Climate change:
a development challenge

IFAD
Enabling poor rural people to overcome poverty

IFAD/G.M.B. Akash

Climate change is one of the most serious threats the world faces. It will affect all of us, but will have a disproportionate impact on millions of poor rural people. Climate change is a challenge to everyone working in development. It puts more people at risk of hunger and makes it more difficult to reduce the proportion of people living in extreme poverty. For development work to be effective, we must not only help poor rural people emerge from poverty, we must also enable them to cope with and mitigate the impact of climate change.

For IFAD, climate change has a special significance. Our mission is to enable poor rural people to overcome poverty. Agriculture is the main source of livelihood for most poor rural people, and it is also the human activity most directly affected by climate change.

In rural areas of developing countries, nearly 2 billion people live on less than US$2 a day. Poor rural people are the most vulnerable to the effects of climate change. Many live on ecologically fragile land and depend on agriculture, livestock, fisheries and forestry. Poor rural people lack the institutional and financial capacity to withstand the impact of climate change.

We are already seeing the impact of climate change on agriculture in developing countries. Crop failures and livestock deaths are causing higher economic losses, contributing to higher food prices and undermining food security with ever-greater frequency, especially in parts of sub-Saharan Africa. Rainfed crop yields could drop by 50 per cent by 2020 in some countries. At the same time, burgeoning populations mean that demand for food is rising. Food production in developing countries will need to double by 2050 to meet demand.

Agriculture and deforestation together account for an estimated 26 to 35 per cent of greenhouse gas emissions. Yet agriculture and forestry can play a key role in tackling climate change. Afforestation and reforestation, better land-management practices such as agroforestry, rehabilitation of degraded crop and pasture land, and better farming practices can all contribute significantly to reducing greenhouse gas emissions.

Poor rural people manage vast areas of land and forest and can be important players in natural resource management and carbon sequestration. They are often custodians of the natural resource base and can provide important environmental goods and services. Carbon-trading schemes need to include a way to compensate poor rural people for environmental services that contribute to carbon sequestration and limit carbon emissions. Support for soil and water conservation, incentives for sustainable production practices, and rewards for carbon sequestration and avoided deforestation are all part of the solution.

In response to the growing magnitude of climate change, IFAD is increasingly integrating adaptation and mitigation into its programmes. By listening to the voices of poor rural people during the planning process, we can reduce the risks of climate change while accelerating progress towards a world without poverty.

IFAD/S. Beccio

FACTS

- 1.4 billion people live on less than US$1.25 a day. Most live in the rural areas of developing countries.
- The world's population is expected to rise from 6.7 billion people to 9.1 billion by 2050, with most of the growth in developing countries.
- Food production in developing countries will need to nearly double by 2050.
- About 95 per cent of African agriculture depends on rainfall.
- In some counties, yields from rainfed agriculture could fall by 50 per cent by 2020.
- Since the 1960s, the Sahel region of Africa has experienced a 25 per cent decline in rainfall.
- In Africa alone, from 75 million to 250 million more people will be exposed to increased water stress by 2020 due to climate change.
- A temperature increase of from 3 to 5 degrees Celsius could lead to an average 30 per cent rise in food prices.

Poor rural people can be part of the response

The international community has agreed on four building blocks of response to climate change: adaptation, mitigation, technology and financing.

Adaptation includes all activities that help people and ecosystems adjust and reduce their vulnerability to the impact of climate change. There is no universal way to adapt; specific measures need to be tailored to specific contexts. Traditionally, agriculture was an adaptive activity to climate variations. Today, unsustainable land practices are no longer viable. Good adaptation strategies should build on sustainable development.

Mitigation aims to reduce greenhouse gases or enhance the ability of nature, in particular forests, to absorb them. Poor rural people can play an important role in climate change mitigation by using better agricultural practices and by promoting forestry activities that contribute to carbon absorption. But governments need to put policies and the right incentives in place to make this happen.

Technology has a significant role to play in tackling the causes of climate change and helping people adapt to its impact. We can develop new, cleaner technologies and breed plants and animals more able to tolerate climate variability. A major push in research and development, and information exchange and training, is needed to create farming systems that are more resilient to climate change, as well as new technologies to sequester carbon.

Financing the response to climate change will cost billions of dollars and involve massive shifts in investment patterns across a huge range of sectors, from power generation to agriculture and forestry. New finance is essential because the reality is that climate change is making development more costly. An estimated US$49 billion to US$171 billion per year will be needed for adaptation alone by 2030. The pledge of US$20 billion at the G8 Summit in L'Aquila, Italy, is an important step, but we have a lot further to go.

The carbon market, which is already playing an important role in shifting private investment flows, will have to be significantly expanded to address needs for additional investment and financing. National policies can help by encouraging private and public investment in more climate-friendly alternative technologies, and by spreading the risk across the private and public sectors.

Multilateral financial institutions, bilateral and multilateral aid agencies and, of course, the United Nations, all have important roles to play. They must respond to the needs of poor rural people to help them address the challenges of climate change.

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China biogas project turns waste into energy

Methane, which is released from animal manure, is 22 times more damaging than carbon dioxide. By turning human and animal waste into a mixture of methane and carbon dioxide that can be used for lighting and cooking, an IFAD-funded project in China's Guangxi province is helping reduce methane's more damaging global warming effects, directly contributing to climate change mitigation and poverty reduction.

"We used to cook with wood," says Liu Chun Xian, a farmer involved in the project. "The smoke made my eyes tear and burn and I always coughed. The children, too, were often sick…. Now that we're cooking with biogas, things are much better."

Each household involved in the project built its own plant to channel waste from the domestic toilet and nearby shelters for animals, usually pigs, into a sealed tank. The waste ferments and is naturally converted into gas and compost.

As a result of the project, living conditions and the environment have improved. Forests are protected, reducing greenhouse gas emissions through deforestation. A large amount of straw, previously burned, is now put into biogas tanks to ferment. This further reduces air pollution from smoke and helps produce high-quality organic fertilizer. In addition, the project has resulted in better sanitary conditions in the home.

With more time to spend improving crops, farmers in Fada, a village in the project area, increased tea production from 400 to 2,500 kilograms a day over a five-year period. Average income in the village has quadrupled to just over a dollar per day. This is significant in a country where the poverty line is 26 cents per day. And as a result of the project, 56,600 tons of firewood can be saved in the project area every year, which is equivalent to the recovery of 7,470 hectares of forest.

RUPES: rewarding poor people for environmental services

Poor rural people have the potential to be important players in natural resource management and carbon sequestration. An IFAD-supported programme has helped build momentum and public interest in rewards for environmental services, and has developed ways to reward poor farmers who protect ecosystems in China, Indonesia, Laos, Nepal, the Philippines and Viet Nam.

The results of the initial Programme for Developing Mechanisms to Reward Upland Poor of Asia for the Environment Services They Provide (RUPES), which ran from 2002 to 2007, were so encouraging that a second phase began in October 2008. At each of the six RUPES action sites for the first phase, and 12 for the second, local institutions partner with the World Agroforestry Centre to develop reward systems that are appropriate to the local context.

"Many people living in Asia's upland communities manage landscapes that provide environmental services to outside beneficiaries," says Dennis Garrity, Director General of the World Agroforestry Centre. "These services include clean and abundant water supplies from watersheds, biodiversity protection and stocks of carbon that alleviate global warming. Rewarding communities for providing these services reduces poverty and provides incentives to manage uplands in ways that enhance the sustainability of the lowlands, compensate for carbon emissions elsewhere and support global biodiversity conservation goals."

Sometimes the incentives are financial, but not always. For example, providing secure land rights has been the main reward mechanism for watershed protection and carbon sequestration projects in Indonesia.

The process of identifying environmental services, valuing them, and facilitating the development of local institutions has led to increased awareness of watershed conservation and better land management in all RUPES sites. A similar programme – Pro-Poor Rewards for Environmental Services in Africa – is being implemented in Guinea, Kenya, Tanzania and Uganda.

IFAD's experience in the field

The decision to create IFAD was made in 1974 in the wake of the great droughts and famines that struck Africa and Asia in the preceding years. We work mainly in marginal, rainfed areas that are at risk for water shortages, land degradation and desertification. This is why adaptation to climate variability and strengthening resilience to environmental stress have always been part of IFAD's work. The following are just a few examples of how we address the four building blocks of response to climate change.

In Sri Lanka, IFAD and the Global Environment Facility (GEF) are supporting a programme to rehabilitate three key coastal ecosystems along the tsunami-devastated east coast.

In China, IFAD is supporting a weather-based index insurance project to help poor farmers. A private-public funded activity, weather-based index insurance links an insurance payout to objective, measurable events such as rainfall or temperature. This means that farmers are better able to manage risk and may be more comfortable investing in agricultural activities that require a higher initial investment.

Improved natural resource management is an important adaptation response in many areas. In Burkina Faso, the IFAD-supported Sustainable Rural Development Programme is adopting more environmentally friendly technologies such as soil and water conservation techniques and agroforestry. Similarly, in Senegal, in response to increasing desertification, IFAD has supported drip irrigation (*goutte-à-goutte*).

Economic diversification is a crucial response to climate change in many regions. On the islands of Mauritius and Rodrigues, an IFAD-funded programme is helping participants diversify their activities into agriculture and microenterprises so they are not solely dependent on fishing for their livelihoods.

In eastern Morocco, drought and overgrazing had degraded vast areas of rangelands. An IFAD-sponsored rehabilitation programme has led to improved rangeland productivity, soil cover, regeneration of medicinal and aromatic plants, and improved soil water infiltration. The programme includes a GEF component that supported a study providing relevant information for climate change adaptation and offering ways to climate-proof the GEF component.

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LINKS

IFAD
www.ifad.org

IFAD and climate change
www.ifad.org/climate/

Global Environment Facility
www.thegef.org

United Nations Framework Convention on Climate Change
www.unfccc.int

Intergovernmental Panel on Climate Change
www.ipcc.ch

United Nations Environment Programme
www.unep.org

Seal the Deal
www.sealthedeal2009.org

COP15
en.cop15.dk

World Bank 2010 World Development Report: Development and Climate Change
www.worldbank.org/wdr2010

IFAD

IFAD is an international financial institution and a specialized United Nations agency dedicated to eradicating poverty and hunger in rural areas of developing countries.

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November 2009

Adaptation in Peru

The native people of the high Andean plateau (*altiplano*) have always had to contend with an inhospitable environment. High winds, sparse ground cover, frozen water and extreme temperature variations are the norm. As a result of climate change, these temperature variations have become even more pronounced, and water shortages have been exacerbated.

The IFAD-supported Market Strengthening and Livelihood Diversification in the Southern Highlands (Sierra Sur) Project is working directly with more than 21,000 families over an area of almost 78,000 km^2 to help them become more resilient to the impact of climate change and to improve their management of natural resources.

Water from rain and melting ice is being trapped in pits so it can be used for irrigation. Project participants are diversifying their crops and are now cultivating maize, beans, cereals, potatoes and oregano in terraces, separated by stone walls, on the mountain slopes. The stone walls break the wind and trap soil and water to prevent run-off. The stones also act as heat reservoirs, soaking up warmth from the sun during the day and releasing it slowly at night, which helps control freezing.

Project participants are also planting trees to restore the area's green cover. The trees serve as wind breaks and help regulate temperature. They are a source of fuelwood and their roots stabilize the soil on the slopes.

As a result of the project, the local population is better fed and livestock is thriving.

Building alliances

Climate change is a global environmental challenge. Helping poor rural people adapt to the impact of climate change and enabling them to contribute to mitigation is not a task that can be performed by a single agency alone. It requires cooperation and a coordinated approach from the international community.

Partnerships are a way for IFAD to learn more about climate change, share its knowledge, strengthen the operations it supports, leverage additional funding and influence the global policy agenda. IFAD works with developing country governments, poor rural peoples' organizations, non-governmental organizations and the private sector to design innovative programmes and projects that fit within national priorities for agriculture and rural development. It also works closely with other United Nations agencies and multilateral financial institutions.

IFAD supports efforts to strengthen the impact of the United Nations system's work, and it participates in pilot initiatives to better coordinate the efforts of UN agencies at the country level to 'deliver as one'. IFAD also works closely with the other Rome-based UN agencies: the Food and Agriculture Organization of the United Nations and the World Food Programme.

The Global Environment Facility (GEF), as one of the main financial mechanisms for climate change, represents a key IFAD partner – IFAD is a GEF executing agency. IFAD/GEF cooperation currently focuses on nurturing the links among poverty reduction, sustainable land management and climate change issues. Through the Global Environment and Climate Change (GECC) Unit, IFAD helps countries access funding within the GEF climate change programme. This includes the GEF Trust Fund, GEF-managed resources under the United Nations Framework Convention on Climate Change (the Least Developed Country Fund and the Special Climate Change Fund) and the GEF-managed Adaptation Fund. Other important partners include the Consultative Group on International Agricultural Research (CGIAR), the Global Donor Platform for Rural Development and subregional partnerships, such as TerrAfrica.

Given the impact that climate change is already having on areas where IFAD works, in July it joined with other United Nations agencies in launching the 'Seal the Deal' Campaign. This 'deal' is designed to rally political will and public support for a comprehensive agreement on climate change at the United Nations Climate Change Conference (COP15) in Copenhagen in December 2009.