



## From Harvest Decline to Food Crisis: The Looming Threat of the El Niño-Induced Drought on Food Security in Malawi.

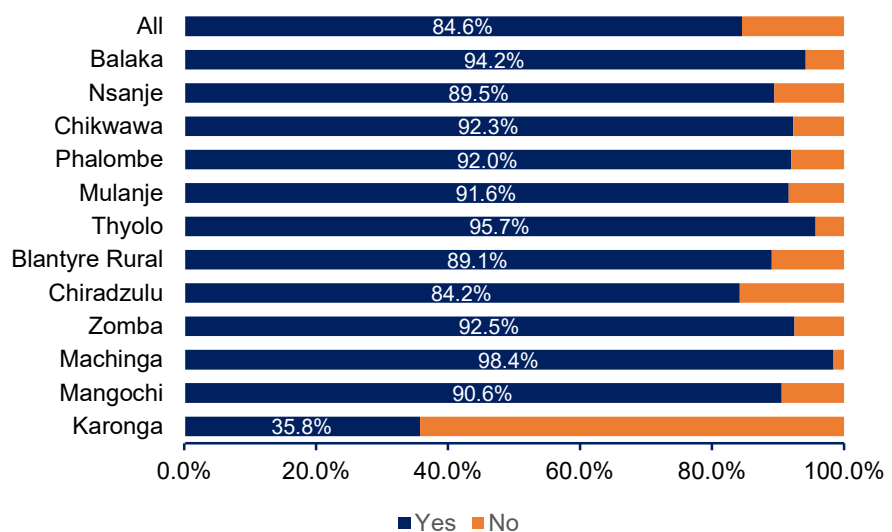
### Highlights

- Nearly all surveyed households (92.8%) expect significant harvest reduction across crops, leading to a major decline in food production and jeopardizing food security.
- Almost all households (94.7%) reported cultivating maize, of those, 76.5% identified it as the primary crop being impacted by the current drought. This heavy reliance on a single vulnerable crop worsens the looming food crisis. Promoting drought-resistant varieties and alternatives is crucial.
- A substantial portion reported moderate to severe crop damage (85.9%). Nearly half of the households anticipate significant yield losses, with 16.9% expecting complete failure, especially for maize, which is a major cause for concern. This decline may translate directly to food shortages and increased food insecurity in the country. Shock sensitive social protection interventions are key for such vulnerable households.
- There is limited access to early warning information with only 44.1% having access to it, and inaction by a significant proportion of those who received the information (44.8%) worsens the situation. Improved communication with actionable advice is necessary.

### Drought Impact

A majority (84.6%) of surveyed households reported being negatively affected by the dry spell, with the southern region of Malawi experiencing the most significant impact. This represents highest number of households in the last 3 years based on the longitudinal data. In Karonga, which is located Malawi's northern region, approximately 35% of respondents reported being exposed to drought conditions. This highlights the geographically uneven

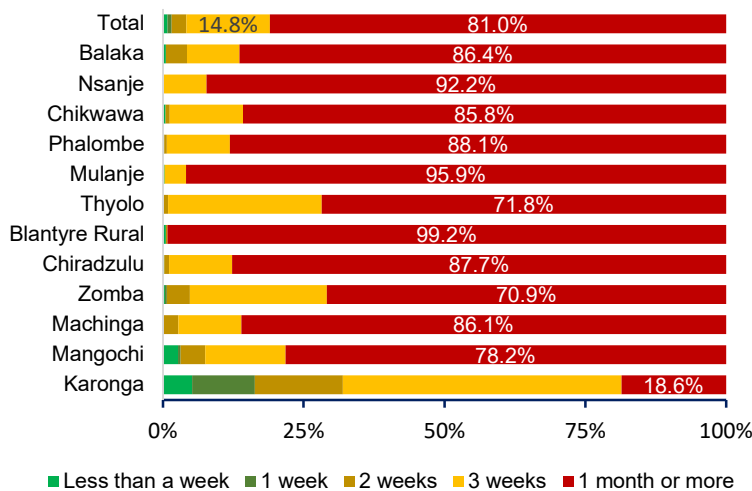
**Figure 1: Has your household been impacted by the recent dry spell/drought? (n=5,827)**



distribution of the impact resulting from the El Nino induced drought due to variations in rainfall patterns across the different regions. Of note, Karonga was heavily affected last year but the situation is better this year, revealing differentiated impact across the districts/regions and years.

Across all districts, households that reported being affected by drought the majority (81%) of respondents endured dry spells exceeding four weeks. In contrast, households surveyed in Karonga deviated from the other districts, with the highest number of households reporting shorter dry spells (up to a maximum of 3 weeks). Districts such as Thyolo and Zomba also experienced slightly shorter dry spells compared

**Figure 2: For how long did the dry spell/drought last in your area?**



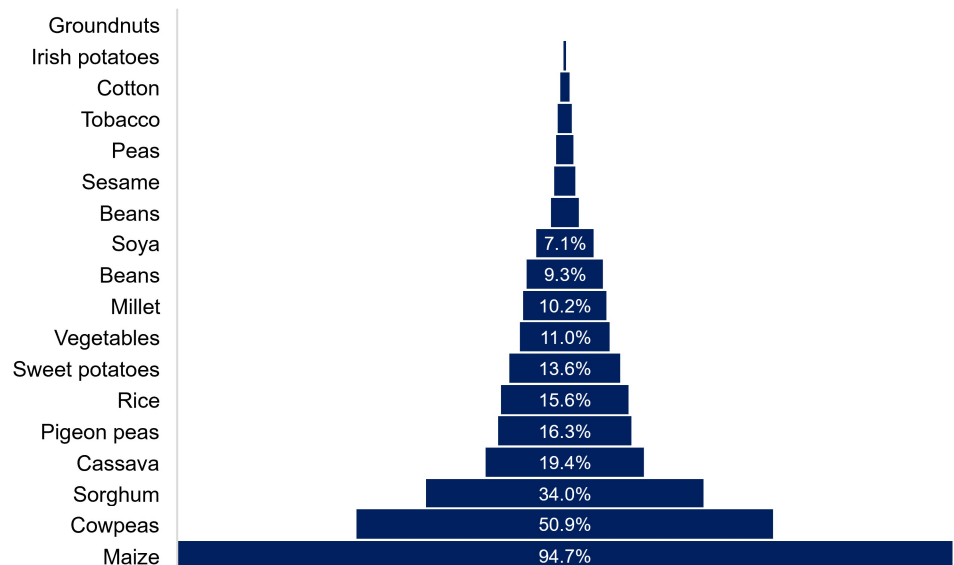
to other districts in the southern region. This suggests some degree of regional and district variation in the duration of the dry spell, with the southern region likely experiencing longer and more severe drought conditions. Notably, almost half (42.2%) of respondents observed a rise in pest or disease pressure associated with the dry spell. Fall Armyworm was frequently mentioned. This corroborates with research that shows that climate-related shocks such as droughts create favorable conditions for the proliferation of pests and diseases, further exacerbating crop losses. Further investigation into other specific pest and disease outbreaks associated with the drought could aid in developing targeted

control measures.

### Maize Dominance and Vulnerability

Maize emerged as the dominant crop cultivated by 94.7% of households. This reflects the central role maize plays in Malawian agriculture as a staple food source. However, a concerning trend emerges when examining the drought's impact on crop health. While maize is the dominant crop cultivated by the surveyed households, it is also identified as the most susceptible to the drought conditions.

**Figure 3: What crops did your household cultivate this growing season?**

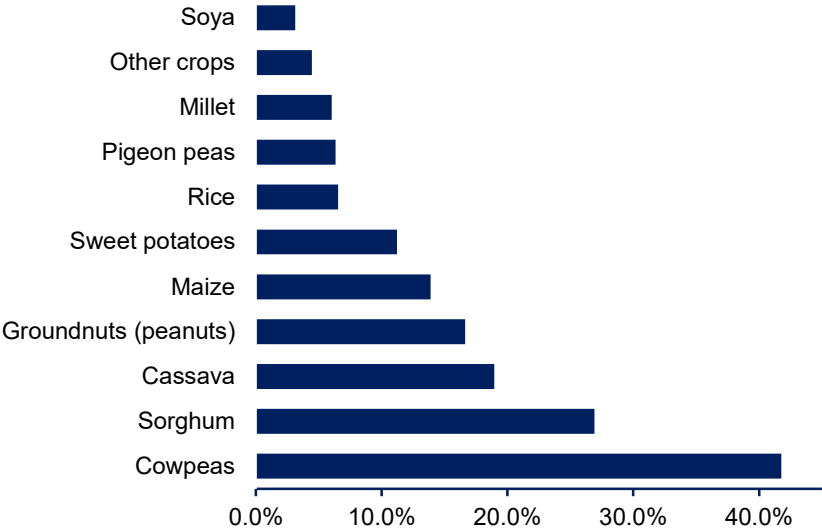


A substantial percentage of respondents reported the drought conditions having a moderate to severe impact on the overall health and development of their crops, 34.5% - severe (drying of stalks, significant flower/fruit abortion), and 28.5% - moderate (significant wilting, reduced leaf area) respectively, while 20.9% reported very severe (complete crop failure). This translates to a significant risk of harvest failure, potentially leading to a significant shock to the entire food system. Despite this reliance, households exhibit a degree of diversification, cultivating an average of three crops.

**Anticipated Yield Loss**

Nearly half (47.5%) of households anticipate a significant reduction in yields due to the drought, with 16.9% expecting complete crop failure, particularly for maize, which is a major cause for concern. This projected anticipated yield loss points towards a significant decline in overall agricultural production, with maize, the staple crop, being the most severely affected. Only 3.3% of the households expect no impact on yield.

**Figure 4: In your experience, which of the following crops, if any, have shown greater resistance to drought compared to others?**



**Drought-Tolerant Alternatives**

Analysis of Figure 5 reveals promising alternatives to maize. Cowpeas, sorghum, cassava, and groundnuts all exhibited greater tolerance to the drought compared to maize and other crops. Interestingly, despite maize's general susceptibility, 20% of households reported it as somewhat drought tolerant. This suggests that some farmers may already be cultivating drought-tolerant or early-maturing maize varieties. Investigating these successful strategies could offer valuable insights for future adaptation efforts aimed at building sustainable alternatives for smallholder farmers.

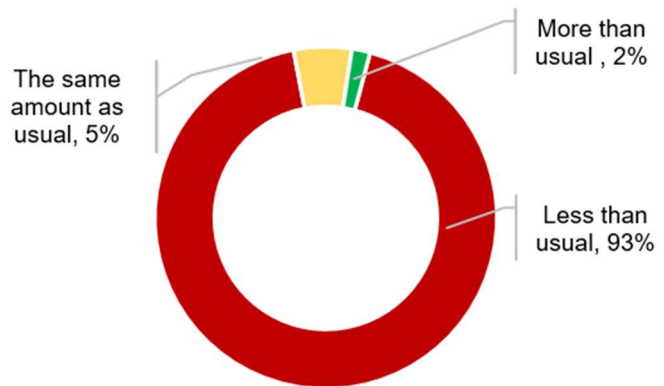
Promoting these crops could be a crucial adaptation strategy for Malawian farmers to enhance agricultural resilience in the face of future droughts. Exploring the economic viability, cultural acceptability, and potential yield of these drought-tolerant alternatives compared to maize could be important factors to consider when promoting their adoption.

## Food Security Concerns

The majority (92.8%) of households expect to harvest less than usual for all crops planted this year, raising serious concerns about food security. This widespread expectation of a reduction in yields indicates a potential food security crisis, particularly for vulnerable populations who rely heavily on agriculture for their subsistence.

A significant portion (93%) of households anticipate a reduced yield and only a small percentage (4.1%) expect the same yield as last year. This emphasizes the severe threat posed by the drought to Malawi's food security, as maize production is likely to be significantly impacted. Investigating potential coping mechanisms employed by households to address reduced maize harvests could provide valuable insights for future preparedness efforts.

**Figure 5: Compared to a normal year, do you expect to harvest?**



## Gap in Early Warning Systems and limited action

A significant gap exists in accessing early warning information, with only 44.1% of households reporting such access. While radio emerged as the primary source (78.6%), followed by agricultural extension officers (33.8%), and community meetings (23.6%), a significant segment of the population remained uninformed about the impending threat of the El Niño-Induced Drought and how to cope with it. This limited access underscores the need for a more robust communication strategy anchored in community structures to ensure timely dissemination of drought forecasts and preparedness information.

However, the challenge goes beyond mere access of information. Even among those who received early warning information, a concerning 44.8% did not take any action. Notably, no statistically significant difference was observed in anticipated yield loss between this group and those who did utilize the information. This suggests a communication gap that goes beyond simply delivering the message.

The recent drought exposes critical vulnerabilities in Malawi's food system. Overreliance on drought-susceptible maize and limited access to clear early warning information necessitate a multi-pronged approach. Below is a 5-point recommendation that addresses immediate needs and builds long-term resilience:

### 1. Targeting Food Assistance with Precision

Our data reveals a widespread expectation of harvest decline across all crops (92.8%), particularly for maize, the Malawian staple (93%). To ensure resources reach the most vulnerable populations, a multi-phase needs assessment is crucial. This will identify households heavily reliant on maize and experiencing the most severe food insecurity over and above the chronically food insecure. This targeted approach ensures resources are directed towards those who need them most for impactful food assistance programs.

## **2. Diversifying Crops and Accelerating Adoption of Drought-Tolerant Options**

The report highlights Malawi's dependence on drought-susceptible maize (94.7% cultivated, 76.5% damaged) and the potential for widespread crop failure (16.9%). Promoting climate-smart agriculture is essential. There is an urgent need for farmers to adopt drought-tolerant crops and varieties well-suited to local conditions. Concurrently, addressing barriers to adoption is critical. Ensuring access to affordable seeds and training on cultivation techniques for these crops will facilitate a faster transition away from maize monoculture.

## **3. Strengthening Early Warning Systems and Enabling Informed Action**

The report identified limited access to early warning information (44.1%) and inaction by some who received it (44.8%). To improve communication, we must expand access to clear and actionable early warnings and preparedness information through a multi-channel approach. This includes leveraging radio (the current primary source), SMS, and agricultural extension officers.

Crucially, information needs to be tailored to address local concerns. Providing actionable advice on drought mitigation techniques for both maize and new drought-resistant crops is essential. Investigating reasons behind the limited response – communication clarity, resource limitations, or other factors – will ensure effective action in the future.

## **4. Fostering Collaboration for a Unified Response**

Strengthening communication and collaboration between government agencies, agricultural extension services, non-governmental organisations (NGOs), and local communities is critical. This ensures effective dissemination of warning, improved access to resources and technical assistance, and a more coordinated response to future droughts. Combining expertise and resources from diverse stakeholders leads to a more effective response across the entire food system.

## **5. Building Long-Term Resilience Across the Food System**

Empowering smallholder farmers, the backbone of Malawian agriculture, is crucial. Promoting climate-smart practices like water harvesting and conservation agriculture equips them to manage water resources efficiently and improve soil health. This strengthens their maize production, making it more resistant to droughts that threaten future harvests.

Maga-Farms can also contribute significantly. By expanding irrigated areas, they increase water access for crops, boosting overall agricultural productivity. This additional water buffer strengthens the entire food system's ability to withstand droughts. Additionally, research on alternative staple crops with higher drought tolerance and local acceptance is essential. Promoting these crops not only encourages dietary variety but also reduces reliance on a single crop.

## Methodology

This analysis leverages data from the Rapid Feedback Monitoring System, a longitudinal monitoring system co-designed in 2020 by the Malawi Government (NSO) and key partners (CRS, World Bank, USAID, FCDO, Cornell). The RFMS is representative at the district level and uses a two-stage sampling, following the sampling frame employed in the Malawi Integrated Household Survey/Living Standards Measurement Study (IHS/LSMS).

In the first stage, 18 Enumeration Areas (EAs) are selected per district. Prior to the second stage of sampling, a household listing exercise is conducted in these 18 selected areas and then 25 households are selected in the second stage to participate in the RFMS, resulting in an over-all sample size of approximately 7,200 households across 11 districts in the south and one from the north.

CRS utilizes a unique "embedded enumerator" model for data collection. Residents collect data within their own communities, fostering trust and reducing participant attrition. This cost-effective approach empowers youth and cultivates local experts who provide vital insights during crises and effectively communicate back to their communities. Residing within the target areas allows for real-time data capture on factors impacting food security and well-being.

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