



UNIVERSITY OF MARYLAND  
EASTERN SHORE



# Analysis of Postharvest losses in Maize in Western Kenya

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## Abstract

### Introduction

Postharvest loss is a major area of concern in Kenya and its efforts towards achieving food security. The losses mainly include

- ✓ spillages during handling, transportation, processing and marketing
- ✓ rotting and aflatoxin contamination
- ✓ losses to pests, birds, insects and rodents
- ✓ mechanical damages



Causes of postharvest losses

In 2022, Maseno University collaborated with the University of Maryland Eastern Shore (USA) through the Feed the Future Innovation Lab for Current and Emerging Threats to Crops (CETC-IL) project to survey and analyze post-harvest losses in maize production in Kisumu and Siaya counties, Kenya.

### Methodology

Scouting of plants was done using the PlantVillage Nuru app that uses artificial intelligence (AI) to detect presence of fall armyworm (FAW) on maize leaves. A total of 180 proceed surveys and 50 scouts were carried out during data collection exercise. Primary data were collected from 384 farmers and 84 traders.

### Results

Farmer attitudes towards moldy maize results were:

- ✓ 30% strongly agreed that it was harmful for human consumption.
- ✓ 27% agreed it was safe to sell to moldy maize to local brewers.

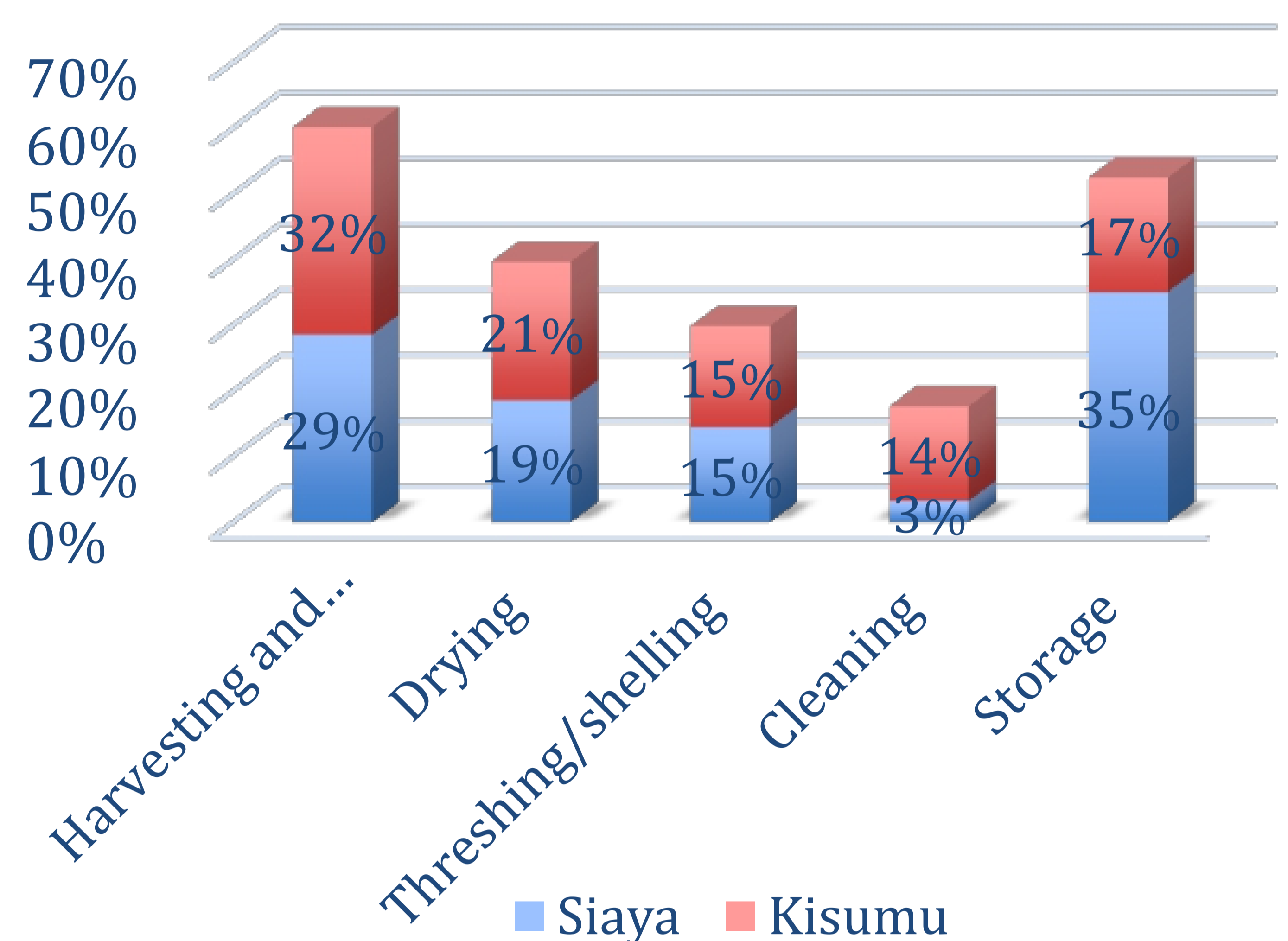
Farmers attitudes on maize postharvest handling:

- ✓ 59% agreed that postharvest handling activities were the major cause of losses in maize.
- ✓ Only 33% farmers embraced use of hermetic bags.

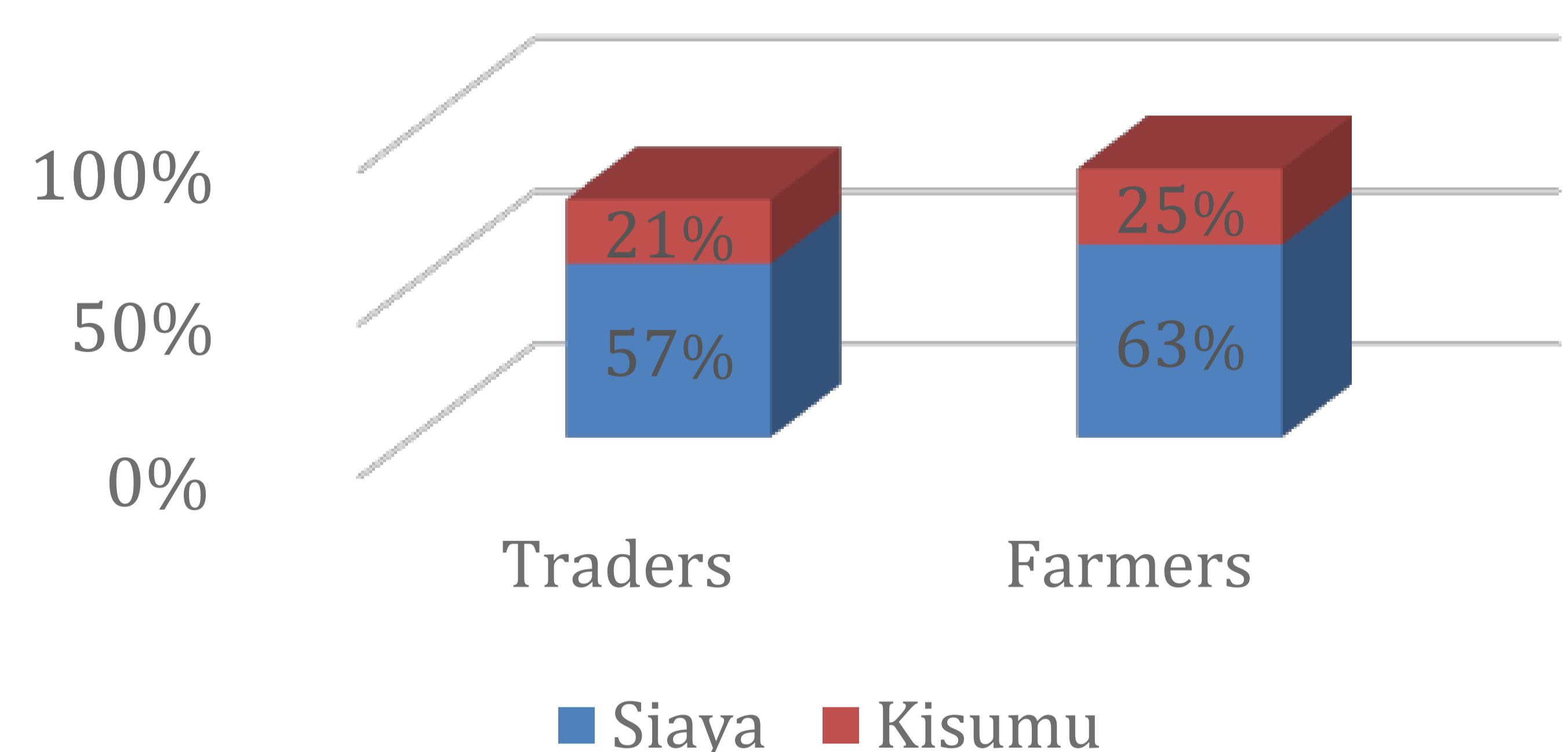


## Postharvest technologies

Losses in maize at each postharvesting stage



Training on Postharvest losses



### Conclusion

Increased efforts are needed to train more farmers to use effective FAW scouting tools such as PlantVillage Nuru App and to sensitize maize farmers and traders to adopt appropriate postharvest technologies to enhance food security.

### Recommendations

- ✓ Sensitization and awareness creation on the use of existing postharvest technologies.
- ✓ Use of appropriate and efficient on farm and off farm storage technologies.
- ✓ Collaboration with other partners and a needs assessment study on the type of technologies farmers may be willing to adopt.

