



Agile Data Systems for Food Security Monitoring, Resilience Insights, Forecasting, & Collaborative Response

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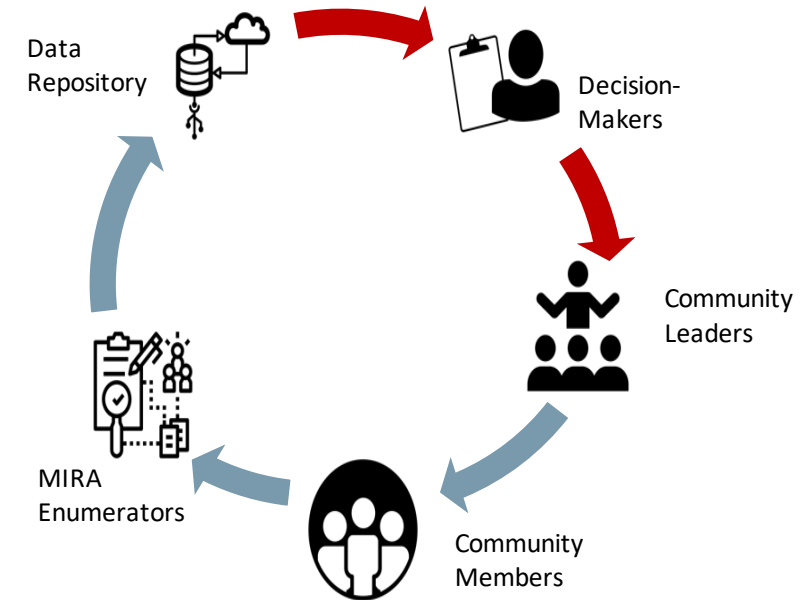
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Overview of the MIRA Approach

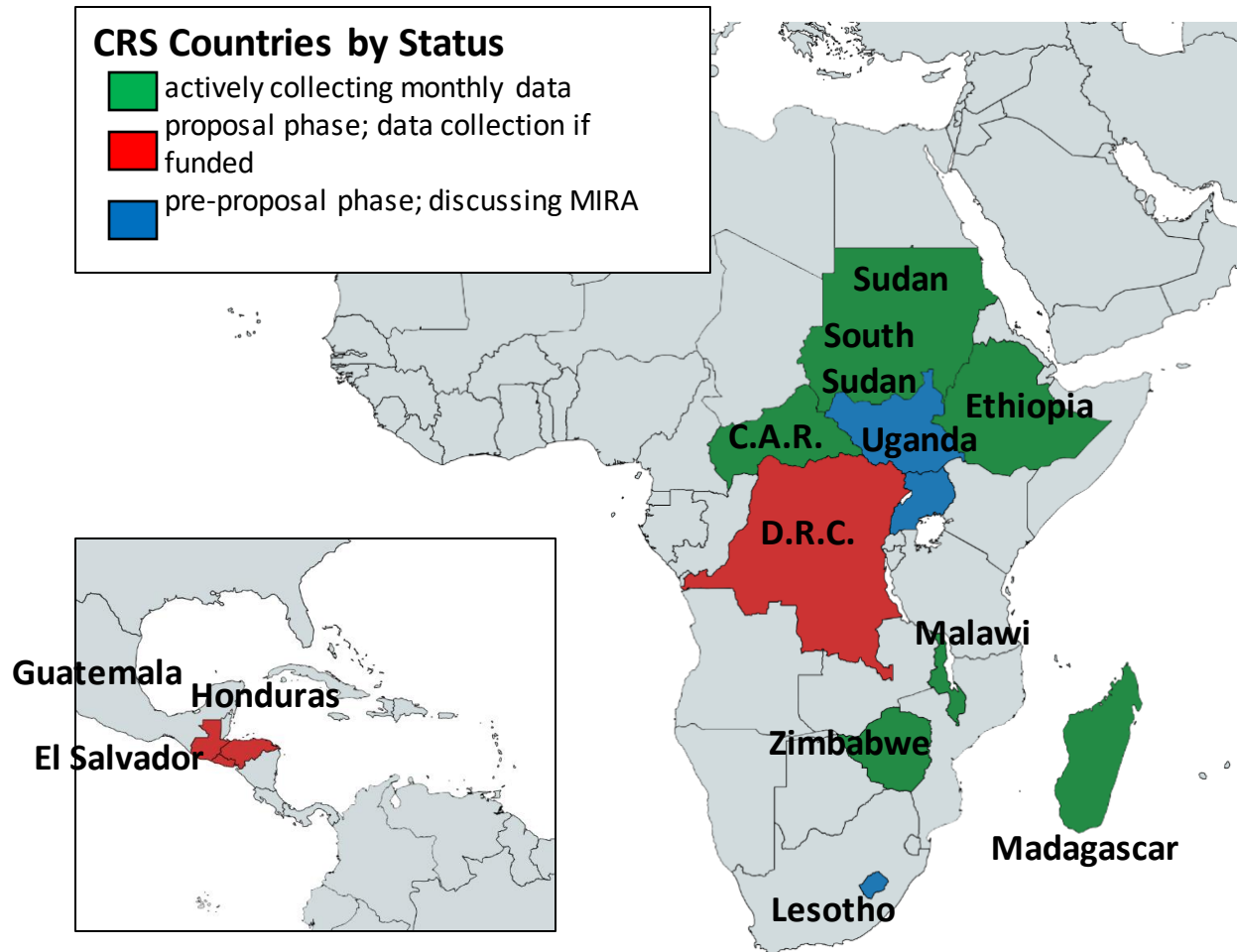
- **Monthly data collection** on shocks, food security, and coping strategies.
- **Community-embedded enumerators** trained, equipped with smartphones, compensated per-survey using mobile money (where possible).
- **Automation** of surveys to a cloud server on a monthly basis and data to dashboards.
- **Responsiveness and flexibility** to deploy survey modules in response to specific shocks or conditions.
- **Community engagement** through sharing simple reports back to community leaders each month.
- **Data sharing** with key stakeholders at national- and sub-national levels.



MIRA Community Engagement Cycle

Expanding map of MIRA / RFMS countries...

vary in status, partnerships, and primary objectives



• Malawi

- Pilot in 2016 under USAID project, expansion to 12 districts over 2020-2022, *Rapid Feedback Monitoring System (RFMS)* project (2020-25)
- Outside of a specific CRS project and in partnership with GoM, World Bank, and others

• Madagascar

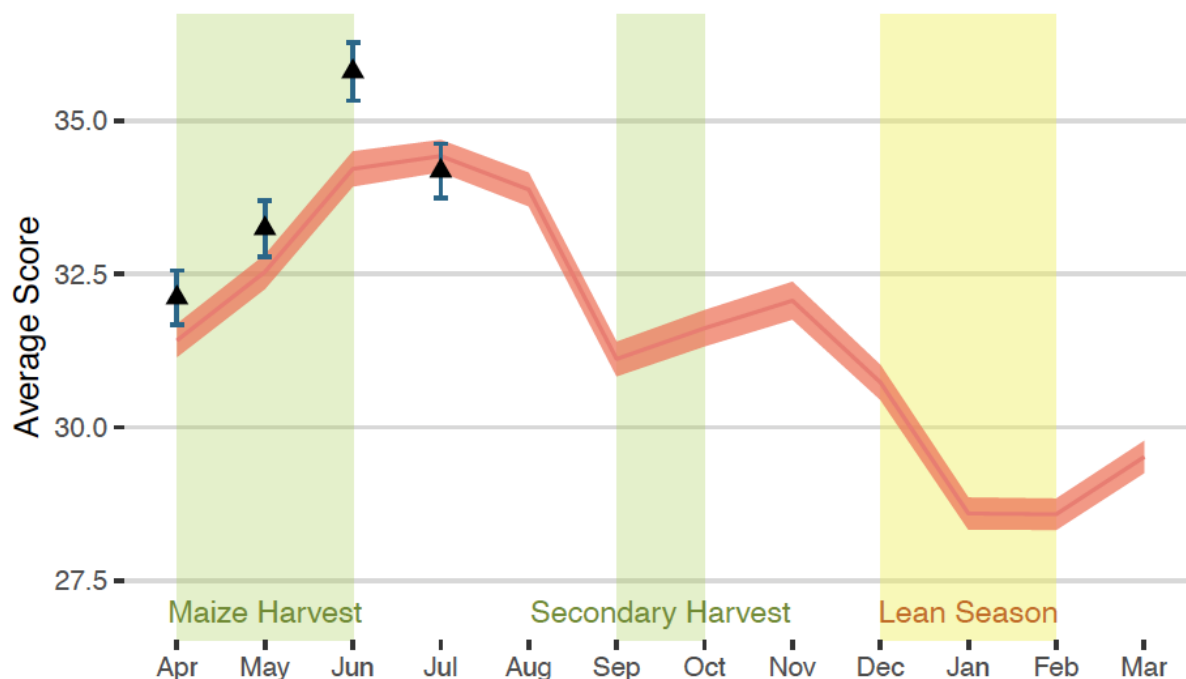
- Pilot in 2018, expansion in 2022, under USAID programming - Firanga / Maharo (2020-24)
- Representative data for monitoring & programmatic applications

• Ethiopia

- Launched in 2021 as part of a USAID DFSA - *Ifaa* (2021-26)
- Focus on program adaptation

Food Security Trends - Comparing previous years (with CI) to present

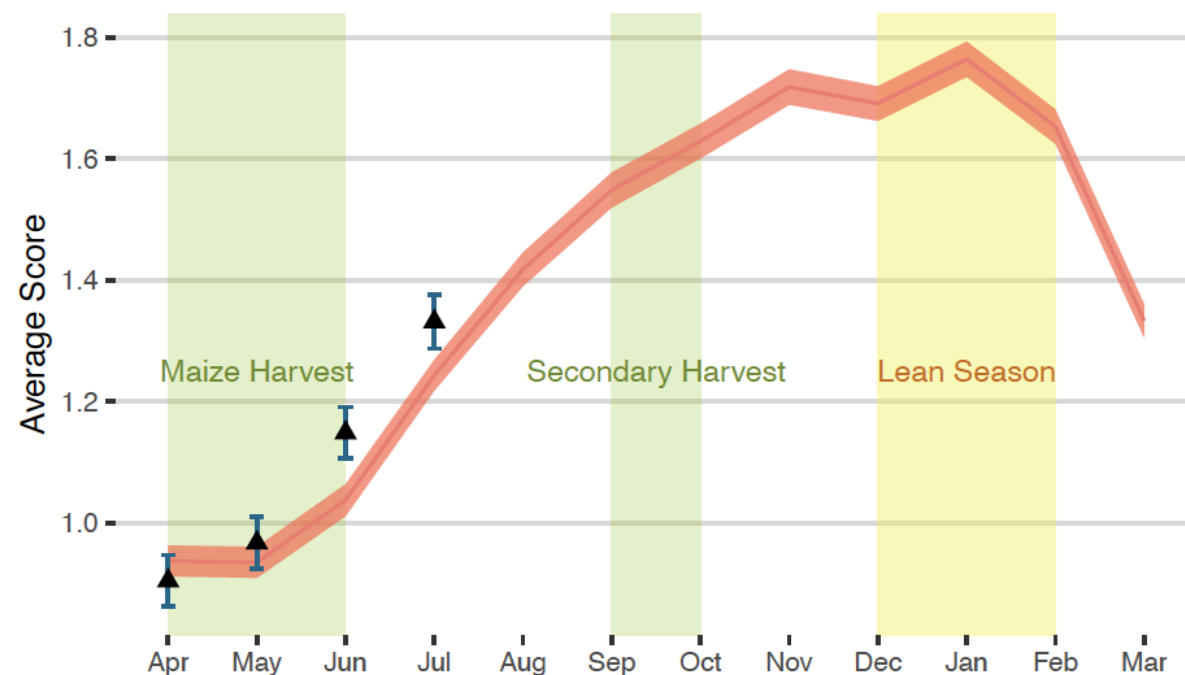
Household Food Security, comparing years
Food Consumption Score (FCS)



▲ Monthly average this year, with 95% CI

— Monthly averages from prior year(s), with 95% CI

Household Food Security, comparing years
Household Hunger Scale (HHS)



▲ Monthly average this year, with 95% CI

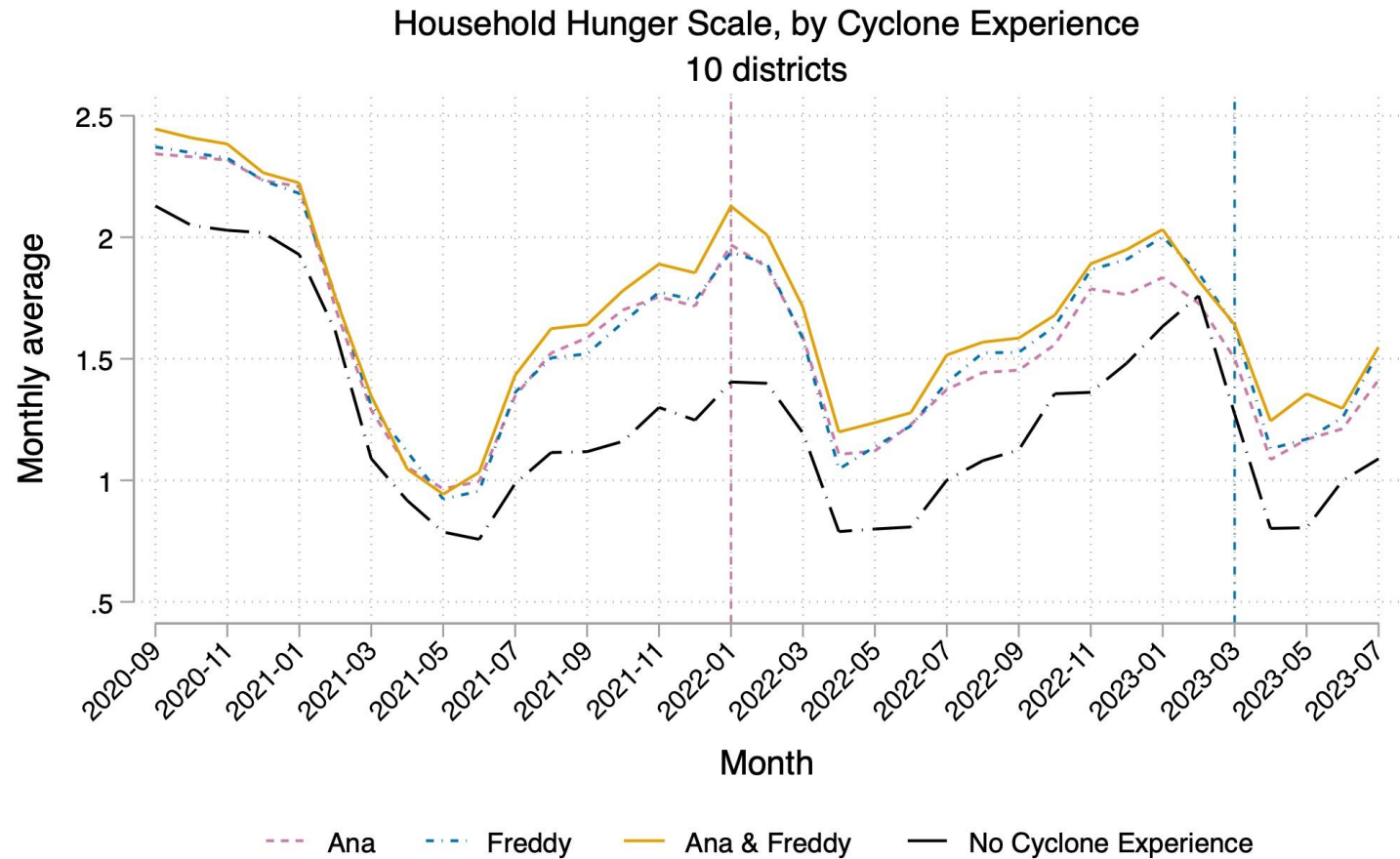
— Monthly averages from prior year(s), with 95% CI

Chronic Food Insecurity

| | Avg % of months food secure | Transitory food security (%) | ALWAYS food secure (%) | Percentage of Time FOOD SECURE | | | | | | | | | | NEVER food secure |
|-----------------|-----------------------------|------------------------------|------------------------|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------------------|
| | | | | 90-100% | 80-90% | 70-80% | 60-70% | 50-60% | 40-50% | 30-40% | 20-30% | 10-20% | 0-10% | |
| FCS | 38 | 90 | 1 | 5 | 7 | 7 | 7 | 9 | 7 | 9 | 10 | 11 | 27 | 8 |
| HDDS, 24 - hour | 31 | 82 | 1 | 5 | 5 | 5 | 6 | 7 | 6 | 6 | 9 | 10 | 40 | 17 |
| HDDS, 7-day | 33 | 84 | 2 | 6 | 6 | 5 | 6 | 7 | 6 | 7 | 8 | 11 | 38 | 14 |
| rCSI | 19 | 76 | 0 | 1 | 1 | 2 | 3 | 6 | 4 | 6 | 10 | 15 | 51 | 24 |
| HHS, = 0 | 41 | 90 | 2 | 5 | 6 | 7 | 8 | 11 | 9 | 9 | 11 | 12 | 20 | 7 |
| HHS, <=2 | 69 | 85 | 14 | 20 | 16 | 9 | 7 | 9 | 7 | 6 | 5 | 5 | 3 | 1 |

Cyclone impacts & lean season response

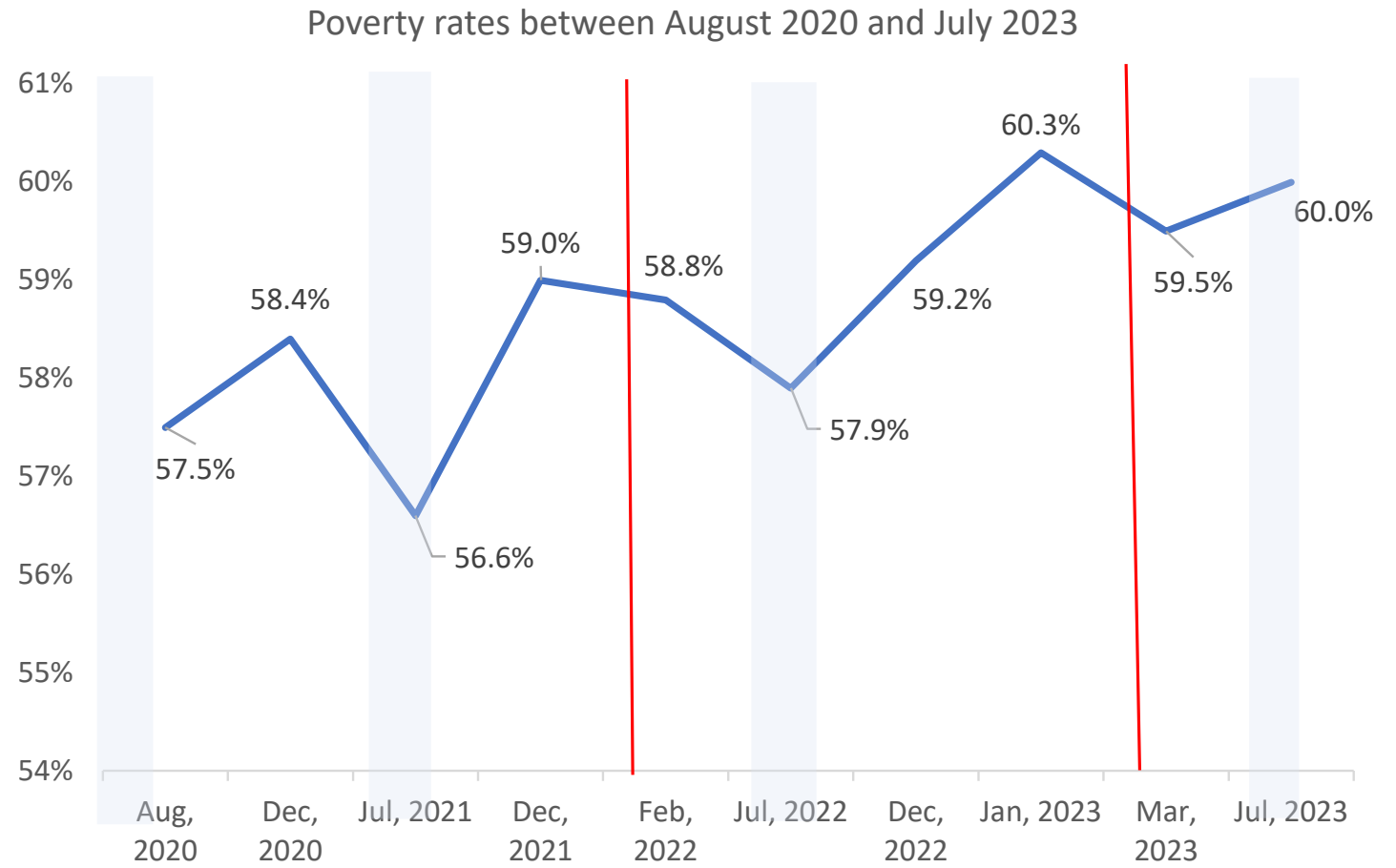
- Major cyclones hit in both 2022 and 2023
- Working to develop and share insights into *how* recent cyclones are likely to affect lean-season food insecurity in 2024 – as well as to better understand differential impacts and recovery across affected areas



Note: Data through June 2021 reflects 6 districts; 10 districts thereafter

Cyclone impacts & lean season response

- Gain added insight from the SWIFT approach; shaded areas showing the harvest seasons and red lines showing cyclone incidence
- Poverty rates increase post-cyclone, but at a delay – as people buffer their food insecurity initially but suffer (relative to others) once the reduced harvest is realized
 - Consistent with findings on food security

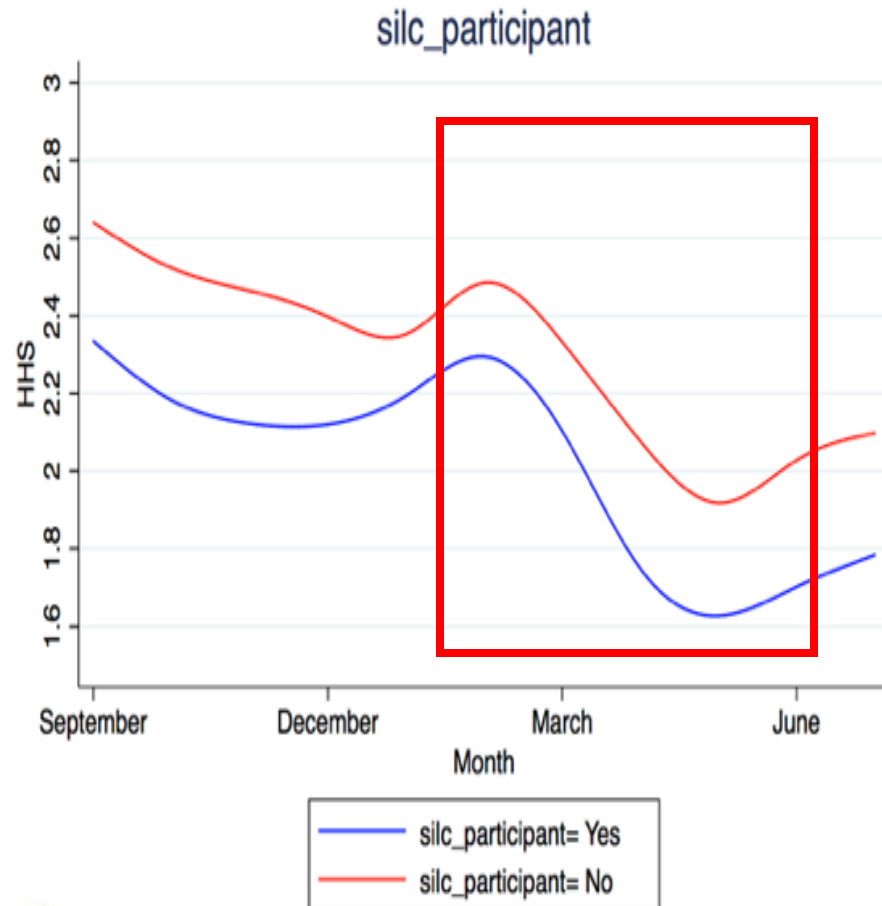


These data (--a quality, high-frequency panel survey) lend themselves to innovative and policy relevant research

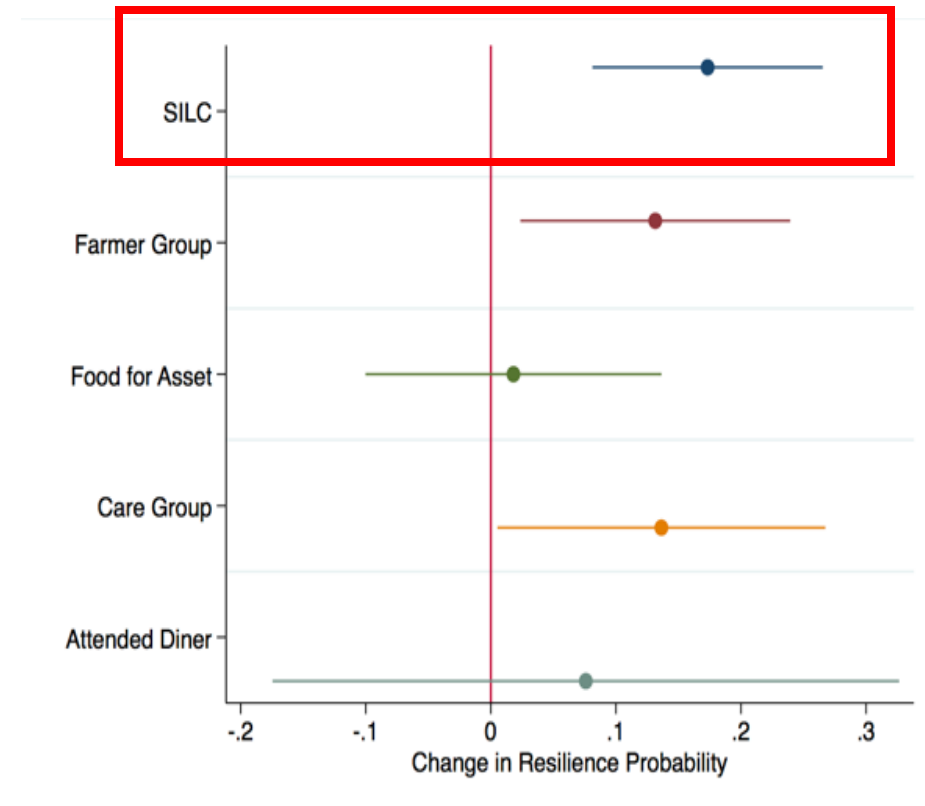
- Food security *predictive* analytics (nowcasting and forecasting), integrating climate indicators
- Understanding and characterizing household resilience / recovery, and shock impacts (Covid-19, cyclones, food prices...)
- Household livelihood activities and behaviors in response to shocks (financial services, coping behaviors)
- Analyzing the importance of and impacts of social protection / assistance
- Monitoring METHODS and phone-based surveys
- Migration dynamics
- Food and water security

Evidence of CRS Interventions Building Resilience

Participants in Savings and Loans Groups experience less food insecurity



Participants in Savings and Loans & Farmer Groups are more resilient



Shock Response

SHOCKS AND HAZARDS

RECOVERY

FOOD SECURITY AND LIVELIHOODS

RESILIENCE & SOCIAL PROTECTION

RESEARCH & ANALYSIS

Shock Experience

Shock Impact

Year

All

Month

All

District

All

TA

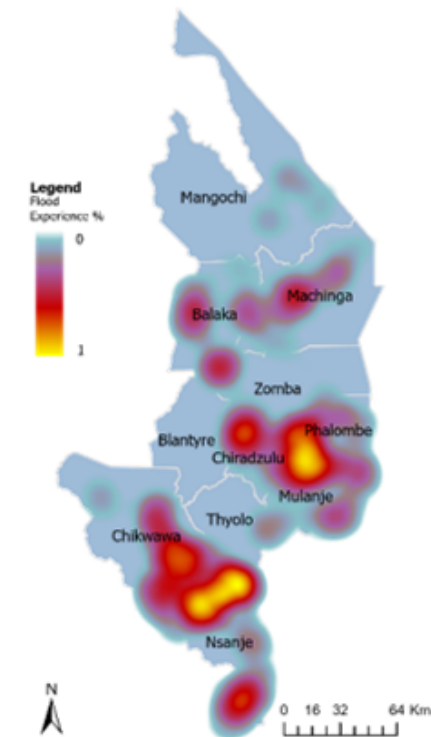
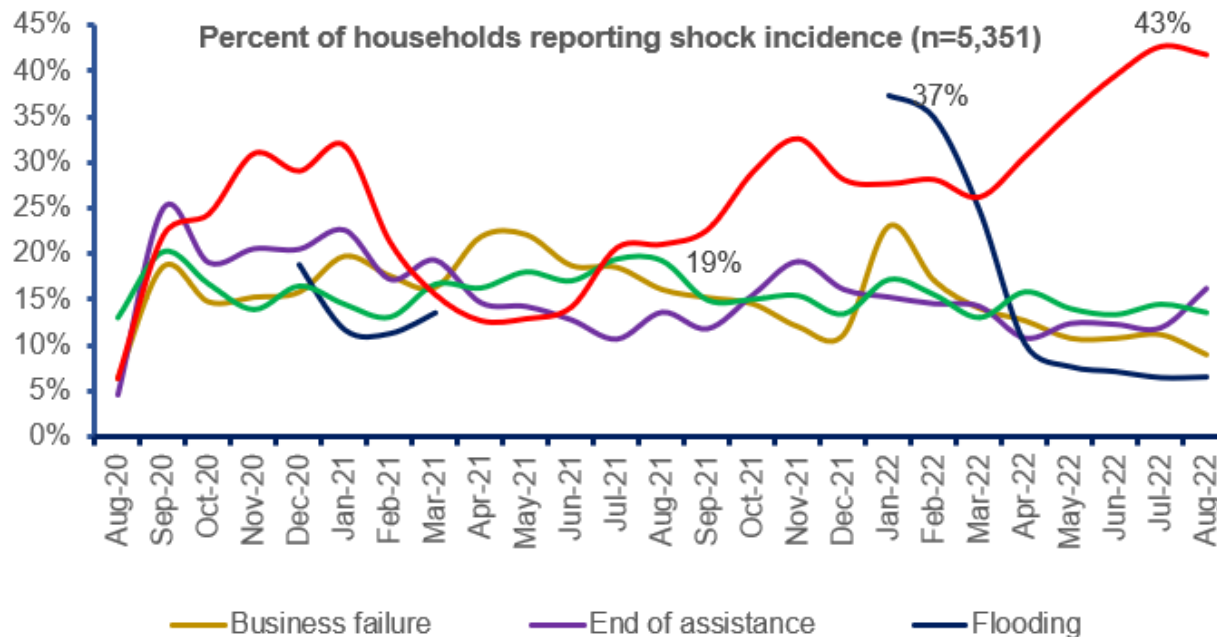
All

EA

All

GVH

All



Flooding

Drought

Rise in Food Prices

Epidemic

Livestock disease

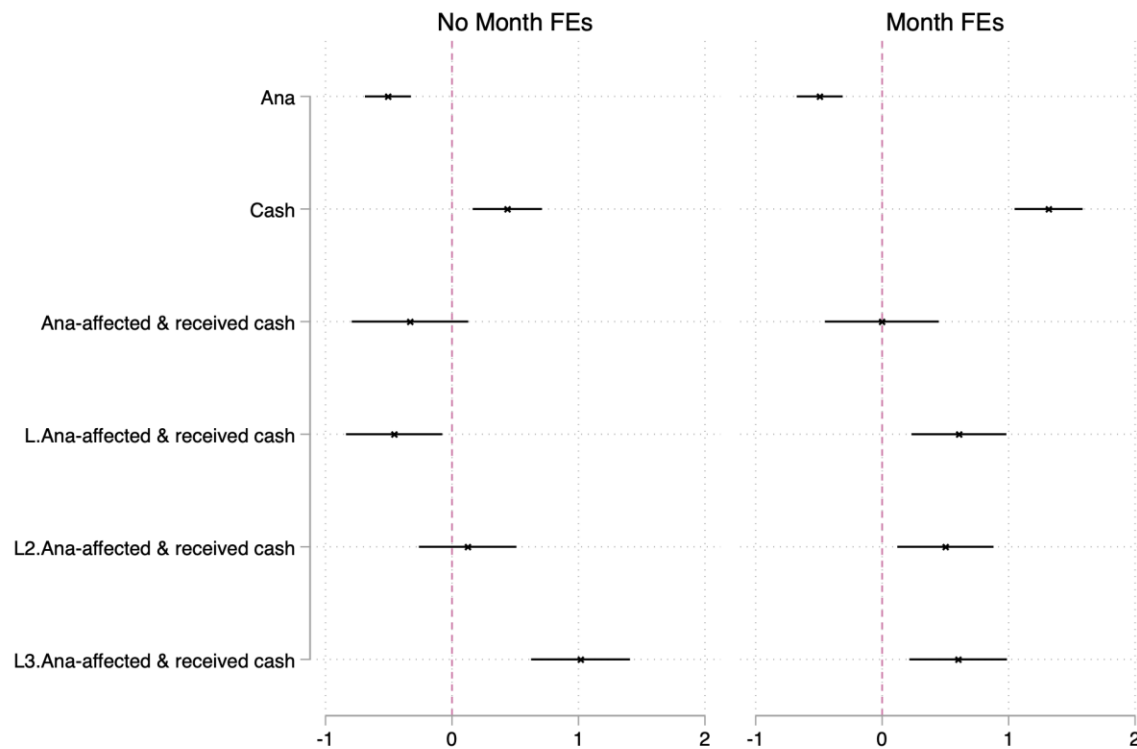
Livestock disease

Livestock disease

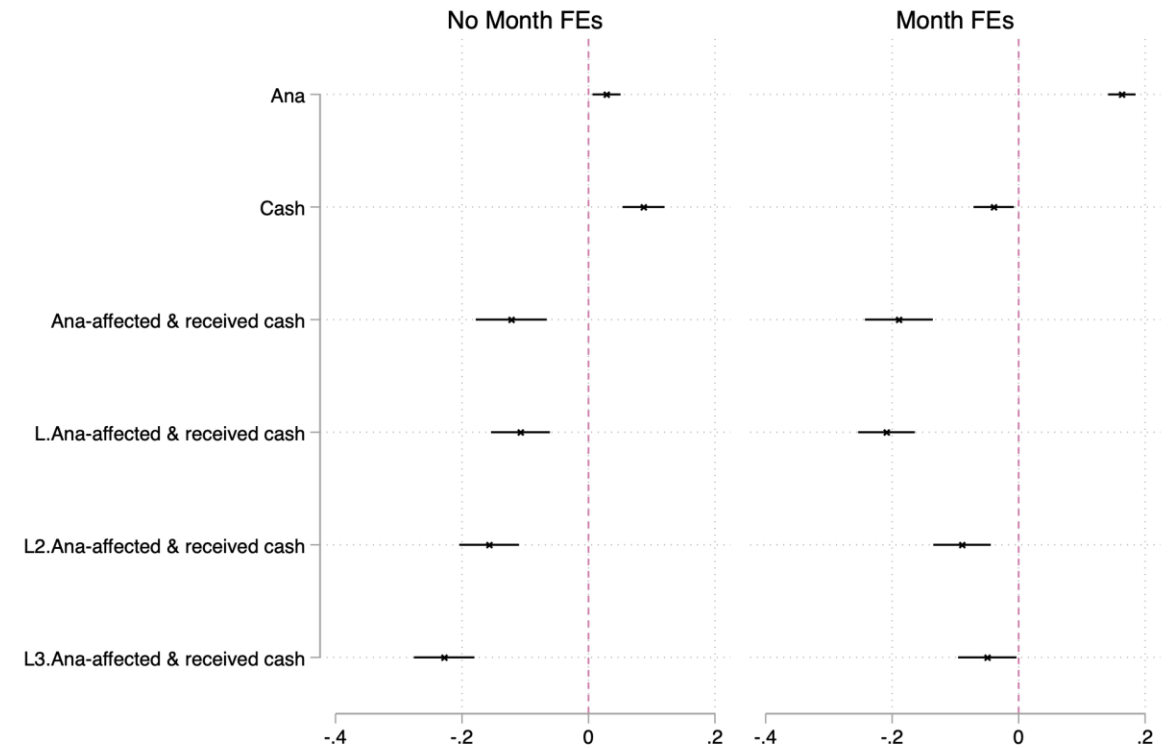
Evidence of interventions mitigating shock impacts

Cash assistance is the GoMs most important safety net – and the *ability to control for months of the year* reveals that it has lasting importance for households affected by cyclones

Cash Impact on Food Consumption Score



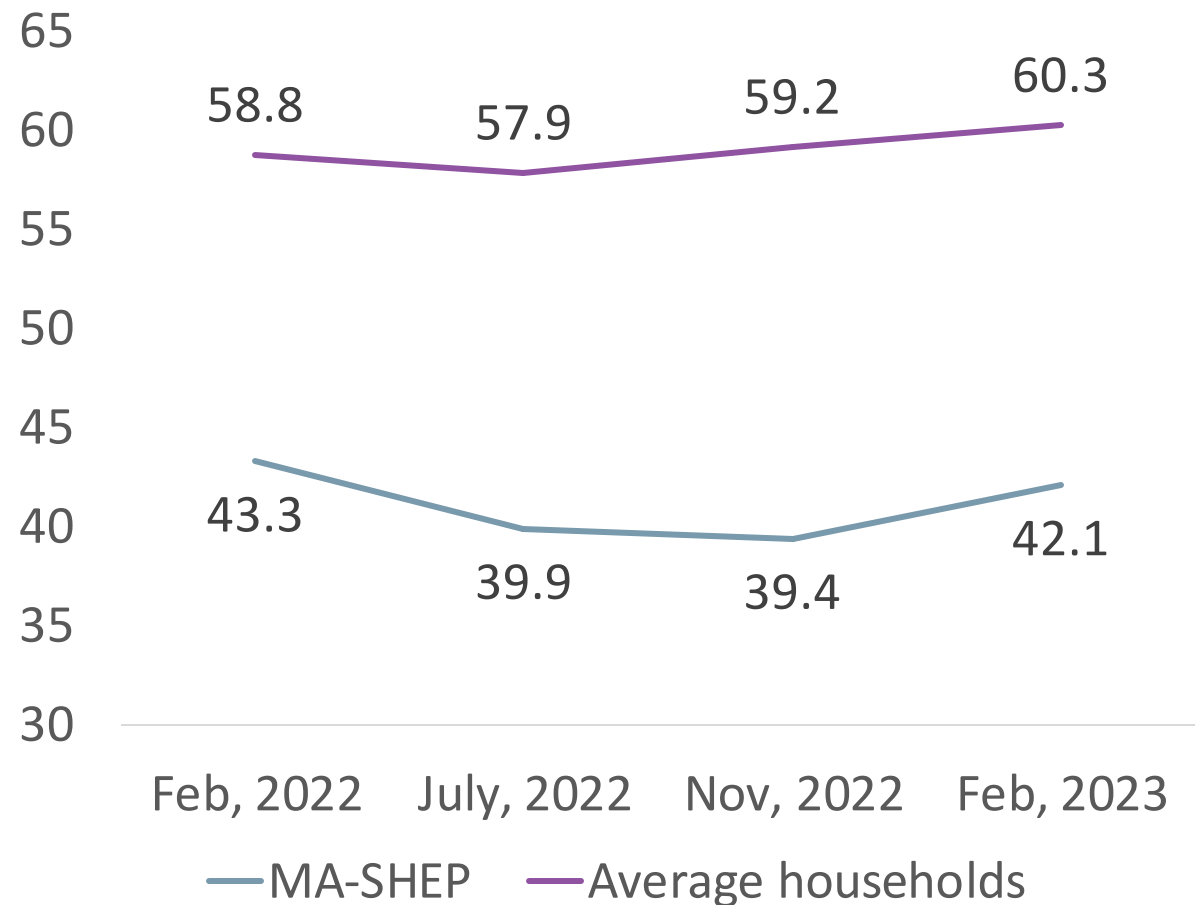
Cash Impact on Household Hunger Scale



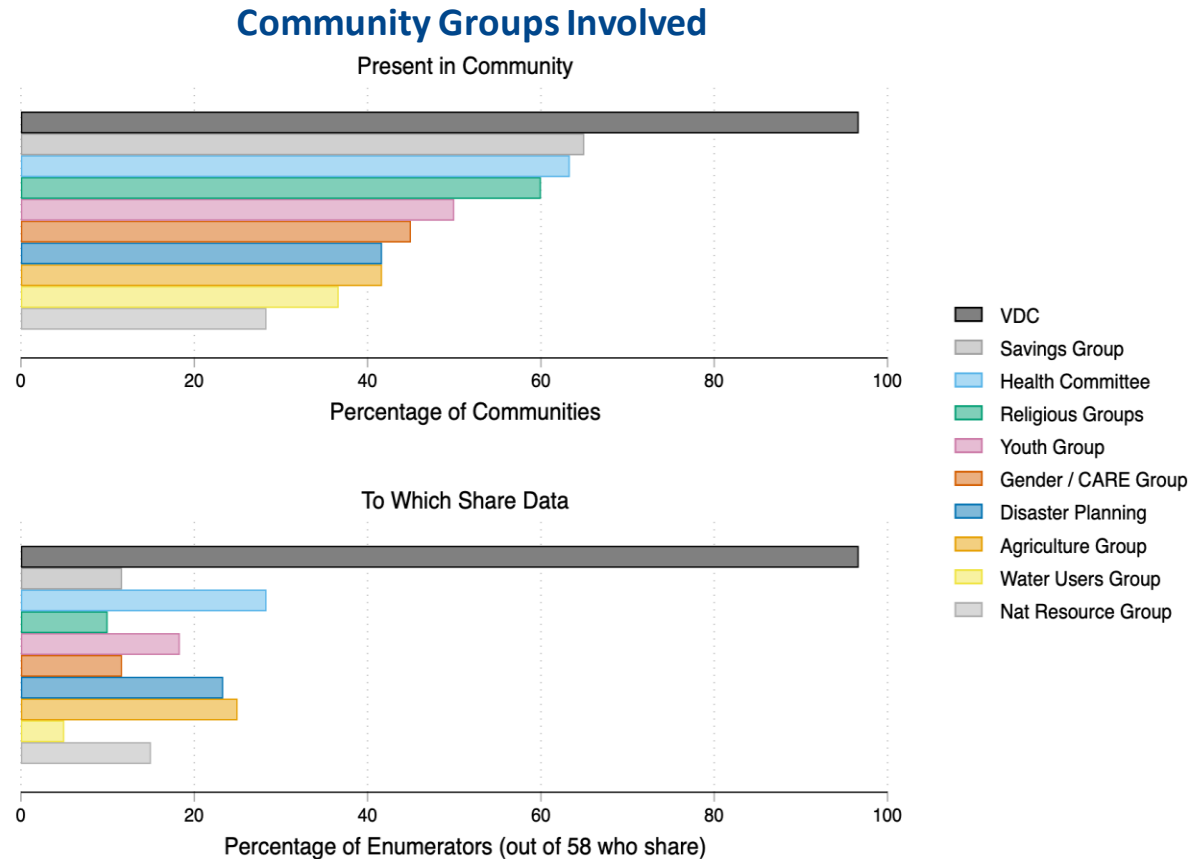
Poverty Trends

- World Bank team leveraged the RFMS to evaluate MA-SHEP (Market-Oriented Smallholder Horticulture)
- Retrospective analysis shows that households did not differ much from district-wide averages at the start of the program – but current poverty rates and trends show major improvement in the MA-SHEP areas

Poverty headcount rates (%)



Community Engagement & Empowerment



- Starting in 2017, provided data back to communities to share with local committees
- Follow-up, mixed-methods study in 2022 to track data sharing mechanisms and results
- Shows usefulness of data for *advocacy* as well as *coordinating community action*, mostly for disaster preparedness and response
- Plans to further this by experimenting on the impacts of different types of information

Community Engagement & Empowerment



Reported RESULTS from Data Sharing

