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# The Rural Resilience Initiative: building a risk management market for poor farmers

Drought is one of the main climate-related risks for poor and food-insecure farmers in Ethiopia. The R4 programme combines four tools for risk management and offers drought insurance in exchange for work on projects that improve food security and community-wide resilience.

## Overview

With more than 80 per cent of its population dependent on rain-fed agriculture, Ethiopia faces several climate-related food security challenges. Rainfall levels vary greatly by region and can be difficult to predict. During the past six decades, droughts have occurred every three to five years, and several serious droughts, either widespread or localised, have affected millions of people.

High population growth, conflict, and governance and institutional capacity issues exacerbate the droughts' impacts. All these factors have eroded households' and communities' productive assets and capacities.

Looking ahead, the Intergovernmental Panel on Climate Change (IPCC) predicts only a modest change in Ethiopia's rainfall patterns, but this could still adversely affect very poor small-scale farmers, especially if any decreases are concentrated in the growing season.

To tackle these challenges, Oxfam America with funding from the Rockefeller Foundation and Swiss Re, worked with local partners to put together a comprehensive risk management programme. Started in Ethiopia in 2007, the Horn of Africa Risk Transfer for Adaptation (HARITA) project included community works to reduce risks, as well as drought insurance, and credit and savings mechanisms to help drive investments in livelihoods. Implemented with local and international partners, this package of interventions offered effective assistance to

climate-vulnerable, cash-poor and food-insecure farmers.

In 2010, Oxfam America and the World Food Programme joined together to refine and scale up the model through the multi-country R4 Rural Resilience Initiative. R4 has now reached nearly 19,000 households in the Tigray region of Ethiopia (designed as a large-scale pilot project to test the approach) and is poised to expand operations into Senegal with the ambition of adding another two countries during the next three to five years.

## Interventions and impacts

R4 refers to four risk management tools that are integrated into one resilience-building approach:

- community disaster risk reduction using food and cash for assets;
- prudent risk taking (credit and livelihoods diversification);
- risk transfer (insurance); and
- risk reserves (savings).

The programme is at its most advanced stage in the Tigray region of Ethiopia. Here Oxfam America and the Relief Society of Tigray (REST) have worked closely with the Government of Ethiopia to build an 'insurance-for-work' scheme into local branches of

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**Box 1. The main actors involved**

Integrating different risk management tools and sectors requires complex partnerships. But working with communities and other partners from the outset has helped R4 move towards scale in Ethiopia.

**Community partnerships.** In each village, a farmer design team of six or seven community members helps to develop insurance products and to design, monitor and evaluate R4's climate resilience-building public works. Participatory games, theatre and storytelling to educate communities about insurance have built trust and increased farmers' financial literacy.

**Institutional partnerships.** When HARITA was first launched, Ethiopian insurers served almost exclusively large companies and wealthy households in urban areas, insuring fewer than 300,000 farmers in a country of more than 80 million people. The regulatory and institutional environment to support micro-insurance was also weak. R4 has invested significantly in building partnerships between the public sector, private sector and community institutions.

**Public-sector partnerships.** Ethiopia's government-led Productive Safety Net Programme (PSNP – a 'cash and food for work' programme that supports poor workers by paying them to construct community assets – see case study in this conference series, *Scaling up an integrated watershed management approach through social protection programmes in Ethiopia: the MERET and PSNP schemes*) has supported the R4 programme at district and village level, developing capacity among PSNP staff in the process. The National Meteorological Agency provides technical support to R4's weather and climate data analysis, and the programme also works with Tigray's Regional Food Security Coordination Office, which is responsible for oversight of the PSNP in the region, and with the Tigray Cooperative Promotion Office, which helps to organise farmers at the village level. Such partnerships will be even more crucial in the future as R4 is scaled up further in Ethiopia and beyond.

**Private-sector partnerships.** Private-sector partners such as Nyala Insurance and the Africa Insurance Company in Ethiopia share the costs and risks of starting up the insurance market until it becomes commercially viable. Ethiopia's second largest micro-bank, the Dedit Credit and Savings Institution (DECSI), provides credit to participating households and educates local farmers about insurance. Swiss Re has helped to develop workable weather-based insurance models, in addition to acting as the programme's reinsurer. A number of national and international research institutes also provide technical support to the programme, such as Ethiopia's Mekelle University and the International Research Institute for Climate and Society (IRI) of Columbia University.

Ethiopia's existing 'cash and food for work' Productive Safety Net Programme (PSNP). Conventional insurance programmes, with high administrative costs and unaffordable premiums, could not bring drought insurance to the poorest in Ethiopia. But many of these food-insecure farmers participate in PSNP's regular cash and food transfers, which reach around eight million people across the country. In the R4 scheme, poor farmers have the option to work on small-scale, community-identified public projects in return for insurance cover through the PSNP. Farmers with more cash can also purchase this insurance outright. With affordable insurance plus social protection via PSNP, the poorest farmers can feel safer making investments to increase their productivity.

In the event of a seasonal drought, farmers receive automatic insurance payouts from R4's implementing partners if rainfall drops below a predetermined threshold. They can then afford the seeds and inputs necessary to plant in the following season and don't

have to sell off livestock, tools or other productive assets to survive.

By providing insurance against drought, R4 facilitates farmers' access to credit for investment in productive assets from micro-finance partners. This is because insurance decreases default risk or the risk that farmers are unable to repay loans if a drought causes crop losses. The R4 works projects help manage risk at the community level and build climate resilience and agricultural productivity – for example through improved irrigation or soil management. These projects complement the PSNP public works focus in these areas.

**Weather indexing system.** To be credible, the insurance-for-work scheme needed an accurate system for 'weather indexing' to assess the likely damage caused by poor rainfall and trigger insurance payouts. This was a challenge during the early stages of HARITA, as most poor and remote communities in

*Farmers earn insurance through working on community risk reduction projects, for example building water harvesting structures*



Mangesha Gebremichael for Relief Society of Tigray/ Oxfam America

Ethiopia are distant from weather stations and do not have enough reliable longer-term rainfall data.

During the pilot period, IRI worked with the communities and local partners to come up with an indexing system that combines modern technology with local knowledge. Weather indices were developed from satellite imagery, rainfall simulators and statistical tools. For each village, the indices are calibrated to the local crop calendar and rainfall amounts, and are set by local experts in consultation with the village's farmer design team. Payments are triggered by satellite image estimates of cloud cover, used as a proxy for rainfall levels. Automated meteorological stations have also been installed to evaluate how the satellite imagery performs.

Two different indices are offered, targeting weak or late onset of rainfall, and weak or early end of rainfall. This lets farmers who grow different crops and face different seasonal risks select appropriate insurance. They also have the choice of 'dry' or 'extra dry' plans, designed to yield a meaningful payout about once in four or five years or once in nine or ten years, respectively. In 2010, 93 per cent of farmers purchased the more costly dry option. The premiums are updated from year to year to capture changing climate trends, seasonal forecasts and longer-term risk.

## Main achievements and challenges

An analysis of the project in five participating villages found impacts varied considerably from village to village and by type of household. In all villages,

farmers who bought insurance planted more seeds, used more compost, and seemed to be switching to high-yielding-variety seeds at higher rates, compared with non-participants. In the village of Awet Bikalsi, insured farmers realised 57 per cent greater teff yields, but effects on crop yields were not seen in the other four villages, possibly because the sample size for the evaluation (after only one season) was not large enough to distinguish the change from overall variation in yields. The signal may become stronger after several more growing seasons.

In addition, insured farmers tended to: use less family labour and more hired labour, diversify their income sources, and experience smaller losses of livestock. More farmers who bought insurance for the second time reported that they expect to plant different crops, use more fertiliser and obtain loans. Another follow-up survey will soon be available from the 2012 growing season.

**Insurance premiums and payouts.** R4's systems for setting and processing insurance premiums and post-disaster payouts are sensitive to the diverse needs and circumstances of farmers. Of about 19,000 farmers insured in 2012, 68 per cent were PSNP participants, who are among the poorest in their respective districts. These farmers had the option of insurance-for-work, whereas the other 32 per cent of participants were poor but relatively better-off farmers who paid in cash. The number who purchased insurance with cash – more than 6,000 farmers – represent modest but encouraging progress towards building a sustainable commercial insurance market in rural Ethiopia. Adjusted for landholding, all participating farmers have paid an average of around

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US\$12 in premiums per year, while Ethiopia's nominal annual GDP per capita is US\$324.

The first payouts went to 1,810 farmers in seven villages who experienced drought in 2011 when early rains failed in Tigray. In 2012, drought conditions in parts of the project region led to a second insurance payout to more than 12,200 farmers in 45 villages, totalling US\$322,772. This is the first time that a weather index insurance programme in Ethiopia has delivered payouts at such a large scale directly to small farmers. And the farmers received the funds when they needed them most, as the advanced satellite technology provided sufficient early warning for the payouts to be calculated and issued just as the crops were beginning to suffer.

**Public works.** The R4 community disaster risk reduction activities focus on restoring the fertility and resilience of degraded soil. These activities are designed to be complementary to those of the PSNP, and are identified and planned in coordination with the PSNP programme at the district and village levels. R4 communities are closely engaged in choosing projects and setting priorities through a participatory village-level vulnerability and capacity analysis. In 2012, 43 villages constructed water run-off diversion structures to irrigate 634 hectares of land, benefiting approximately 1,900 farmers; degraded communal catchments were restored in nine districts; a local variety of multi-purpose drought-resistant plants (beles) was supplied to 3,066 farmers; 1,776 female-headed households planted small backyard vegetable plots for household consumption and sale in local markets, and 2,591 farmers, extension agents and cooperative/administrative leaders received training on composting.

Care has been taken to include gender-sensitive strategies in the public works activities. Less labour-intensive projects that increase women's income-generating opportunities, such as the micro-gardens, are particularly emphasised.

**Replicability.** Swiss Re, USAID and Norway officials have assessed and endorsed R4's potential as a broader model for agricultural micro-insurance. R4 enrolled nearly 19,000 insurance farmers across 76 villages in 11 regions of Ethiopia during 2012, and will continue to expand across the country as the programme seeks to attract additional insurance and reinsurance companies to the agricultural market. The planning process is well underway for rollout of the Senegal pilot in 2013, to be followed by replication in two other countries.

The expansion of coverage is a key part of R4's longer-term strategy to gradually develop a sustainable insurance market for poor farmers in Ethiopia and elsewhere. A critical mass of farmers, spread over different climatic zones, will be required to make poor farmers commercially attractive to insurance providers.

## Lessons

**It is feasible to provide disaster insurance to the chronically poor, provided it is designed for their self-assessed needs and circumstances.**

The willingness of cash-poor PSNP participants to purchase insurance with their labour indicates that the demand exists, if an appropriate mechanism is created and well explained. R4 has shown that a number of risk management tools can be integrated.

**Social safety net programmes can provide an effective and cost-efficient vehicle to make disaster insurance accessible to the chronically poor.** The security provided by the insurance, combined with regular cash transfers and/or other mechanisms to protect assets against climate-related impacts, create an enabling environment for prudent risk-taking by poor households to increase and diversify their assets and income base. These mutually reinforcing measures also contribute to reversing asset erosion, a key barrier to getting out of poverty in places at high risk from recurrent disasters and climate impacts.

## Further reading

Adapted from the case study *Ethiopia: Using a Social Safety Net to Deliver Disaster Insurance to the Poor*, to be published by the World Bank as part of its social protection/social safety net learning materials. For more information, contact Mirey Ovadiya – senior social protection specialist, World Bank, email: [movadiya@worldbank.org](mailto:movadiya@worldbank.org)



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