

# Factors Influencing Farmers' Decision to Adopt and Sustain Use of Improved Cassava Technologies: Experience from Cassava Research and Development in Uganda



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## Introduction

Today, cassava is the second most important staple and food security base and major source of income for resource poor farmers in Uganda. Since a decade, the National Agricultural Research Organization (NARO) of Uganda in collaboration with IITA and support from other partners released 12 varieties of improved cassava. The release followed the devastating Cassava Mosaic Disease (CMD) epidemic, which stunted most local varieties, and constrained cassava production in Uganda. This paper discusses farmers' adoption behaviors of improved cassava in view of informing the crop improvement programme.

## Material and Methods

Kumi, Soroti, Lira and Masindi districts were chosen to represent cassava growing in the eastern, northern and south-western regions respectively. NARO staff held consultative meetings with district cassava co-ordinators, district agricultural officers, extension, local leaders and also conducted structured interviews with 160 farmers to:

- Obtain background information on factors and activities that influenced dissemination of improved cassava
- Investigate farmers' reasons for adoption and sustained use of different cassava technologies in relation to CMD constraint
- Obtain the trend of growing resistant and local cassava varieties
- Identify issues for research and make recommendations

## Major Findings

- Use of different cassava varieties was dependent on variety characteristics.
- Variety use in Kumi and Soroti differed from Lira due to the variation in food systems
- In all sites, improved varieties were grown in varying quantities e.g. in Lira, Nase 2 was grown in a smaller quantity because it was bitter compared to the other sites (fig. 1)
- Improved varieties were principally adopted because they were higher yielding and produced enough for marketing (Box 1)
- An up-ward trend was recorded in growing improved cassava from CMD epidemic to post epidemic period (fig. 2)
- Majority of farmers received insufficient extension services. However, NARO and some NGOs distributed planting materials to some farmers
- Most farmers lacked capital resource, relied on family labour for farm activities and had no or little formal education confirming the importance of cassava to resource poor farmers
- An inventory on variety characteristics, use and farmer preferences were documented as a result of the study.

## Conclusions and Suggestions

The study demonstrated that farmers adopted new cassava if they met desired variety characteristics. Obviously, yield was a criterion that had high priority amongst many others for most farmers. The fact that all sites except Lira, showed high adoption rates for improved variety Nase 2 during and post CMD epidemic, with the criterion of high yield, shown by pattern of variety sustained use, suggested a uniform farmer need and preference. However, the result could not confirm whether this was a consequence of 'collapse' of local varieties due to CMD, or indeed similar preference over the 4 sites, i.e. a preference well identified by the researchers, considering the high adoption rates and trend of Nase2 variety. Similarly, differences between farmers' adoption level reflected farmer resource base and capability.

From the study we conclude that diagnosis studies should pay attention to diversity among sites and farmer priorities within regions, to appropriately target technology development and be able to provide support for decentralised and/or participatory research. Extension services should also play a functional role of linking farmers and research in a timely manner.

## References

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- United Nations Cartographic section. Map No. 3862.1

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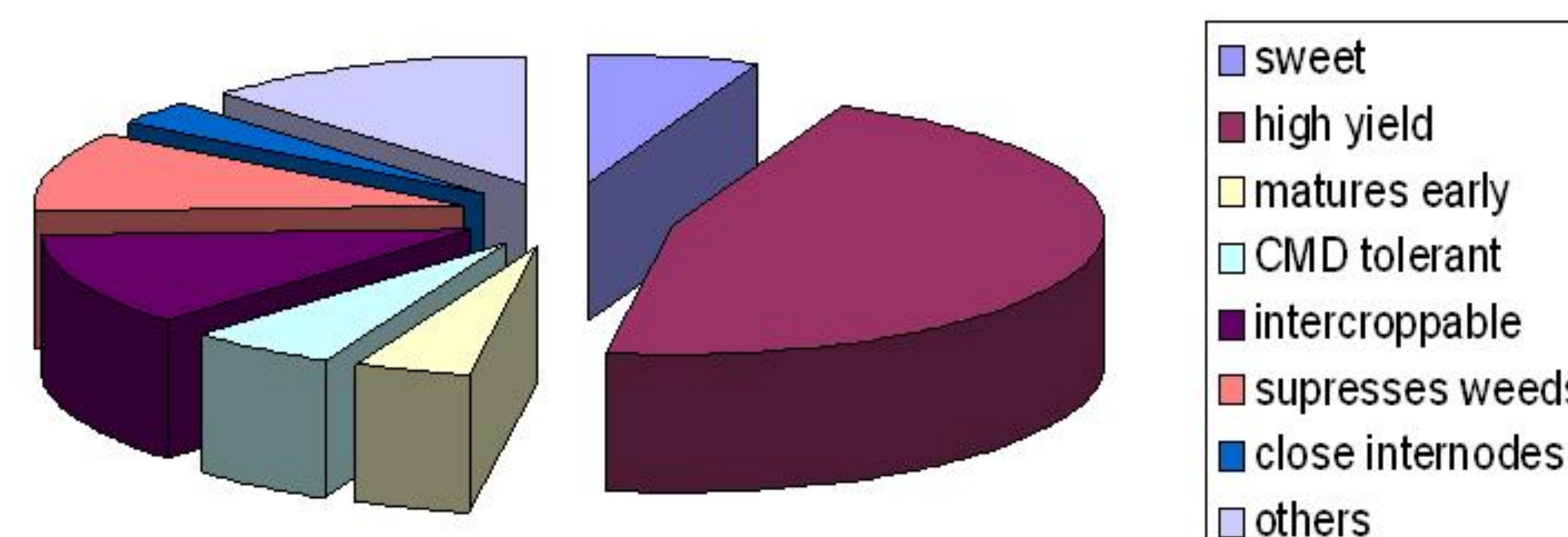
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The map Uganda showing study area and other administrative boundaries.

Box 1.

### Post epidemic reasons for growing improved cassava

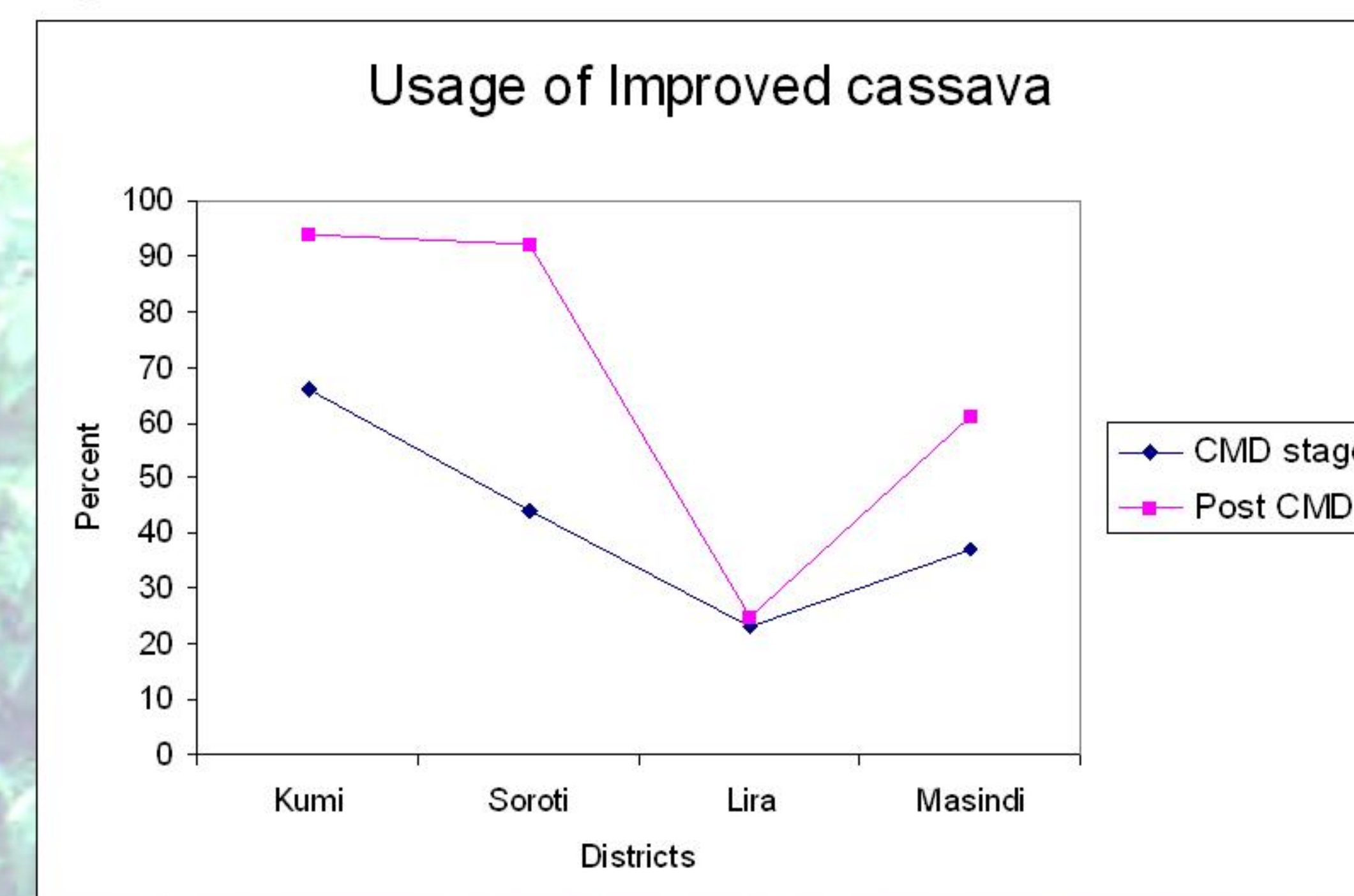


School children vend processed cassava to raise money for scholastic materials in Soroti district where more than 80% of farmers grew improved cassava only. NARO and district extension staff chat with them as they take a break from the long trek to the urban market.



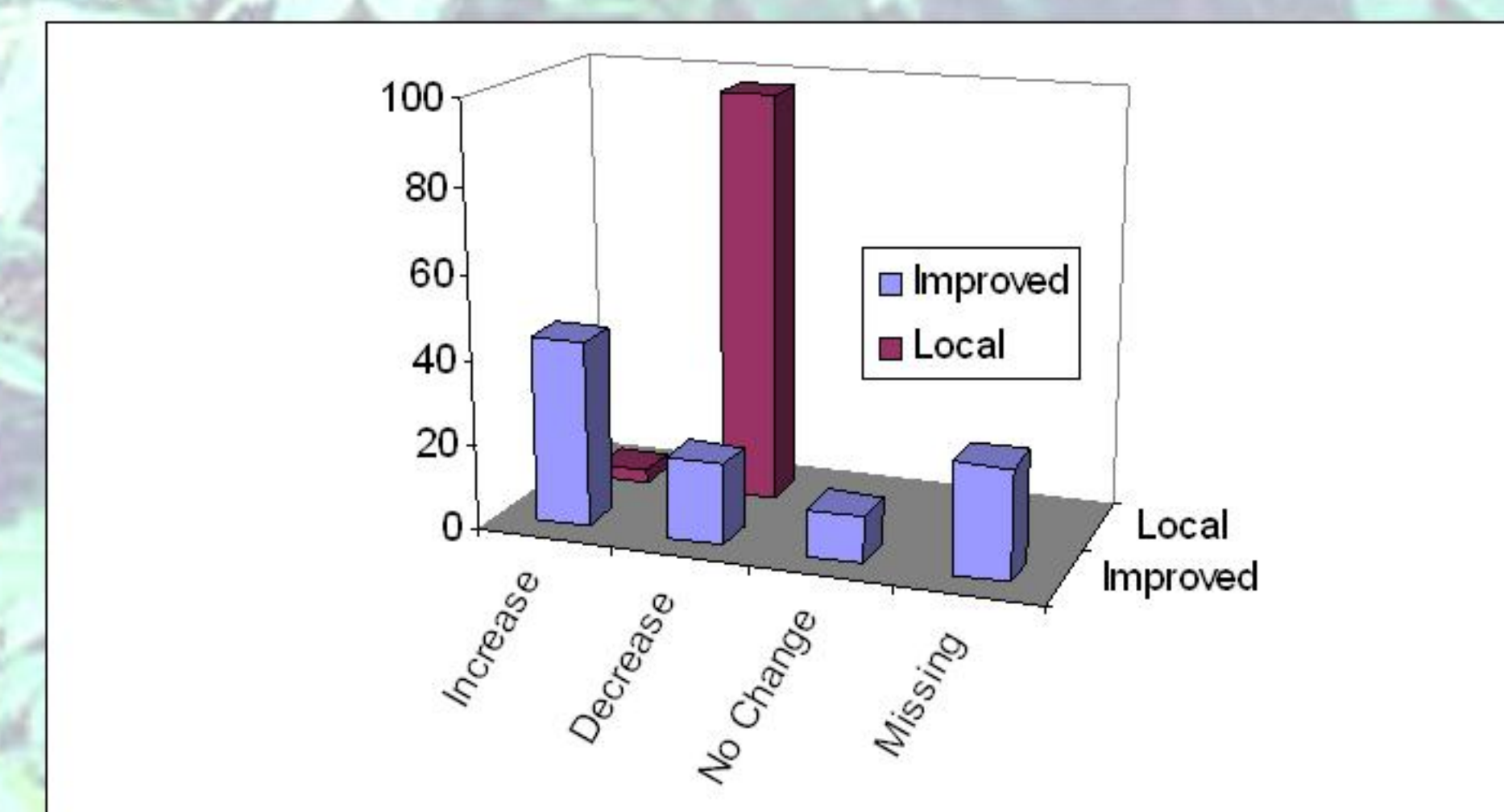
NARO staff and extensionists hold consultative meeting with farmers in Masindi district. Farmers take notes on the proceedings of the meeting.

Fig. 1



An expanse of improved cassava on a farmer's field in Kumi

Fig. 2



This upward trend and sustained use of improved cassava was supported by increased acreage of land dedicated to growing cassava; up from 236 acres during CMD epidemic to 264 acres post CMD epidemic.