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.

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%.

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.
The LEAP food security early warning tool converts agrometeorological data into crop or rangeland production estimates and allows 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.

### LEAP Tool Utilization Modalities

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