



# Can Subsistence Farming Help to Achieve Household Food Security? Evidence from Gurue, Central Mozambique



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## 1. Introduction

- 70% of population in Mozambique live in rural areas (Gelcer et al., 2018) and depend directly on ecosystem services for their livelihoods (Smith et al., 2019).
- Almost 1/3 of population suffer from chronic food insecurity and 43% of children under 5 are stunted (WFP, 2020)
- Subsistence agriculture can play an important role in reducing the vulnerability of food-insecure households (GdM, 2005; Aliber and Hart, 2009)
- Nonetheless, studies on subsistence agriculture have indicated reduced income level and seasonal fluctuations in food consumption among households (Handa and Mlay, 2006, Bozzoli and Brück, 2009).
- The research question is: **can subsistence farming help households to achieve some level of food security?**

## 2. Methods

- The study was conducted through interviews with 300 randomly selected farming households in two of the three administrative areas in Gurue District, Central Mozambique.
- We collected primary data on household socio-economic characteristics, food consumption patterns throughout the year and the coping mechanisms used in response to food insecurity.
- We employed descriptive statistics (mean, percentage and frequency) to analyze the data

## 4. Conclusions

- This research demonstrated that subsistence farming has many limitations.
- Households engaged in subsistence farming can achieve food security if they use appropriate and innovative food preservation and processing techniques
- Crop diversity is also an essential mechanism to achieve food security.
- More research is needed to improve local practices, while addressing the existing threats.



Figure 2: open-sun drying method for local rice



Figure 2: Intercropping system (maize, sunflower and soybean)

## 3. Results

### Socio-economic characteristics

Table 1: Households Socio-economic characteristics

Variable	Mean	SD
Age of the household head	33	12.80
Education of the household head	5	2.70
Size of the household	6	1.10
size of Land (ha)	1.4	1.20
Percentage		
Male-headed households (%)	87	
Female-headed households (%)	13	
Non-farm income (%)	16	

- On average, the respondents were about 33 years old with an average level of education of 5 years of primary school.
- The average size of land was 1.4 ha.
- The percentage of households with a non-farm income was 16%.

### Food Access throughout the year

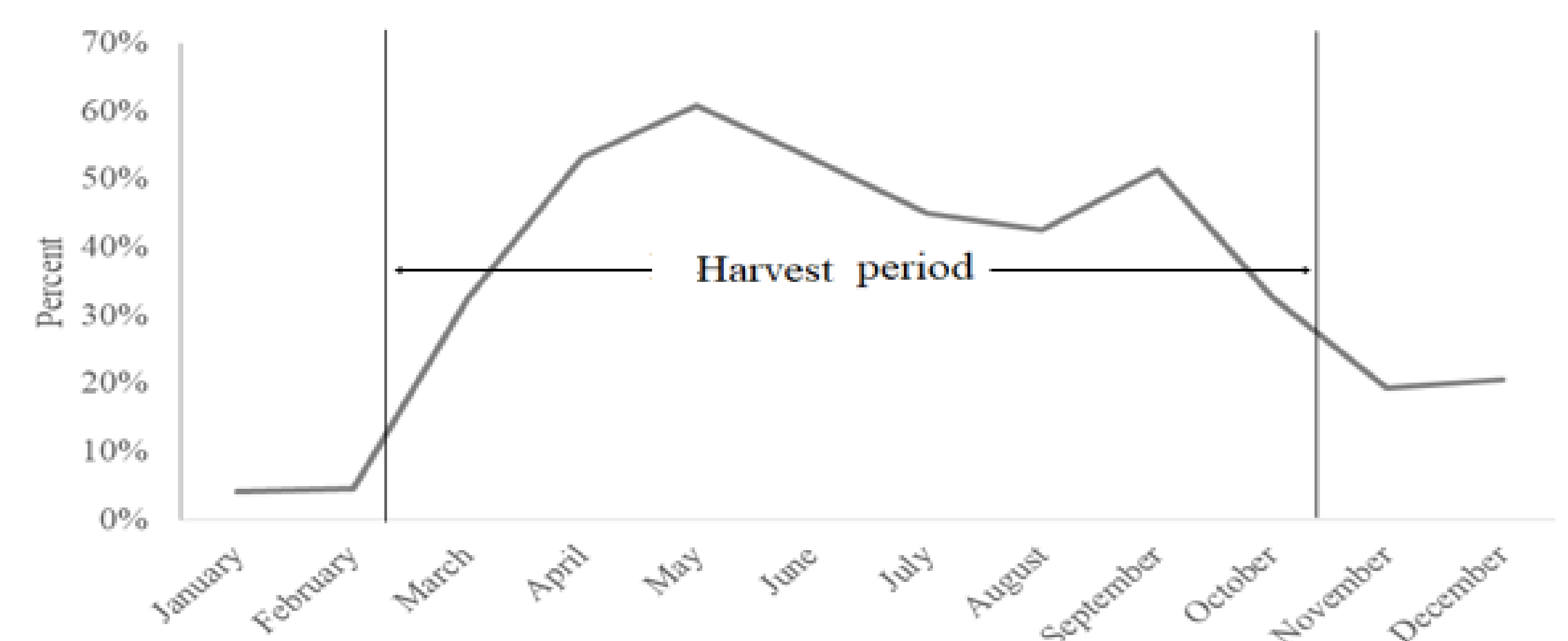


Figure 1: Percentage of People with three or more meals per day

- The level of food insecurity decreases during the harvest season and increases during the growing season

### Coping mechanism to food insecurity

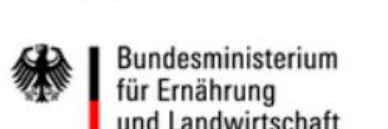
- In the study site farmers use crop diversity and food preservation to fight against food insecurity,
- They produce up to 6 crops under intercropping
- The crop calendar allows the household to harvest different crops in different periods, which also allows the access of food for longer period.
- But, there is a seasonal variability in terms of the food species consumed throughout the year
- The preservation of agricultural products helps to reduce post-harvest losses, while allowing food to be available for a longer period.
- The households mainly use open sun drying for food preservation. However food can get contaminated due to mixing of stones, dust, and other foreign materials.
- Preservation methods that use sustainable sources of energy, with a potential to address the limitations of open sun drying are necessary.

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