

Midline Study of the Maharo RFSA in Madagascar

IMPEL Brief



Photo Credit: Fy Rabenandrasana

BACKGROUND

The Maharo resilience food security activity (RFSA) aims to address and mitigate acute levels of food insecurity experienced by communities in the southeastern region of Madagascar by providing development and nutritional support. The RFSA package also includes a range of community-tailored livelihood support activities. The primary objective of the impact evaluation (IE) of Maharo is to measure the impact of this added livelihood support on reducing food insecurity and increasing wellbeing for households through a randomized control trial design. The IE spans from 2021 to 2024 and uses BHA's standard approach for impact evaluations. It comprises five components: a baseline, process evaluation, midline, endline, and cost-effectiveness analysis.

FINDINGS

Midline data collection surveyed 1,171 households to assess the impact of Maharo activities on a select set of indicators and identify any potential threats to the endline evaluation, with a particular focus on attrition. We used a smaller set of midline indicators to focus on activities and outcomes most likely to change over the 2 years since the baseline. The analysis finds that the Maharo treatment areas saw significant improvements in women's health, agriculture, and access to finance because of Maharo's additional livelihood programming. The attrition rate was nearly 7%, but the analysis shows that this does not threaten the validity of the results.

MIDLINE STUDY

The midline study focused on a smaller set of intermediate indicators, compared to the baseline, where researchers expected to see the most progress. It surveyed a random subsample of the treatment and

ABOUT MAHARO

Meaning: "Capable to protect or defend" in Antandroy

Implemented by: Catholic Relief Services (CRS) (prime), Land O'Lakes Venture 37, Humanity & Inclusion, Youth First, Conseil de Développement Diocésain (CDD) Tuléar, Harvard University, and Cornell University

Intervention Period: 2019 – 2024 (5 years)

Funded by: The United States Agency for International Development (USAID) Bureau for Humanitarian Assistance (BHA)

Intervention Areas: Atsimo Andrefana and Androy regions of southeastern Madagascar

control households who had also been surveyed at the baseline. Of the 4,595 households surveyed at the baseline, 1,171 households were surveyed again at the midline. Enumerators surveyed 597 households in the control areas (which do not receive the additional livelihood support), and 574 households in treatment areas (which do receive the additional livelihood support). Data collection took place from February to March 2023. The activity was accompanied by an exercise to understand the rate of attrition among households participating in the study.

STUDY AREA



*(Top) Implementation map of Maharo.
Photo Credit: Maharo / CRS*

*(Right) Man walking with his goats.
Photo Credit: Sedera Ramintra / CRS*

CONTEXT: DROUGHT

Southern Madagascar has experienced a prolonged drought recorded from 2018 to 2022, which has had an extreme impact on food security in the region and has exacerbated already extreme levels of poverty.



METHODOLOGY

Households in 196 clusters distributed across 20 different communes are participating in the IE. The midline sample was a random subset of these households. The Maharo IE has a clustered design. Treatment clusters were paired with control clusters. Of the 98 pairs participating in the study, 45 pairs were selected. Within each of the 90 selected clusters, a maximum of two fokontany¹ per cluster were randomly selected. Twelve households per fokontany were randomly selected to be surveyed. In the midline study, 152 fokontany participated out of the 385 total participating fokontany.

Participant Selection

Within sampled households, one target individual was sampled as follows:

- One child under 6 months
- One child between 0–59 months
- One girl or woman of reproductive age (15–49 years old)

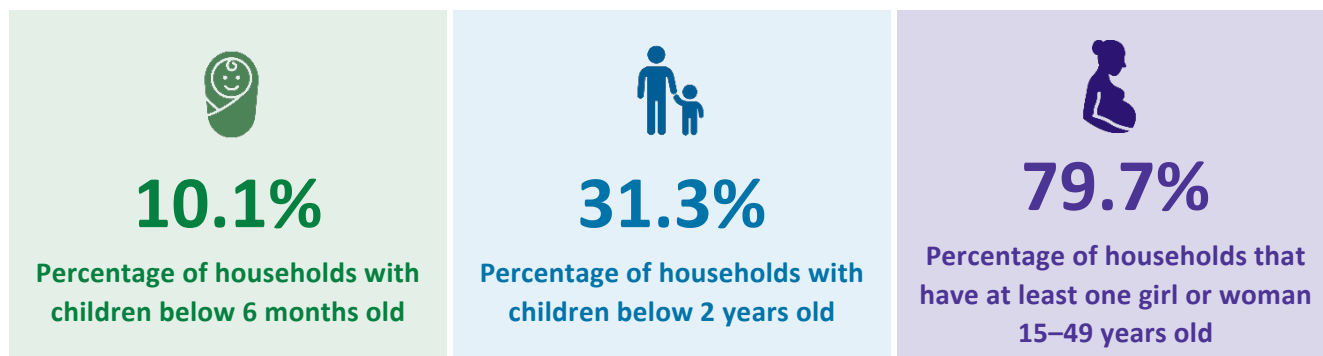
¹ A fokontany is a political-administrative subdivision in Madagascar equivalent to a village or group of villages in Madagascar

- An adult familiar with household water use
- The adult most knowledgeable about agriculture production for the household

BALANCE TEST RESULTS

Balance tests are conducted on treatment and control households to determine if the samples are representative samples of the households surveyed at the baseline. The two samples were examined on 52 different variables. Only one variable was found to be statistically significant, confirming that the samples were balanced.

HOUSEHOLD PROFILES



Study Limitation

The largest limitation we encountered was a limited available sample size of household members who met the specific age criteria. Not all households selected had household members that fit the criteria because the participating households were randomly sampled, and the sample size for the midline was smaller than for the baseline. It was more difficult to detect statistically significant differences because of the smaller sample size, but this does not hold implications for the endline.

FINDINGS BY MODULE

Both the treatment and the control group in this study receive Maharo programming. However, the treatment group receives additional livelihood programming that the control group does not. The findings focus on the added effect of the additional livelihoods program on reducing food insecurity and increasing well-being for households compared to the standard Maharo programming.

Food Security



- The area is still suffering from a severe food security crisis, with more than 90% of households reporting food insecurity concerns.
- The prevalence of severe food insecurity is about 38%.
- Roughly 60% of households have an acceptable food consumption score,² and 10% of both treatment and control households have poor food consumption scores.
- Overall, responses between the treatment and control groups are similar. However, all areas receive development, emergency, and nutritional support.

² This indicator is a composite score based on households' dietary diversity, food consumption frequency, and relative nutritional value of different food groups.

Child Nutrition and Health



- The exclusive breastfeeding of children under six months is higher in treatment areas compared to control areas. The estimated effect of treatment is 18.4%; however, the effect is not statistically significant.

Women's Health, Maternal Nutrition, and Reproductive Health



- Findings suggest that treatment positively impacted the dietary diversity score and the likelihood of meeting the threshold for a diet of minimum diversity.
- Girls and women in treatment areas had a higher dietary diversity score and were more likely to consume a diet of minimum diversity.
- The food categories of dairy, meat, and vitamin A-rich fruits and vegetables showed significant differences between treatment and control.
- Girls and women in treatment areas were more likely to receive at least four antenatal care visits during pregnancy.

Water, Sanitation, and Hygiene



- Less than one percent of households surveyed have basic drinking water services.
- Most households have year-round access to water, but collecting water requires more than a 30-minute trip for most households and less than 7% of households consume at least 20 liters of water a day.
- Treatment is seen to have a statistically significant positive impact on open defecation. Households in treatment areas are nine percentage points less likely to practice open defecation.

Agriculture



- Households in treatment areas showed substantial progress.
- A higher share of treatment households used financial services (by five percentage points), saved (by 13 percentage points), practiced value chain interventions (by 34 percentage points), and adopted improved management practices for all targeted crops.
- Treatment households were more likely to grow sorghum and cowpeas. Farm households are eight percentage points more likely to adopt improved management practices for poultry.

Gender Dynamics



- Nearly all women participate in decisions about using their self-earned cash, but a lower percentage of men do the same.
- There are large gender differences in perceived participation in decisions about husbands' cash earnings. 83% of men report that wives participate in these decisions, while women report their own participation at 65%.
- The data suggests that treatment increases participation in borrowing from non-governmental organizations, village savings and loan associations, or savings and credit cooperative organizations, and group-based savings, micro-finance, or lending programs.
- Participation in group-based financial programs was 11% higher in treatment areas.

ATTRITION EXERCISE

One of the objectives of the midline study was to assess the attrition rate of participating households 3 years into the study to enable the research team to understand and mitigate attrition at the endline.

Attrition is expected and was accounted for at the baseline when selecting the size of the initial sample.



6.8%

Overall attrition rate of the sample

The most commonly cited reasons for household migration were for temporary work and family events.

ABOUT ATTRITION

In the context of this study, attrition is the departure of participating households from the study before its planned completion. It is prevalent in every study and most often occurs when participants relocate and cannot be contacted for follow-up.

The attrition rate can affect the findings of the study. If more participating households drop out of the study before its completion than researchers plan for, then the study's ability to detect impact decreases.

The overall attrition rate was slightly higher than what was accounted for at the baseline but not exceptionally so. Although the attrition rate in control areas was 3.92 percentage points higher than in treatment areas, additional attrition tests suggest that this is not a threat to the internal or external validity of the study.

CONCLUSION

The analysis finds that the Maharo treatment areas, those receiving additional livelihood support, saw significant improvements in women's health, agriculture, and access to finance as a result of the additional livelihood programming delivered by Maharo. The attrition rate was nearly 7%, but the analysis shows that this does not threaten the validity of the results.



Photo Credit: Fy Rabenandrasana

ABOUT IMPEL

The Implementer-Led Evaluation & Learning Associate Award (IMPEL) works to improve the design and implementation of Bureau for Humanitarian Assistance (BHA)-funded resilience food security activities (RFSAs) through implementer-led evaluations and knowledge sharing. Funded by the United States Agency for International Development (USAID) BHA, IMPEL will gather information and knowledge in order to measure performance of RFSAs, strengthen accountability, and improve guidance and policy. This information will help the food security community of practice and USAID to design projects and modify existing projects in ways that bolster performance, efficiency, and effectiveness. IMPEL is an eight-year activity (2019–2027) implemented by Save the Children (lead), TANGO International, Tulane University, Causal Design, Innovations for Poverty Action, and International Food Policy Research Institute.

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