptation strategy is essential for helping people to adapt to the adverse effects of climate change

Progressio is a member of the **Water and Climate Coalition** which advocates for a specific focus on water under the UNFCCC.

See [www.waterclimatecoalition.org](http://www.waterclimatecoalition.org) for further info.

# PROGRESSIO

Progressio is an international charity that enables poor communities to solve their own problems through support from skilled workers. And we lobby decision-makers to change policies that keep people poor. We were formerly the Catholic Institute for International Relations.

## Progressio

Unit 3, Canonbury Yard  
190a New North Road  
London N1 7BJ  
UK

Tel: +44 (0)20 7354 0883 (Switchboard)  
Fax: +44 (0)20 7359 0017

Email: [enquiries@progressio.org.uk](mailto:enquiries@progressio.org.uk)

Website: [www.progressio.org.uk](http://www.progressio.org.uk)

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