Village development committee discussing MIRA project community level data. Photo by CRS Staff.

Monthly Interval Resilience Analysis (MIRA)

MEASURING RESILIENCE AND WELL-BEING FOR STRONGER FOOD SECURITY AND RESILIENCE PROGRAMMING

Background

What is Resilience?

Resilience is "the ability of people, households, communities, countries and systems (social, economic, ecological) to mitigate, adapt to, recover from shocks and stressors in a manner that reduces chronic vulnerability and facilitates inclusive growth" (USAID, 2012). The development community has increasingly recognized the importance of understanding- and measuring-resilience, particularly to better identify and meet the food security needs of the poor and vulnerable in the face of drought, catastrophic floods, disease outbreaks and other shocks and stressors. Efforts are being refocused on better resilience programming and measurement/monitoring as a complement to emergency assistance and to reduce backsliding into poverty.

What is MIRA?

The Monthly Interval Resilience Analysis (MIRA) is CRS' high frequency resilience monitoring approach and is used for measuring resilience and well-being for stronger food security and resilience programming.

MIRA was jointly designed by CRS and Cornell University to provide short-interval trend data on the shocks that households experienced, the food security and well-being impacts of these shocks, and ultimately, households' resilience outcomes. MIRA provides actionable data in place of other annual methods of tracking resilience, which fail to capture seasonal changes or how households are affected before, during, and after a shock, in time for communities to effectively respond and prepare.

Brief History of MIRA

MIRA was initially piloted in 2016 to monitor and analyze resilience trajectories for households affected by flooding in the Chikwawa district of Southern Malawi. Following this successful proof of concept, the MIRA protocol was expanded to 2,100 households across the three districts under the USAID-funded UBALE program.

In 2018, CRS Madagascar piloted MIRA in a protracted emergency context with 600 households in the Grand Sud. Since then, MIRA was scaled successfully and is still used for emergency programming, including COVID-19 response.

In Malawi, MIRA transformed into The Rapid Feedback Monitoring System (RFMS) concept in 2020 (funded by USAID and The World Bank) and emerged to establish a shared infrastructure for frequently capturing poverty and vulnerability/resilience data. Initially used in more rural settings, the RFMS has now expanded to urban areas.

MIRA Protocol: 7 Key Elements

I. **Digital Data Collection**: MIRA combines a baseline and end line survey with monthly household data on shocks, food security and coping strategies.

II. **Capacity building & incentives**: Enumerators hired from participating communities are trained to collect household information using a digital survey. Enumerators spend approximately 10 minutes per interview talking to households about shocks such as drought, flood, diseases, and also those affecting a specific household such as injury or death of a family member. Enumerators are compensated using mobile money.

III. **Automation**: Surveys are uploaded to a cloud server on a monthly basis which allows for remote data collection and monitoring. This feature was especially useful during the COVID-19 pandemic when travel was limited.

IV. **Responsiveness**: The survey can be adapted to include modules in response to specific shocks and contexts.

V. **Quality assurance**: Data quality is verified using spot checks and removing outliers.

VI. **Community engagement**: The data is shared with village development committees and national partners. Using community-embedded enumerators also helped reduce attrition, ensuring there wasn't a gap in data collection.

VII. **Data use**: The data is used to make evidence-based decisions on which interventions to prioritize and how to best spend resources for improved resilience outcomes.

Benefits of MIRA

■ The community is engaged from data collection to data use, resulting in greater buy-in and application of results for decision making. For example, information regarding the outbreak of a livestock disease was shared with the Evangelical Association of Malawi, who then purchased a drug kit with vaccines and other medicines and donated the supplies to a local para vet in the area. In one community, a significant number of households reported that members had contracted malaria. Community members shared this information with local Health Surveillance Assistants who organized for bed nets to be distributed to the affected areas. A third example of MIRA driving local action is when a community found their crops destroyed by the fall army worm. The community leader shared this information with representatives from OXFAM. Affected households then received a cash transfer and additional seed.

■ The digital data collection and analysis system supports rapid analysis which enables programs to adapt and meet local needs.

■ MIRA supports identification of which interventions produce the best results in building resilience, strengthening food security, and promoting well-being outcomes.

■ The use of machine learning helps predict future shocks and food insecurity within MIRA communities, allowing for proactive targeting of vulnerable households during both project implementation and project design.

■ MIRA can be customized to different populations (rural, urban). It can be customized even further by adding modules for specific shocks depending on the context of the project. Examples of this can be seen through CRS Madagascar's adding COVID-19 and Fall Armyworm modules to the system to better predict how these more unique shocks impacted community resilience.

What's Next for MIRA?

CRS and partners continue to explore scaling MIRA to new locations and are committed to sharing global results with the development community. Presently, MIRA is being expanded to Ethiopia in the CRS-led USAID funded Resilience Food Security Activity and is being considered in Zimbabwe and Mozambique. Also, CRS and partners continue to advance machine learning capabilities in order to provide better predictive capacity around resilience for strengthening community level early warning systems. By expanding MIRA, we hope to better serve vulnerable communities around the world.