PROJECT HIGHLIGHTS

Battling Hunger in Ethiopia

Protecting over 7 million people through building resilience to future climate hazard and food crisis shocks

Background

Ethiopia, a country committed to fighting hunger, is leveraging disaster risk management (DRM) and climate change adaptation strategies in its quest for food security programming. Because of its dependency on rain-fed agriculture, natural disasters (primarily rainfall shortage) can reduce food availability by increasing water scarcity and land degradation, among other things. As a result, Ethiopia has emphasized DRM as a fundamental part of its food security agenda.

Threats to food security are being addressed by the comprehensive National Food Security Programme (NFSP) and the Productive Safety Net Programme (PSNP), both of which factor in DRM strategies by addressing the risks posed by climatic hazards, such as a reduction in availability and access to food, as well as the nutritional content of food. More recently, DRM is being mainstreamed by the United Nations World Food Programme (WFP), through its technical support; and by GFDRR's financial support.

This joint support has enabled the Government of Ethiopia to develop an integrated risk management tool to help understand and manage the risks to food security posed by climate hazards. Consequently, the Government will be able to provide affordable and effective options for disbursements and contingency financing for farmers at scale.

Challenges

Ethiopia's vulnerability to climate change is also a result of its heavy reliance on natural resource-based activities and low adaptive capacity, such as low levels of socio-economic development, high population growth and inadequate infrastructure. Approximately 10 percent of the population, or eight million people, in rural areas are currently defined as "chronically food insecure" due to their inability to meet their own annual food needs, even in good years; and seven million people are at risk of periodic acute food insecurity from drought, floods and erratic rainfall. Additionally, only 10% of cereal croplands are irrigated and severe drought can shrink farm production by up to 90%.

Approach

GFDRR's approach to improve Ethiopia's disaster preparedness is taking place through the Livelihood Early Assessment and Protection Project (LEAP), a multifaceted project seeking to enhance the country's overall resilience to future shocks. LEAP serves as an early and accurate predictor of ex-post needs of droughts and flood events and allows users to quantify and index drought and excessive rainfall in various administrative units. LEAP also links rainfall shortage to yield reduction estimates. Based on these estimates, livelihood stress indicators are developed, which are used to calculate response costs. In other words, an important contribution that LEAP makes is that it establishes an important connection between rainfall shortage and contingency financing needs. Thus, it can predict the need to trigger risk financing as needed. Additionally, LEAP allows for: (i) the development of an ex ante risk financing strategy for the PSNP based on its annual expected response costs for transiently food insecure populations, beyond the chronic food insecure population; as well as its response costs for less frequent, but more severe events resulting in increased levels of transiently food-insecure populations; and (ii) the early identification of rising food insecurity linked to rainfall shortage and the allocation of appropriate levels of financing to implement a response. Note: Currently (i) and (ii) would only be for rainfall shortage that leads to crop stress, which at this time, would only cover farmers and not herders.

Moreover, the early warning outputs of the LEAP tool have been used consistently and successfully by several institutions investing in Ethiopia's efforts. Table 1 illustrates the different utilization modalities of the tool.

Highlights

Government agencies are already using the real-time data obtained from established LEAP infrastructure inputs for early forecast and warning purposes.

The Ethiopian Government is now able to provide affordable and effective financing options to support farmers in the event of loss of crops to floods or droughts due to the operational early warning and response system.

Disaster preparedness for recurring meteorological hazards has been improved through better risk financing.

Availability and enhanced quality of data and subsequent investment in the Government's National Meteorological Agency's (NMAs) capacity building efforts through the installation of automated weather stations (47 installed; 10 more in 2013) in addition to low-cost infrastructure and systems.

Training of 100+ experts drawn from governments, civil society and United Nations agencies on the application of LEAP's automated hydro-meteorological systems for early forecast, warning and DRM.

Improved capacity of Ethiopia's Ministry of Water and Energy through the establishment of automated hydrological telemetry and community-based flood forecast and management systems.

The LEAP tool has been instrumental in providing an early indication of areas requiring PSNP scale-up. This has helped to expand the PSNP risk financing mechanism to its current value of US$230 million.

GFDRR
Global Facility for Disaster Reduction and Recovery

LEAP Tool Utilization Modalities	User(s)
To produce regular early warning bulletins and trigger timely and appropriate responses to weather shocks.	Early Warning and Response Directorate (EWRD) of the Disaster Risk Management and Food Security Sector (DRMSFSS), under the Ethiopian Government's Ministry of Agriculture.
To identify hot-spot areas, improve current assessment efforts and provide early indication of areas requiring PSNP scale-up.	
To inform operations and provide a relevant secondary data to inform the multi-agency needs assessments.	Ethiopian Government and non-government agencies, donors, United Nations agencies and civil society.

Results

LEAP has strengthened disaster preparedness and supported establishment of Ethiopia's risk management framework. The Early Warning and Response Directorate (EWRD) of the Disaster Risk Management and Food Security Sector (DRMFSS), under the Ethiopian government's Ministry of Agriculture, is using the LEAP tool to produce regular early warning bulletins and trigger timely and appropriate responses to weather shocks. LEAP may also be used to identify hot-spot areas, improve current assessment efforts, and provide early indication of areas requiring PSNP scale-up. Various government and non-government agencies (including donors, United Nations agencies and civil society) use these early warning outputs to inform their operations. These also provide relevant secondary data to inform the multi-agency needs assessments.

The LEAP initiative demonstrated strong links between early warning and PSNP in enhancing the contingency funding and risk financing mechanism during droughts. It strengthened the government's resolve to move from a disaster relief model to a risk management strategy, with the overarching goal of protecting rural livelihoods and development gains. In addition to strengthening and building institutional capacity and improving early warning, the project has regional and countrywide benefits. Though the project produces results for all districts in the country, it will help scaling-up PSNP in 319 drought-prone districts. Broader benefits will be realized when the related and next project activities are implemented under Phase II or through the actions of complementary programs.

Partnership

The World Bank provided the initial financial resources (contingency funds) of US$25 million in 2008 to save the livelihoods of vulnerable households in the PSNP Ethiopian districts. Over the next five years, the level of funding by the World Bank and other donors reached USD$160 million. LEAP was not yet implemented at the time; therefore, the funding for the contingent financing window and the disbursements, were not determined based upon LEAP. As mentioned earlier, LEAP is currently being used as one of the tools to provide early warning information, along with other information streams such as seasonal assessments and hot spot analyses, in order to determine need.

The country-level team includes the World Bank and GFDRR staff members and Government representatives. In addition, a number of stakeholders were involved in data collection, data processing, software development/application and ultimate early warning data dissemination.
The risk financing mechanism was triggered in 2011. A total of USD$134.7 million was used during the drought that affected the whole Horn of Africa. Agencies directly involved in LEAP's design and implementation include: Ethiopia's Ministry of Agriculture (through the Ministry of Agriculture (DRMFSS*) agency) and World Food Programme (WFP)*; United States Agency for International Development (USAID); United Kingdom Department of International Development (DFID); Food and Agriculture Organization (FAO); and other research institutions.

Way Forward

LEAP's implementation has revealed areas of work that need more attention in order to make LEAP more robust, fully operational and integrated into the Ethiopian early warning and response system. These areas include: consolidating capacity building; further refining LEAP indices and updating LEAP software on a continuous basis to accommodate all index refinements; verifying and validating LEAP outputs through a "ground truthing" exercise led by DRMFSS; ensuring more accurate inputs; and further integrating LEAP triggers into the Government's early warning and response system.

LEARN MORE

Ethiopia Government LEAP Information: http://www.dppc.gov.et/Pages/leap.html
WFP LEAP Information: http://www.wfp.org/disaster-risk-reduction/leap
*Primary implementing entities.
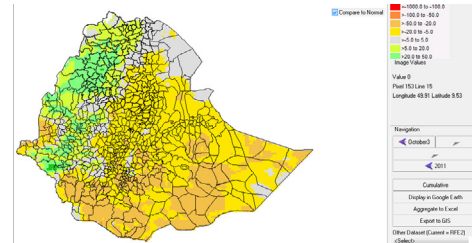
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The LEAP food security early warning tool converts agro-meteorological data into crop or rangeland production estimates and allow quantifying the financial resources needed to scale up the National Productive Safety Net. Programme in case of a major drought.

"My family eats three times a day now."

Mohammad, a farmer from Ethiopia, explains how his life has changed since he began taking part in the Productive Safety Net Programme (PSNP).

Lessons Learned

A robust initiative like LEAP that brings together a tool for early warning detection, contingency funding and risk financing mechanisms during droughts and floods, is capable of helping a government move from a disaster relief model approach to a disaster risk management strategy approach.

Better protection of the livelihoods of chronically food/insecure and flood-affected populations is possible through affordable and effective options for disbursement and contingency planning.