

Gender and Vines: Production, Management and Exchange of Sweetpotato Planting Material Among Smallholders in the Lake Victoria Region, Tanzania.

Rahma Adam¹, Lone Badstue² and Kirimi Sindi³

¹Department of Agricultural Economics and Rural Sociology, Pennsylvania State University, University Park, PA-16801, USA and International Potato Center (CIP) sub-Saharan Regional Office, P. O. Box 25171, Nairobi, Kenya, ria107@psu.edu

²International Maize and Wheat Improvement Center (CIMMYT), Km.45, Carretera Mexico-Veracruz, El Batán, Texcoco CP 56130, Edo. de Mexico, Mexico, L.Badstue@cgiar.org

³International Potato Center (CIP) sub-Saharan Regional Office, P.O. Box 25171, Nairobi, Kenya, K.Sindi@cgiar.org

ABSTRACT

Sweetpotato is the fourth most important crop and the second most important food crop in the Tanzania Lake Victoria region and plays a critical role as a food security crop, e.g. when cereal crops fail. Sweet potato is primarily grown and managed by women and is considered a woman's crop. As part of the CIP-led Sweetpotato Action for Security and Health in Africa initiative funded by Bill & Melinda Gates Foundation, the *Marando Bora* project, implemented by Catholic Relief Services and other partners, seeks to improve farmers' access to quality planting material of improved sweet potato varieties in the Lake Victoria region. The documentation of farmers' local knowledge and practices related to sweet potato planting material in Africa is relatively scarce. The objective of the study presented here is to contribute to filling this knowledge gap and specifically, to assess the role of women in relation to the production and management of sweet potato planting material. In-depth qualitative interviews were conducted with 29 farmers from three communities in the Lake Victoria region. The qualitative data is complemented by analysis of a survey involving 621 households across nine districts in the Lake Victoria region in 2010. The findings confirm that sweet potato is a female crop in the study area. Local knowledge about sweet potato cultivation is concentrated in the learned experience of female farmers who participate in all the work surrounding sweetpotato production, including the management of planting material and control and sales. The conclusions and recommendations from the study raise important issues for the discussion of gender and local knowledge in relation to sweetpotato seed system interventions.

INTRODUCTION

In Lake Victoria region, it is part of the general cultural perception that sweetpotato is managed and owned by women.

- ❖ The crop has a reputation of being perceived as a “poor man's crop”, and its cultivation among other root and tuber crops is threatened by low prices of the storage roots and its products.
- ❖ For centuries women have been custodians and transmitters of knowledge on farming practices, seed sorting and preservation from generation to generation.
- ❖ It has been widely documented that the use of technically oriented solutions to development in various locals in Africa has not been as fruitful as originally was hypothesized. Thus there is a need to bridge the gap between farmers and scientific knowledge, and feminist postmodernism theory[suggests that there are multiple and separate realities], provides the opportunity to do just that.
- ❖ **Research question:** What is the connection between gender and sweet potato vine acquisition, knowledge and preservation among smallholders in Lake Victoria region?
- ❖ The findings of the study will feed into interventions that seek to improve smallholder farmers' access to quality planting material in Tanzania and elsewhere, including of vitamin A-rich orange-fleshed sweet potato.
- ❖ *Marando Bora* project is an add-on to an existing cassava dissemination model, the Great Lakes Cassava Initiatives (GLCI) to improve the quantity and quality of food in 150,000 households in the Tanzanian Lake Victoria region.



Figure 1: Joyce shows two sweetpotato vines, that she considers of good quality for planting.



Figure 2: Anastazia describes how she acquired her Orange-fleshed sweetpotato (OFSP), which she calls *Pipi*, from the women in Nemba. Eunice listens.



Figure 3 (combo): Children eating cooked sweetpotato & white fleshed and OFSP.

METHODS

Qualitative and quantitative approaches were used to conduct the study.

Qualitative Approach: Standardized, open-ended interviews with point of departure in farmers' lived experience and everyday social practice; direct observation of farmer sweet potato practices was made. Twenty-nine farmers (28 women and 1 man) took part in the qualitative survey. The participants came from three different communities in Musoma Rural, Bunda and Matala districts.

Quantitative Approach: Formal questionnaire survey approach applied to a stratified random sample of 621 households of nine districts of the Lake Victoria region; seven and two districts in Mwanza and Mara regions respectively.

MAIN RESULTS

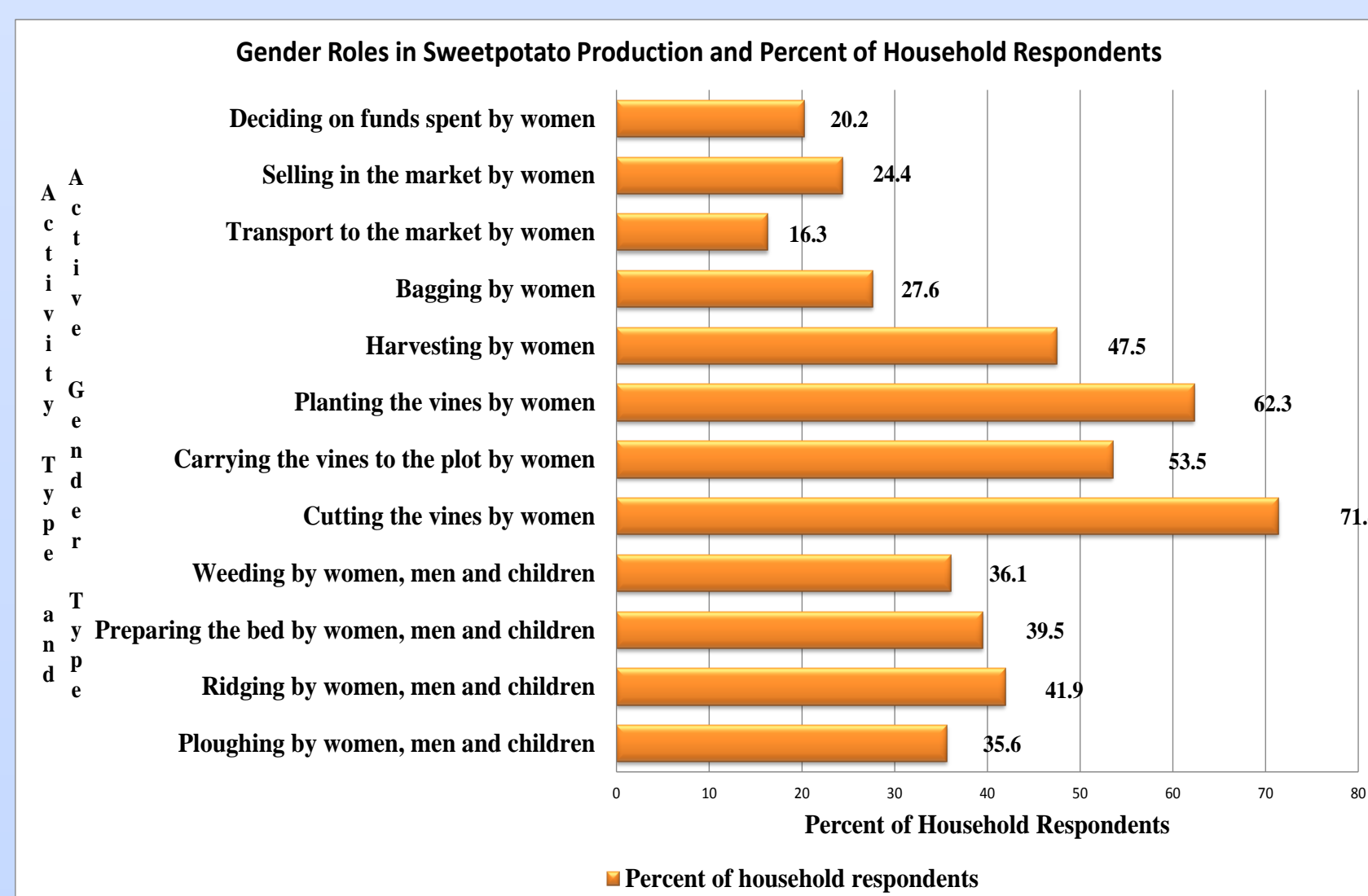


Figure 4: Gender roles in sweetpotato production and percent of household respondents (n=621). The percentage show the most responsible gender groups in every particular activity. If men are involved in sweetpotato production it is mainly as a helping hand. Women are often assisted by children, if they are not in school. Men may also often take a sack of sweetpotato to the market. On some occasions husbands may agree to help transport sweet potato vines for their wives.

Sweetpotato Production

- ❖ Sweetpotato is mainly grown for household consumption. It is only when there is surplus harvest that farmers will sell sweetpotato.
- ❖ Majority of the women manage the small income derived from selling sweetpotato, with the exception of two.
- ❖ Large household size (more mouth to feed), reduces the chances for women to sell sweetpotatoes.
- ❖ Sweetpotato is mainly sold at the village market (65%) and farm gate (28%).

Sweetpotato Farmers Opportunities and Constraints in Accessing and Utilizing Extension Advice

- ❖ Of the 29 farmers only 8 had received any agricultural extension advice or participated in events or training on the agriculture activities.
- ❖ Informal farmer to farmer interaction and conversation is an important information channel for these women. Women through informal interactions talk about different things, including what to grow i.e. local ‘grapevine’.

MAIN RESULTS

Accessing Sweetpotato Material from Other Sources

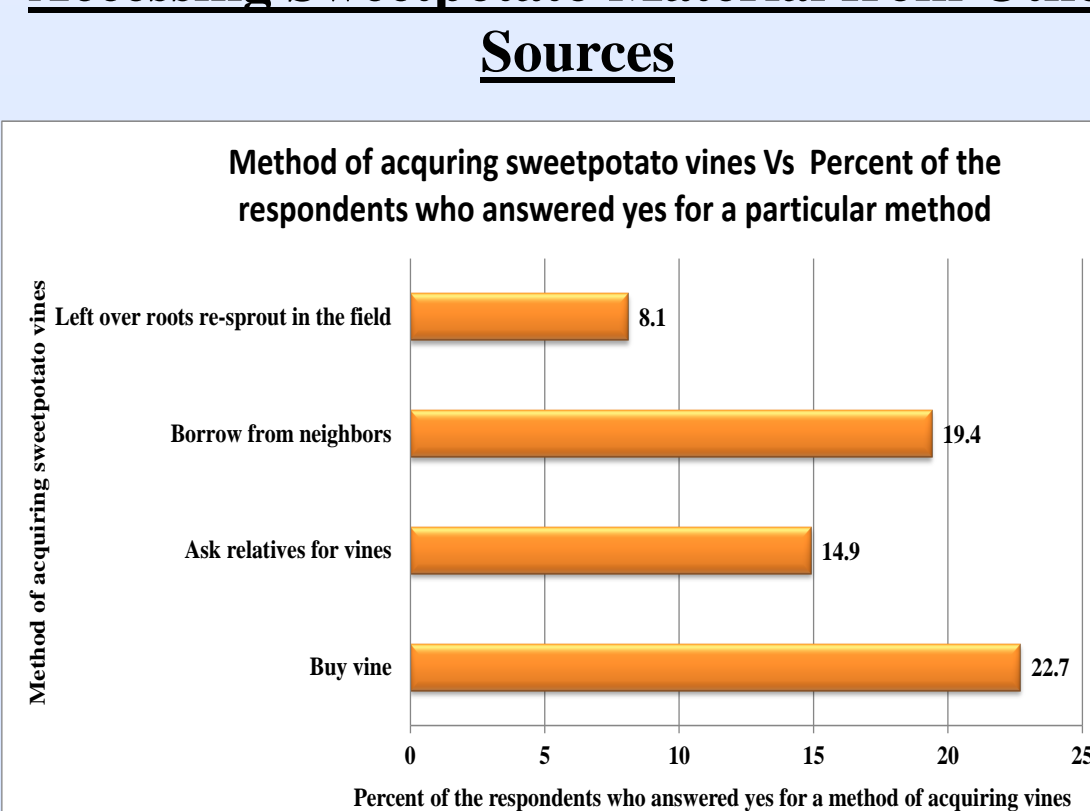


Figure 5: Farmers who did not conserve vines provided the above responses with regards to their means of getting sweetpotato vines (n=433).

- ❖ Farmers acquire planting material through cash payment to only people they do not have a close relationship or are not residing within the same community or locality with. Suggesting the need to know the willingness to pay for farmers to acquire high quality planting material.

- ❖ Farmers pay to get vines from Decentralized Vine Multipliers (DVM) and other neighboring communities.

On Farm Clonal Diversity and Mode of Sweetpotato Cultivation

- ❖ **Scarcity:** Vine scarcity reduces the chances for farmers to chose a specific vines variety and thus end up with having more variety than normal or necessary.

- ❖ **Local taxonomy.** Farmers tend to give local names to the sweetpotato varieties they grow.

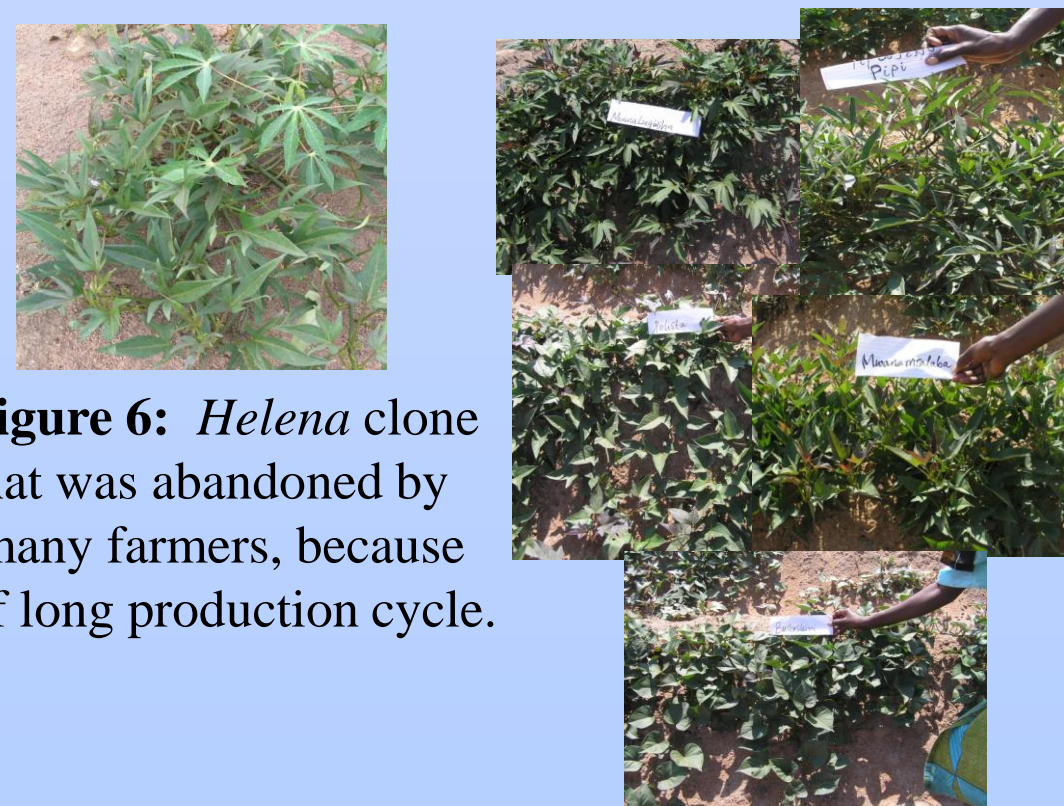


Figure 6: Helena clone that was abandoned by many farmers, because of long production cycle.

Figure 7: Sweetpotato varieties grown by farmers.

- ❖ **Growing sweetpotato:** farmers grow sweet potato in ridges and plant sweetpotato at the start of the rainy season.
- ❖ **Fertilizer:** Farmers do not use chemical fertilizers in their sweetpotato fields.
- ❖ **Intercropping:** Sweetpotato is often intercropped with other crops e.g. cassava (34%), maize (32%) and beans (24%).
- ❖ **Field experiment:** Some farmers conducted field experiments.

Knowledge of Planting Material

- ❖ Considerable variation was observed between individual farmers' level of awareness and their degree of sophistication with regards to describing and identifying vine quality problems.
- ❖ Situational factors influence farmers practices with regards to quality of planting material and varietal acquisition: If vines are scarce, farmers would use whatever they have.



Figure 8: This vine has changed its color, it has become like a *kitenge* (reddish-brownish tainting of the leaves). Farmer M thinks that the plant is sick and goes on to say that it may not produce anything, or just very little. Regardless she notes, “if the vines are scarce, you might still use it---if that is all you have.”



Figure 9: Feathery growth mentioned by Maria and other farmers. The plant is infected by sweetpotato virus disease (SPVD).



Figure 10: Jane identifies a sick plant.

- ❖ With knowledge farmers do positive and negative selection to reduce severe virus load in their crop.

Key information with regards to local cultural perception and practice.

- ❖ Sweetpotato is a women's crop and that sweetpotato planting material is mainly owned by women.
- ❖ Cassava planting material is sometimes referred to as a men's property.

Constraints in Smallholder Farming Including Sweetpotato Production

- ❖ **Drought or scarce and unreliable rainfall.**

- ❖ **Lack of Labor-saving techniques:** Lack of labor and or labor saving technologies. i.e. the use of hoe.
- ❖ **Male dominated culture:** after harvesting rice, maize, male farmers will let their cows graze freely in the sweetpotato fields and eat farmers planting material. However, sweetpotatoes that were strategically planted in the cassava field, were left untouched--- a possible precaution against cattle damage.

CONCLUSION

SWEETPOTATO IS A FEMALE CROP AND ENTIRELY IN THE FEMALE DOMAIN

- ❖ Women farmers are the primary producers and suppliers of sweetpotato planting material, as well as the custodians of sweetpotato knowledge in the local sweet potato system.
- ❖ Traditionally, women control the sweetpotato produce and decide if and how much for sale.
- ❖ In Lake Victoria region, it is part of the general cultural perception that sweetpotato is managed and owned by women.
- ❖ There is a need to rethink of the gender implications of adding sweetpotato to an existing cassava intervention.
- ❖ Sweetpotato clonal diversity is linked to the circumstances under which the farmer has acquired planting material in the past and to the particular farmer's interest in an appreciation of the diverse characteristics of different clones.

FARMERS' OPPORTUNITIES AND CONSTRAINTS IN ACCESSING AND UTILIZING EXTENSION ADVICE

- ❖ Majority of the female farmers in this study had very little exposure or access to extension advice and information.

RECOMMENDATIONS FOR SWEETPOTATO INTERVENTIONS

- ❖ From a gendered perspective, it is pertinent that planned interventions concerning sweetpotato do not, in any way, undermine women's role as the owners of sweetpotato and key actors in all matters concerning sweet potato.
- ❖ Majority of the decentralize vine multipliers (DVM) for the *Marando Bora* project should be female and need to have knowledge on the crop.
- ❖ Testing the willingness to pay for vines should be conducted in each area before vines are given.
- ❖ Promote gender sensitive labor saving technologies for cultivation (land preparation).
- ❖ Design agricultural extension services for women farmers: (a) having a specific strategy for reaching female farmers, (b) employing female extension workers and (c) organizing events in such a manner that women can participate fully.

FUTURE RESEARCH

- ❖ Address a need to understand how the patriarchal system affects sweetpotato planting material conservation strategies.
- ❖ Investigate land ownership and distribution within a household, man and a woman in relation to sweetpotato production.
- ❖ Investigate social network that enable diffusion and distribution of sweetpotato planting material within a community and between communities
- ❖ Reach out to access farmers willingness to pay to receive extension advice.

ACKNOWLEDGEMENT

The work was supported by Bill and Melinda Gates Foundation.