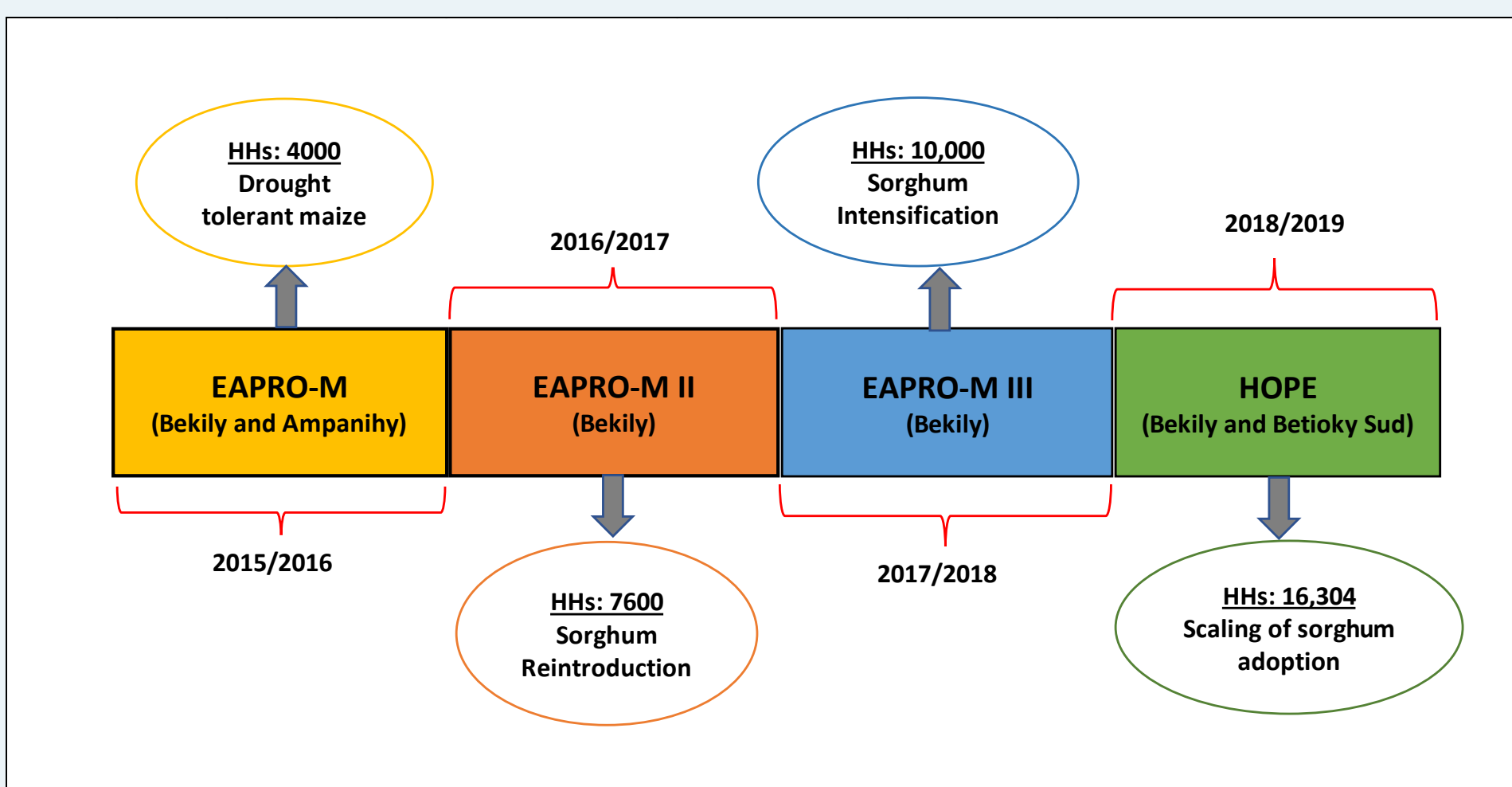


Abstract

From 2015 to 2019, ADRA implemented a series of emergency food security projects in response to severe drought and widespread crop failure in South Madagascar. Funded by USAID's Office for Foreign Disaster Assistance (OFDA), ADRA supported 28,455 drought-affected households through the promotion of drought tolerant crops, crop diversification and conservation farming practices. A study of the program's impact demonstrates that the introduction of sorghum in Southern Madagascar has been effective in drought mitigation and building greater resilience in local food systems.

INTRODUCTION

Between 2014 and 2017, Madagascar faced its severest drought in the country's history, which led to widespread crop failures. Farming, a main source of food and income for the chronically underserved communities in the Southern region, were especially affected. In response to the crisis, ADRA, with funding through USAID/OFDA, implemented four emergency food security programs to serve three districts impacted in four years. Below image is a summary of the four project cycles.



OBJECTIVES

This report focuses on evaluating the impact of ADRA's re-introduction of sorghum on the resilience of farming systems and food security for drought affected households in South Madagascar. This impact is measured primarily through:

- Analyzing the yield and production potential of sorghum, as compared with maize in the target region.
- Understanding the shift in farmers' perceptions and acceptance of sorghum as a staple crop.
- Assessing the role of sorghum in household food supply and its contribution to household food security and resilience, particularly during shocks.

A Case Study: How Poverty-Stricken Communities in Madagascar Survived Severe Drought

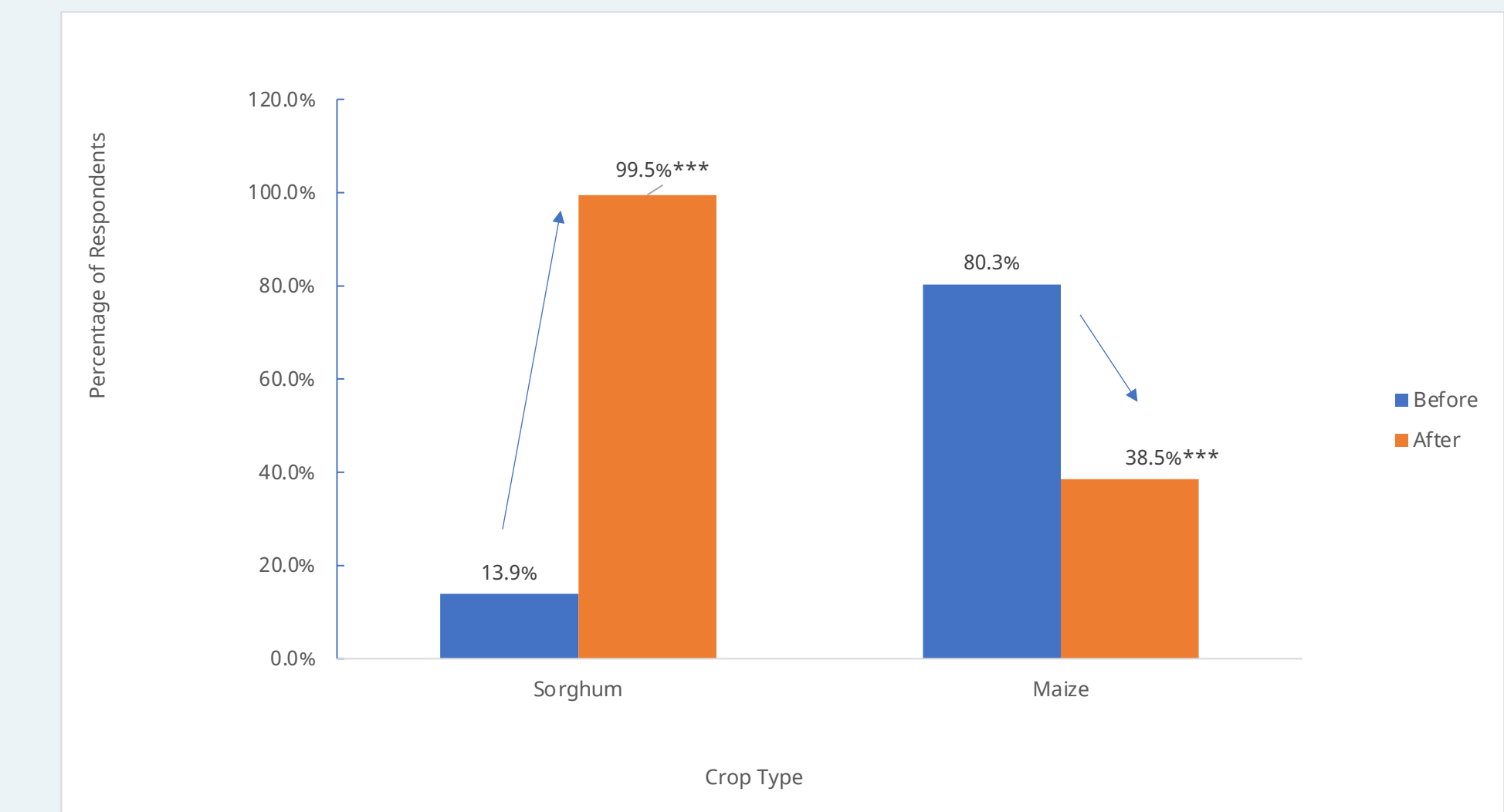
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Image credit: ADRA Madagascar

RESULTS

Across four years of ADRA's emergency food security programming in Southern Madagascar, a total of 28,455 households were reached, of which 92% adopted sorghum as a food crop for production by the end of year 4. Total land area planted to sorghum by project farmers increased from 3,040 hectares in the 2016/2017 season to 7,526 hectares in the 2018/2019 season. Image below depicts the percentage of farmers planting sorghum and maize before and after project implementation.



Farmers found that sorghum was able to withstand drought conditions longer without withering or dying and still produced higher yields than maize. They also noted that sorghum was less prone to pest and disease attack.

LESSONS LEARNED

- One of the critical lessons learned is that behavior change, in an area where it addresses a clear, obvious need, can be quick and even occur in emergency programs. The high adoption rate observed can partly be attributed to the catastrophic failure of the traditional maize crop and communities' already urgent need for a solution. This, together with the fact that the yields from maize and sorghum were readily visible and comparable, helped contribute to the high adoption levels achieved.
- ADRA introduced two varieties of sorghum in the first year of sorghum re-introduction, one early maturing and one standard, both with pest protective properties; however, end of project assessments found that farmers preferred the early maturing variety which produced less biomass, was less vulnerable to pests and produced more grain.
- Although great strides were made in productivity, technical capacity, and household food security, focus on post-harvest handling and storage is vital to ensuring gains are maintained and post-harvest losses are avoided. Although ADRA did include some work on storage in its project, this aspect should be prioritized in future resilience-oriented agriculture programs.