



# Gender analysis of sweetpotato value chains: The impact of introducing orange-fleshed varieties to industrial buyers in Homa Bay and Bungoma, Kenya

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**Gender analysis of sweetpotato value chains:**

The impact of introducing orange-fleshed varieties linked to an industrial buyer on the well-being of smallholder farmers and their families, Homa Bay and Bungoma in Kenya

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# Content

Acknowledgements.....	vi
Notes on the contributors.....	vi
Acronyms.....	vii
<b>1. Introduction.....</b>	<b>1</b>
1.1 Background .....	1
1.2 The study area.....	2
1.3 Gender roles in agriculture and marketing of agricultural products.....	2
1.4 Objectives and scope of the study .....	3
<b>2. Methods .....</b>	<b>4</b>
2.1 Theoretical underpinnings .....	4
2.2 Data collection and tools .....	5
*Market trader interviews were conducted in Kisumu. ....	6
2.3 Recruitment of study participants .....	6
2.4 Data collection and analysis.....	6
<b>3. Results .....</b>	<b>8</b>
3.1 The status of sweetpotato among the top three crops in Homa Bay and Bungoma .....	8
3.2 Sweetpotato marketing .....	10
3.3 Why OFSP?.....	19
3.4 Benefits of OFSP.....	23
3.5 Improvements in livelihood associated with sweetpotato commercialization .....	31
3.6 Changes in decision-making power.....	36
3.7 Decision on the use of money obtained from OFSP business .....	47
<b>4. Summary of findings and discussion .....</b>	<b>49</b>
<b>5. Recommendations .....</b>	<b>54</b>
References .....	58
Annex 1: Common sweetpotato varieties and their traits.....	60

## Tables

Table 1: Tools used in the study .....	6
Table 2: Study participants .....	6
Table 3: Reasons why sweetpotato and maize were regarded as important by men and women participating in FGDs .....	9
Table 4: Perception of sweetpotato traders on participation of men, women and young people in white/yellow sweetpotato trade .....	11
Table 5: Perceived causes of increased participation of women and decreased participation of men in white/yellow sweetpotato trade .....	12
Table 6: Sources of sweetpotato for traders in Kisumu and Homa Bay markets.....	12
Table 7: Distance to point of sale by gender.....	13
Table 8: Challenges faced by sweetpotato traders.....	14
Table 9: What needs to be done to improve sweetpotato trade .....	14
Table 10: Estimated weight of OFSP sold during the last season (individual respondents).....	16
Table 11: Demand for sweetpotato .....	17
Table 12: Causes of the decrease in sweetpotato trade according to traders (n=41) .....	18
Table 13: Start-up land for OFSP.....	21
Table 14: Sale and value of sweetpotato produced in plots owned by men and women .....	26
Table 15: Control of income from the plots managed by male or female farmers or by both male and female farmers .....	26
Table 16: Decision-making by widowed and married women (calculated from quantitative baseline data).....	30
Table 17: Perception of women and men of relative wealth of community members 3 years ago and now. ....	35
Table 18: Men and women's perceptions about input in crop production decisions.....	38
Table 19: Men and women's perceptions about autonomy in marketing of sweetpotato .....	40
Table 20: Men and women's perceptions about their ability to decide on inputs for sweetpotato farming .....	41
Table 21: Men and women's perceptions about their ownership of assets .....	42
Table 22: Men and women's perception about their ability to purchase, sell or transfer assets .....	43
Table 23: Men and women's perception about their ability to access services.....	44
Table 24: Overall decision-making and empowerment scores .....	45
Table 25: Dependent variables (decision scores 3 years before the study).....	46
Table 26: Dependent variables (decision scores at the time of the study).....	46
Table 27: Group decision-making scores .....	46
Table 28: Men's mock budgets .....	47
Table 29: Women's mock budgets.....	48

## Figures

Figure 1: Location of Homa Bay and Bungoma counties (indicated by stars) .....	2
Figure 2: The three top crops according to men and women’s FGDs .....	8
Figure 3: Point of sale for sweetpotato by farmers by sex .....	13
Figure 4: Common types of sweetpotato traded .....	18
Figure 5: Why retailers did not like to trade in OFSP .....	19
Figure 6: Why men and women farmers cultivated OFSP varieties .....	20
Figure 7: Benefits of OFSP mentioned by men and women IDI respondents .....	23
Figure 8: Perceptions on economic benefits by male and female respondents (n = 20) .....	26
Figure 9: Challenges in OFSP trade .....	28
Figure 10: Sources of credit for traders .....	45

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## Acronyms

BCC	Behavior change communication
CIP	International Potato Center
DFID	Department for International Development of the United Kingdom
FGD	Focus group discussion
FTC	Farmers' training center
IDI	Individual interview
KNBS	Kenya National Bureau of Statistics
MFI	Micro-finance institution
n.d.	Not dated
OFSP	Orange-fleshed sweetpotato
SACCO	savings and credit cooperative organization
SUSTAIN	Scaling Up Sweetpotato through Agriculture and Nutrition
WEAI	Women's Empowerment in Agricultural Index



## Executive summary

Sweetpotato is a major staple crop in Western Kenya. Prior to the introduction of orange-fleshed sweetpotato (OFSP), white and yellow-fleshed varieties were popular in this region. These traditional varieties were largely grown by women and used for home consumption and sale: small amounts were sold at local markets when cash was needed urgently and women usually controlled the modest income generated.

Vitamin A deficiency is widespread in Western Kenya. OFSP, which is a rich source of vitamin A, has been introduced in the area as a promising means of combating vitamin A deficiency by the International Potato Center (CIP) and other organisations.

In addition to its nutritional value, since 2014 the Scaling Up Sweetpotato through Agriculture and Nutrition (SUSTAIN) project has been promoting the production and commercialization of sweetpotato varieties in the Nyanza and Western regions, particularly in Homa Bay and Bungoma counties.

Under the auspices of the CIP-led SUSTAIN project, the study reported here sought to understand how the introduction and commercialization of OFSP has affected opportunities and constraints for smallholder sweetpotato farmers, particularly women. A social relations approach was used for the study which included surveys, in-depth interviews, focal groups discussions, and analyses of existing data. Data collection was carried out in March 2018.

Following the introduction of OFSP in Western Kenya, a major change occurred in the way sweetpotato was marketed. A newly established business, Organi Limited, opened a factory in the region producing sweetpotato puree as an industrial input for commercial bakeries: the puree was used to substitute for wheat flour in various baked goods, and the resulting breads and other products were widely regarded as being more nutritional and 'healthier' than their 100% wheat flour counterparts. Whereas in the past traditional varieties of sweetpotato were mostly sold informally in small quantities in local markets, now there was organized demand for large quantities of OFSP for which the processor was willing to pay significantly higher prices.

The study set out to answer four key questions focused on the gender dimensions of commercialization of sweetpotato, especially OFSP. The findings are presented below under headings related to these questions.

### **How does commercialization of sweetpotato affect (positively or negatively) the well-being of smallholder farmers and their families, particularly women's opportunities as producers, traders and consumers?**

Both men and women in Homa Bay and Bungoma regarded sweetpotato, beans, and maize as important crops. Sweetpotato was considered important because it was both a food and a cash crop. However, the reasons why men and women regard these crops as important vary depending on their roles and responsibilities. For example, because they have limited access to resources, women mentioned that sweetpotato was important for them because it was a crop with low input demands. Also, because women have restricted mobility, sweetpotato was an important crop because it could be marketed locally. When it came to maize, men were more engaged in its marketing.

The men and women who were able to participate effectively in commercialized OFSP mentioned various economic benefits from the crop including the ability to purchase livestock such as goats and cows, build better houses, and buy furniture. Commercialization of OFSP was also credited with job creation for young people and the poorest within the community.

In Bungoma and Homa Bay, participation in commercialized sweetpotato production allowed some women to challenge the hierarchical male domination in their relationships resulting in a shift towards more equality in

decision making. For example, when women were able to contribute more to the household budget, some husbands consulted their wives on household-related decisions.

Women were also able to purchase livestock, which improved their economic standing relative to that of their husbands.

Women participating in commercialized sweetpotato production and marketing said that it enhanced their ability to buy or rent land, thereby improving their ability to own the means of production. Some were able to open bank accounts and save money, which also increased their independence since they could fund the lifestyle they wanted as well as be in a position to maintain social relations with family members who lived far away. Women regarded maintaining these social relations as important because through them they could access the resources they needed.

However, the study also revealed examples where commercialization exacerbated gender inequalities. The introduction of OFSP and private sector interest in purchasing sweetpotato increased household and community inequalities between some men and women. For example, it was noted that men were not interested in traditional sweetpotato varieties because they were sold locally and did not fetch much money. It was also suggested that while women were interested in the commercialized OFSP, some of them preferred white and yellow-fleshed varieties because of the availability of local markets for them.

Local markets were favored by women for two reasons: they allowed easy access to cash for day-to-day household expenses and they allowed trading of the crop in small quantities, which did not interest men, so women could control the cash from those sales. However, with the introduction of Organi Limited, which would buy large amounts of OFSP at high prices, men became more involved in the trade, taking over from women. Although men's involvement is not in itself problematic, what is problematic is when the benefits of such trade are monopolized by men and not shared amongst other household members.

For women, the main obstacles to participation in high-value markets were related to household gender relations and gender dynamics; men felt it was their role to engage in high-value sales leaving women to deal with low-value sales to meet 'kitchen needs'. Due to their role as household heads, men felt entitled to the control of larger amounts of income accrued by the household. The opportunities provided by selling OFSP, due to its ready and lucrative market, may therefore have resulted in the exclusion of some women farmers from OFSP trade as men took it over.

### **What are the gender implications of commercialization of sweetpotato?**

Unequal access to resources and networks by men and women impact on the ability of women to fully benefit from commercialization. For both men and women to benefit from commercialization of any crop, the need for equitable access to the resources required for its successful commercialization cannot be overemphasized. For example, both men and women pointed to access to training and knowledge acquisition as key resources that enabled them to commercialize and improve their sweetpotato production. Additionally, access to marketing groups was regarded as important in engaging in commercialization. However, in many cases women did not belong to marketing groups, which limited their ability to participate in sweetpotato commercialization.

In Bungoma and Homa Bay, there was general agreement that because men owned the land it was their right to control large amounts of cash income from all crops, including OFSP. Some women needed permission from their husbands even to participate in commercialized production of sweetpotato or to use specific land for sweetpotato production. However, the role of individual agency among women to take advantage of

commercialization needs to be acknowledged. Some women were able to rent land so that they could produce a crop over which they had control.

The study validates the importance of joint decision-making in ensuring that men and women benefit equally from commercialization. Households where men and women made joint decisions about production and marketing of OFSP produced more sweetpotato for the market than did those where such decisions were made individually. Men and women in households where production decisions were made jointly were both able to benefit from commercialization of sweetpotato, and often pointed to improvements within their home and in household welfare from sweetpotato marketing. Such cooperation was important for women since it could facilitate their access to resources such as ploughs and cattle, helping them to produce larger quantities of sweetpotato and leading to good incomes.

Orr et al. (2016) suggested that a commercialization model should recognize that men and women may cooperate and sometimes have conflicts, and that bargaining can promote higher incomes for both men and women. In Bungoma and Homa Bay, the study found that where men and women both received information and were trained on OFSP production and in managing the family farm as a business, the likelihood of both men and women benefitting in a manner that was satisfactory to them was high. Some women used the fact that they provided more labor than men for sweetpotato production as a bargaining chip to have access to and control over income from the sale of the commercialized sweetpotato. There was also conflict, for example over land when young members of households and women started demanding land to cultivate their own OFSP crop in conditions where land in general was limited.

Dancer and Sulle (2015) suggest that the propensity of companies to sign outgrower contracts with male heads of households has wrested control of income from some crops from women. The privatization model adopted for OFSP, however, did not require engaging of farmers in outgrower contracts, although they were registered with the buyer, Organi Limited. Theoretically, men and women could equally join and produce sweetpotato for the company. Although both women and men sold OFSP to Organi Limited, some women mentioned that all the money went to their husbands, who made decisions over its use. This contrasts with what happened with white and yellow-fleshed sweetpotato, for which most women were able to control the more modest income from the plots they managed.

Other social factors, such as marital status and age, also affected the ability of women to benefit from sweetpotato commercialization. For example, some widows were not able to effectively participate in the OFSP commercialization processes because they had to depend on male relatives or other male community members to sell OFSP to Organi Limited on their behalf. Because they were not registered with Organi Limited, those widows were not in control of the marketing process and often were not sure of the amounts sold on their behalves or the true value of their commodity. For some women such obstacles stood in their way of directly reaching the formal OFSP markets.

Women in polygamous relationships had more independence and ability to participate in commercialized OFSP production than women in monogamous households. They often hailed OFSP as providing them a means to look after their families without relying on their husbands.

It was also clear that compared with older married women, newly married women had little control over income from sweetpotato commercialization even when they contributed all the labor, owing to cultural norms relating to deference for male household heads.

Often children from poor homes provided labor to better-off farmers, which caused them to miss out on education and contributed to a vicious cycle of poverty.

**What impact has sweetpotato production had on people's ability to move up and down the community wealth ranking ladder?**

The ability of people to improve their livelihoods through sweetpotato commercialization depended on many factors including prior access to factors of production and other resources. Access to such resources is biased towards men. Farmers who had access to land or the resources to rent it and pay for labor (the better-off farmers) benefited the most from commercialization of sweetpotato because they could increase their production and thereby their profits.

Farmers regarded to be at the bottom of the community wealth ladder were seen as not able to benefit from sweetpotato commercialization. For instance, such farmers only provided labor in return for a wage or food or both, and so could not benefit in a significant way. In Bungoma and Homa Bay, better-off households could use money earned from commercialized crops to purchase or rent land from the poor households, increasingly turning them into labor providers for the rich households.

While there is a general move to increase the participation of young people in agriculture, sweetpotato commercialization may have had some negative consequences: some of them were dropping out of school to make quick money by working on the farms of the better-off sweetpotato producers. Also, land rents had increased. This means that households that had relied on rented parcels of land to produce subsistence crops, including sweetpotato, could no longer access such land at prices they could afford. This may have had the effect of digging people deeper into poverty.

Women noted that when they had access to money from sweetpotato commercialization they used it for their family's well-being by buying items such as clothes and food. OFSP commercialization allowed women and men to diversify income sources from sweetpotato. White sweetpotato gave them small amounts of instant cash that could be used for the general day-to-day upkeep of the family while the larger sums obtained from OFSPs allowed them to make big investments such as buying livestock or sending children to school which, in the long term, would help to move them out of poverty.

**What are the differences in gender implications between white/yellow-fleshed sweetpotato that is sold via informal markets and OFSP, which, because of its planned market intervention, is sold in formal markets?**

The perception of men and women on the different sweetpotato varieties differed in a number of key areas, which in turn influenced how they were affected by commercialization of sweetpotato. These differences were in some cases due to the nature of gender relations in the community. For example, although most women acknowledged the market potential of OFSP, they still regarded white sweetpotato as important because of its role in maintaining social relations. For example, women could give white sweetpotato to friends and family, but with increasing cultivation of OFSP these social obligations were increasingly being ignored since, for both men and women, OFSP was meant for commercial purposes and could not be given out for free like the old varieties.

# 1. Introduction

## 1.1 Background

Sweetpotato is one of the major staple crops grown in Western Kenya (Makini et al. 2018; Irungu et al. 1992), along with maize, banana, and cassava. Before the introduction of orange-fleshed sweetpotato (OFSP), white and yellow-fleshed sweetpotato varieties were the most common and popular varieties among households in this region (Okello et al. 2016).

Vitamin A deficiency is widespread in Kenya, with Western and Nyanza regions<sup>1</sup> contributing a huge proportion of those who are vitamin A deficient (Low, 1997). This situation is the reason several interventions were initiated to introduce OFSP, which is rich in vitamin A, and promote its consumption in Western Kenya (Nungo et al. 2007), including Homa Bay and Bungoma counties, in an effort to combat vitamin A deficiency.

Kenya is ranked number 17 in the world's top producers of sweetpotato and produces 0.7% of the world's crop (FACTFISH, 2016). In addition to the introduction of OFSP as a food crop, projects such as the Scaling Up Sweetpotato through Agriculture and Nutrition (SUSTAIN) have focused on promoting OFSP as a cash crop. Previous research in the Nyanza region has illustrated that lack of markets is a major constraint to sweetpotato production and that men are likely to adopt and promote sweetpotato production when it becomes commercially viable (Low, 1995).

To address the gap in marketing, since 2014 the SUSTAIN project, which is led by the International Potato Center (CIP) and funded by the Department for International Development of the United Kingdom (DFID), has been promoting the production and commercialization of sweetpotato varieties in the Nyanza and Western regions, particularly in Homa Bay and Bungoma counties.

Commercialization of crops has not always been gender responsive. For example, Fischer and Qaim (2012) showed how in Kenya commercialization of banana, which was traditionally regarded as a women's crop, led to men taking it over and women losing their source of income.

*"When new marketing or technological opportunities emerge, farm production is often centralized under men's control."* Fischer and Qaim, 2012.

The SUSTAIN project seeks to commercialize sweetpotato which, in the project area, historically has been regarded as a women's crop because it had not been cultivated primarily for cash. While development efforts towards commercialization of sweetpotato are intended to increase economic, nutrition, and social benefits for both men and women farmers, there are potential risks as women may lose control of marketing a crop that has been hitherto under their control.

This study therefore sought to understand how the introduction and commercialization of OFSP affects the framework of opportunities and constraints for smallholder sweetpotato farmers, particularly women.

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<sup>1</sup> Western and Nyanza were two of the eight administrative provinces of Kenya prior to the formation of counties in 2010. 'Western Kenya' includes both former provinces.

## 1.2 The study area

The study was conducted in Homa Bay and Bungoma counties in Western Kenya (Figure 1). Bungoma and Homa Bay are among the areas in Kenya that produce the most sweetpotato (Tedesco & Stathers, 2015). In Western Kenya, sweetpotato is listed among the main food crops (Kivuva et al. 2014).

The region has high incidences of food poverty (KNBS, 2018). For example, in Homa Bay county only 22% of children aged 6–23 months receive adequate feeding and 50% receive the minimum acceptable diet, and just 41% of children have early breastfeeding initiation (within one hour of birth) (KNBS, 2013). OFSP, which is high in vitamin A, offers a real chance to address nutrition challenges among infants, children, and pregnant women. Additionally, sweetpotato is a source of income for many women, who are often seen selling it in small quantities by the roadside and in local markets in both Homa Bay and Bungoma.

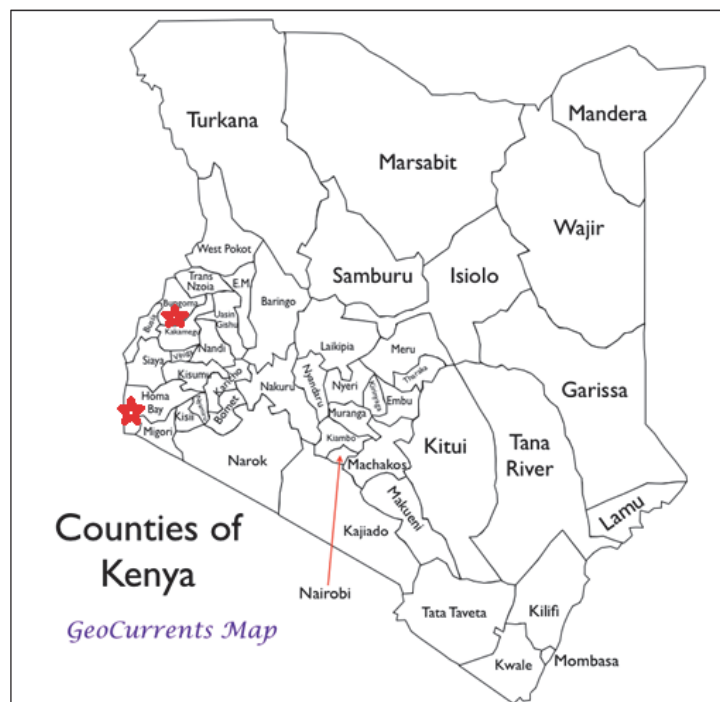


Figure 1: Location of Homa Bay and Bungoma counties (indicated by stars)

## 1.3 Gender roles in agriculture and marketing of agricultural products

Research in Kenya suggests that the low levels of education and land ownership, and lack of access to labor and credit among women results in low adoption of improved seed and other technologies by women-headed households (Croppenstedt et al. 2013). Ndiritu et al. (2014) note that women in Kenya provide more than half of the agricultural labor but lack access to the basic resources they need to adopt new techniques and technologies. They also suggest that women managers of family farming ventures often have smaller plots than their male counterparts.

For some commercialized crops such as coffee (von Bülow and Sørensen, 1993) private companies sign contracts with male heads of households (Dolan, 2001). Commercialization of crops that traditionally have been under women's control, such as horticultural crops, has been fraught with conflict and contradictions. For example, when French beans were introduced as a commercial crop, men expropriated land previously used by women to grow other vegetables as cash crops, eroding women's control of income and increasing household tension. Women

responded to this by diverting their labor elsewhere; some women even poisoned their husbands as tensions escalated (Dolan, 2001).

#### **1.4 Objectives and scope of the study**

The development of OFSP value chains affects the framework of opportunities and constraints for smallholder sweetpotato farmers, including women. This study sought to answer the following questions:

- How does commercialization of sweetpotato affect (positively or negatively) the well-being of smallholder farmers and their families, particularly women's opportunities as producers, traders and consumers?
- What are the gender implications of commercialization of sweetpotato?
- What impact has sweetpotato production had on people's ability to move up and down the community wealth ranking ladder?
- What are the differences in gender implications between white/yellow-fleshed sweetpotato that is sold via informal markets and OFSP, which, because of its planned market intervention, is sold in formal markets?

## 2. Methods

### 2.1 Theoretical underpinnings

This study was conducted in Bungoma and Homa Bay counties in Western Kenya in April and May 2018. It used a social relations approach to understand the positive and negative impacts of sweetpotato commercialization on men's and women's livelihoods. According to the International Labour Organization (ILO 1998), the aims of the social relations approach are three-fold:

- To analyze existing gender inequalities in the distribution of resources, responsibilities, and power.
- To analyze relationships between people, their relationship to resources and activities, and how they are reworked through institutions.
- To emphasize human well-being as the final goal of development.

To understand the impact of commercialization on men and women, this report also looks at the issue of gender inequalities and how they affect the impact of commercialization and are themselves affected by the impact of commercialization.

Commercialization is promoted by institutions such as CIP and Organi Limited (see box). The way these institutions operate and interact with communities and households may also impact on who is able to benefit from commercialization and whether the wellbeing of men, women, and households improve. Hillenbrand (2014) states that the social relations approach also helps "to understand better the subjective meanings of empowerment and the pathways to it". Using mostly qualitative data, this report seeks to increase understanding of the positive and negative impacts of commercialization.

#### **Organi Limited**

Organi Limited is not a typical for-profit company. It was established as a result of a meeting between a US-based Kenyan entrepreneur, Consolata Bryant, who had a background in health-based businesses in the US, and the Homa Bay county governor.

In 2013, the governor of Homa Bay, Cyprian Awiti, was in the United States of America seeking investment in sweetpotato in the county. Convinced of the need to find solutions to marketing sweetpotato in Western Kenya, and also of the health benefits associated with OSFP, and keen to give something back to the community, Consolata agreed to invest. Initially a joint venture called Homa Bay SG was established between Organi Limited, of which Consolata is a director, and the Homa Bay county government.

Organi Limited committed to initially invest up to Kenya shilling (KES) 50 million (USD 0.5 million), potentially increasing in phases to KES 150 million, to establish a factory to process OFSP at Oyugis, a town in Homa Bay county. Although the Homa Bay county government promised to contribute land for bulking up OFSP planting material and provide connections to the electricity grid and water for the factory, they did not fulfil these promises.



None-the-less, Organi Limited has succeeded in establishing a sweetpotato processing factory which receives roots from 3,000 farmers in the region. Initially the factory aimed to produce OFSP flour but, following guidance from CIP, they switched to producing OFSP puree. OFSP roots are washed, steamed and made into puree, which is supplied to bakers and also used by Organi to make their own baked products. The factory can now produce up to one ton of OFSP puree a day, although it currently produces between one and two-and-a-half tons a week.

Organi Limited has benefited from a grant from the Marketplace for Nutritious Foods program, funded by USAID and GAIN. Technical assistance provided through this program has enabled the company to undertake market research, develop a detailed business plan and prepare an application for an interest-free loan to support further expansion of the business.

Research has illustrated how gender relations can affect the ability of men and women to benefit from technologies. Citing a study by Jones (1986), Udry et al. (1995) note that in Cameroon, where rice was regarded as a man's crop, targeting women to increase its production only served to increase the income under the control of men, even though women were providing most of the labor. As a result, women did not switch to rice production but put their effort in cultivating sorghum, although it had lower economic returns. This example illustrates the importance of understanding gender relations in any community because they can affect who is able to benefit from planned interventions. Mudege et al. (2017) suggest that: "Gender relations are part of social relations of power, which ultimately determine roles, responsibilities as well as distribution of resources and benefits."

This study therefore also focused on the distribution of the power and how this allows men and women to make certain decisions that could influence their ability to benefit from commercialization of OFSP.

## **2.2 Data collection and tools**

Data collection was carried out in March 2018. Both quantitative and qualitative data were collected using a combination of surveys, in-depth individual interviews (IDIs), sex-disaggregated focus group discussions (FGDs), and review of existing quantitative data (Table 1).

A total of sixteen FGDs were conducted in Bungoma and Homa Bay using the FGD type 1 and type 2 guides. A total of eight FGDs were conducted per guide, four each for men and women. Some 60 men and 80 women participated in the FGDs (Table 2). Twenty IDIs, ten for each sex, were also conducted with sweetpotato producers to verify and triangulate the information from the FGDs. Individual interview questions were aimed at understanding how individuals and their households behaved and participated in the sweetpotato value chains for both orange and white or yellow-fleshed varieties. 98% of participants were engaged in sweetpotato business; for 91% farming was the main occupation. The FGDs were more about understanding norms and behavior at the community level. Additional interviews were carried out with 42 small-scale market traders, 41 of whom were women, who sold sweetpotatoes to consumers. Transect walks were made to find traders from the Jubilee, Kibuye, Orengo, Stage, and Ahero markets in Kisumu city. Kibuye and Jubilee markets are the biggest food markets in Kisumu city. Five other traders were interviewed in Oyugis and Kotutu markets in Homa Bay.

**Table 1:** Tools used in the study

Tool	Purpose of tool
FGD type 1 (mixed group of commercial and non-commercial sweetpotato producers)	<ul style="list-style-type: none"> <li>To understand the gender division of labor along the sweetpotato value chain from production to marketing</li> <li>To establish the resources men and women needed for the various activities</li> <li>To understand the constraints sweetpotato producers faced in the course of executing their activities</li> <li>To gather suggestions on solutions to farmers' constraints</li> <li>To understand the role of sweetpotato commercialization in people's movement up and down the community poverty ladder</li> </ul>
FGD type 2 (FGDs with commercial farmers)	<ul style="list-style-type: none"> <li>To understand the farming systems and the role of sweetpotato in the farming and food systems</li> <li>To understand the role of gender in decision-making on the adoption of new technologies, including sweetpotato, access to markets, training, and access to and control of the productive assets by men and women</li> <li>To understand the role of sweetpotato commercialization in people moving up and down the community poverty ladder</li> </ul>
Individual interviews (men and women sweetpotato farmers)	<ul style="list-style-type: none"> <li>To understand the current gender norms and the roles related to sweetpotato production, access to training, resources and sweetpotato markets, and the benefits from sweetpotato revenue</li> <li>To investigate the current roles of men and women in smallholder sweetpotato production and commercialization</li> <li>To understand the current gender-based constraints and opportunities in sweetpotato production and marketing</li> </ul>
Survey (market traders)	<ul style="list-style-type: none"> <li>To understand the sweetpotato markets for white and yellow varieties and the involvement of men and women in small-scale sweetpotato trade</li> </ul>
Baseline data	<ul style="list-style-type: none"> <li>To identify who decides on how sweetpotato is utilized</li> <li>To identify who controls income from sweetpotato sales</li> <li>To understand who sells sweetpotato as well as the target markets from a gender perspective</li> </ul>

**Table 2:** Study participants

Tool	Participants	
	Male	Female
Type 1 FGD (mixed commercial and non-commercial producers (8 FGDs total)	34	36
Type 2 FGDs (commercial farmers) – (8 FGDs Total)	26	44
IDIs	10	10
Market traders*	1	41
<b>Total</b>	<b>71</b>	<b>131</b>

\*Market trader interviews were conducted in Kisumu.

### 2.3 Recruitment of study participants

Extension workers and project partners, especially Organi Limited, helped in the recruitment of farmers for the FGDs and IDIs. The women FGD participants were either heads of households or spouses in male-headed households. The intention had been to interview an equal number of male and female sweetpotato market traders, but this was not possible because nearly all sweetpotato traders in the markets visited were women.

### 2.4 Data collection and analysis

Six data collectors, three men and three women, and all who could speak the local Luo and Kiswahili languages, were recruited and trained for the study. All data collection events except the surveys were audio-taped then

transcribed and translated before being analyzed. FGD facilitators were of the same sex as the participants in their group.

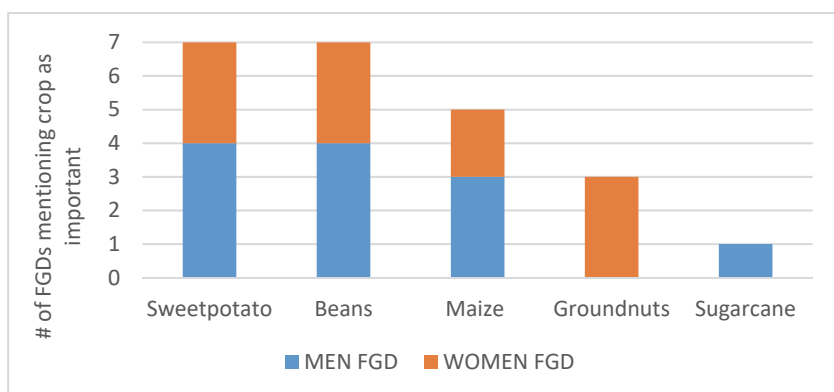
The principal investigator created a coding tree for all the FGDs and IDIs, classifying the different themes, to manually code the data before they were analyzed. All data were coded and analyzed using a sex-disaggregated method. The codes followed the thematic structure of the tools. The data were analyzed using the social relations approach. The data from the individual interviews were analyzed using descriptive statistics such as frequency counts and averages, and interpreted accordingly.

We analyzed the previously collected sex-disaggregated baseline survey data on who was involved in sweetpotato production, the sales for different market outlets , and who controlled the income from the sale of white and yellow-fleshed sweetpotato varieties.

### 3. Results

#### 3.1 The status of sweetpotato among the top three crops in Homa Bay and Bungoma

To understand how commercialization of sweetpotato had affected the lives of men and women participating in the crop's value chains, it was important to first understand the status of sweetpotato in Homa Bay and Bungoma. The four men and four women's FGDs were asked to name the three most important crops they cultivated. Sweetpotato, beans, and maize were the three top crops for men and sweetpotato, beans and groundnuts the most important for women (Figure 2). Maize was mentioned by two women's FGDs and sugarcane by only one men's FGD. Key among the reasons for the crops being in the top three was their cash value, as well as their food value and acceptability in the market. One women's FGD only mentioned 2 top crops.



**Figure 2:** The three top crops according to men and women's FGDs

Sweetpotato was regarded as one of the three most important crops by seven out of the eight FGDs. The reasons why given for its importance are shown in Table 3.

**Table 3:** Reasons why sweetpotato and maize were regarded as important by men and women participating in FGDs

	Number of FDGs mentioning this reason	
	Men	Women
<b>Sweetpotato</b>		
Good for food and cash	2	2
Can be marketed locally	0	4
High incomes from OFSP sold to private buyers	3	3
Health benefits of OFSP	3	3
Low input demand and low capital outlay	0	3
Good for food security and tolerate dry spells compared to crops like maize	2	3
<b>Maize</b>		
Maize is easy to sell	3	1
Maize payments are quick and money can be used to pay school fees	3	3
Maize is a staple crop	4	0
Maize is easy to store and sell when prices are up	0	2

The following were given as the reasons that beans featured among the top three crops:

- Beans were a key food security crop and usually were not sold. However, changes in farming practices had resulted in the need to sell some of the bean harvest to cater for small expenses in the home. Beans could be sold to buy food and items such as household utensils, and were also saved to provide cash for emergencies. Money from bean sales could also be used for school fees.
- Beans were regarded as a key crop. They mature quickly, within two to three months depending on the variety, so they could prevent starvation.
- When they were to be sold, beans had a ready market and the prices were higher than those for maize.

Groundnuts were regarded as a key crop by women but not men. Women frequently stated that money from groundnuts was mostly under their control and they could use it easily for their needs, including paying school fees, buying household items, and investing it as capital in small businesses. The inclusion of groundnuts as an important crop by women indicated their need for personal money the use of which they could control.

It is clear, therefore, that sweetpotato played an important role in the lives of men and women farmers in Bungoma and Homa Bay. In subsequent sections we will look at whether the commercialization of the sweetpotato value chain has helped or hindered women from meeting their important need of having personal money.

### ***3.1.1. Involvement of women in marketing of the most important crops***

To provide insight as to why men might have regarded some crops as important while women did not, and vice versa, FGD participants were asked whether men and women in their community were involved in the marketing of these crops. The answers from men and women sometimes did not tally. For example, men said that it was women who were more involved in marketing maize and beans, but women stated that it was men who were more engaged in marketing these crops because of the large sums of money involved:

“Most of the time, it’s women who work on maize and beans and they are the ones involved in marketing them ... for income to purchase small things like salt. Women may sell a little maize or beans and buy something small like omena [dried, small, freshwater fish]. Women are the ones involved in marketing the crops; men will sell only a few bags.” Male commercial FGD participant, Kamiola.

Women explained their perception of men as being most involved in selling of maize:

“... the land belongs to the man, and maize occupies a big portion of it. So, if you as a woman will be involved you will have to ask the man. You ask him to give you one sack for your own use. [The land is his] and you have to respect that.” Female commercial FGD participant, Nelima.

Men and women’s views on who was involved in maize and bean marketing seemed to differ, probably because they referred to different aspects of the marketing process. Men often sold large quantities of the crops while women traded in small volumes, mainly to meet their day-to-day needs. For example, some FGD participants noted that women only sold maize in small quantities, such 2 kg cans, to raise cash to buy inexpensive items for the home, while men mostly sold the crops in 70 kg bags with the goal of obtaining cash to pay for large-budget items such as school fees. Men stated several times that, because women were concerned with issues of food and were also more engaged in the production of crops such as maize and beans, women’s involvement in marketing the crops was greater than that of men. Women said that to guard against men misappropriating funds from crop sales, they sometimes worked hard to identify markets so that they were aware of when and for how much men sold the crops; in that way they knew when to ask men for money for household expenditure.

For crops like sugarcane, that were collected from the farm gate by commercial buyers, men acknowledged that they dominated sales. It was suggested that the ability of women to participate in the marketing of the top three crops depended on the agreement of the male head of their household. But even so, women often dominated the marketing of small quantities of the crops, which the respondents referred to as ‘retail trade’. In areas where sweetpotato or other crops were cultivated only on small pieces of land, it was frequently stated that men regarded these as women’s crops, since their marketing was also in small quantities.

## **3.2 Sweetpotato marketing**

In this section we will look at the two types of sweetpotato marketed, i.e. the white/yellow-fleshed varieties and OFSP. This distinction is important because farmers often regarded the local white and yellow-fleshed varieties as mainly for food or for local and informal markets, and OFSP as a crop for sale to big business buyers such as Organi Limited (see the list of common varieties in Annex 1). To understand whether farmers benefited from these crops, it is important to find out how and to what extent the distinction of the varieties affected farmers’ ability to participate in the markets and cultivation of sweetpotato.

### **3.2.1 White-fleshed sweetpotato and gender**

Both the men’s and women’s FGDs were clear that the wholesale marketing of sweetpotato was dominated by men while retail markets were dominated by women who sold the crop in small quantities.

“Women will sell sweetpotatoes arranged in a pile for KES 20, 30 or 40, depending on their need for money. That is the work of women.” Commercial male FGD participant, Kamiola.

“Women like small, small businesses. It is women who have the heavy burden of running the home. Mama is the one who knows that the matches are used up, salt is needed, soap is finished, this child

has no pen, this child has an old school uniform. So, you see, this is the reason that women engage in many activities that bring them income. But men expect big things to come at once ... men may store their crop for long before selling it and cannot look for a market the way I do it. They say the money from sweetpotatoes is little and the work of sweetpotatoes is much.” 37-year-old female respondent from a polygamous marriage, Rangwe.

Some women’s FGDs in Kabondo reported that women planted and sold sweetpotato on a large scale in order to provide for their families; because of their regular interactions with many of the villagers they could identify customers fast and easily.

It was stated that since white and yellow-fleshed sweetpotato could be left un-harvested for a long time after maturing without spoiling, they were of value to women for harvesting piecemeal to meet regular household food needs or to sell for cash to meet urgent needs. This was not the case with OFSP, which could be damaged if left un-harvested for a long time. The markets for white-fleshed sweetpotato mentioned the most were Homa Bay, Kisii, Mbita, Nairobi, Sindo and Sori.

Because sweetpotato was often sold in local markets in small quantities, men found it demeaning and a waste of time to be involved in negotiating its prices in the market and felt that women would do a better job:

“Some men don’t like being bothered about prices in the market, especially being involved in haggling. For instance, if someone tells a man, ‘I will give you KES 200 for this chicken’, the man would prefer not to sell it if he considers it to be worth more than that. But a woman would think differently; she would take the KES 200 because she would consider it adequate to sustain her family for three or even four days, as her husband looks for more money.” Male commercial FGD participant, Kabondo.

When asked who decided on prices, a 67-year-old married male respondent from Bungoma said:

“My wife decides that. I plant but she does the selling. Because it involves negotiating back and forth with a customer; that kind of stuff can be done by her. If you take the produce to the market in Kitale the women will steal your things and you will be forced to quit the work because you cannot handle it.”

The market survey in Kisumu and the local markets in Bungoma and Homa Bay supported the data from the qualitative study that showed that most of the white/yellow-fleshed sweetpotato traders were women. The survey found that of the 42 sweetpotato traders interviewed, 41 were women. The respondents in the market survey were asked whether in their opinion the involvement of men, women, and young people in marketing of white and yellow-fleshed sweetpotato was on the increase or decrease. The general perception was that, while for women participation had increased over the years, for men and young people it had declined (Table 4).

**Table 4:** Perception of sweetpotato traders on participation of men, women and young people in white/yellow sweetpotato trade

Participation variable	Increased	Decreased	Remained the same
Participation of women in sweetpotato trade	66	29	5
Participation of men in sweetpotato trade	7	80	13
Participation of young women in sweetpotato trade	15	66	21
Participation of young men in sweetpotato trade	11	56	30

Those who considered women’s participation to have increased and men’s to have decreased were asked to state why they thought this was the case (Table 5).

**Table 5:** Perceived causes of increased participation of women and decreased participation of men in white/yellow sweetpotato trade

	Frequency of mention
<b>Cause of increased participation of women</b>	
It is a good source of income	5
It is a profitable business	5
Women have been empowered	4
Can easily be started with little initial capital	3
Requires few skills	3
<b>Causes of decreased participation of men</b>	
Perception that the sweetpotato enterprise is for women	9
Men are engaged in other income sources	3

The reasons for the decline in the participation of young women in sweetpotato business were:

- Young women regarded it as a dirty business
- Most young women were educated
- It was mostly suited for old women

Women in the FDGs reported that they found sweetpotato to be a good source of income and profitable. The fact that women had been empowered to engage in its trade further improved their participation. Men continued to refer to sweetpotato as a women’s crop (Table 5) so their participation in its trade was perceived to have mostly declined (Table 4). The perception in the FDGs and interviews that sweetpotato enterprises were for women was repeatedly linked to the low volumes traded. When asked who their major clients were for the white and yellow-fleshed sweetpotato, farmers in Homa Bay and Bungoma stated that it was mostly the women involved in retail trade who often bought a few bags for sale in either the local markets or distant markets such as Nairobi. Table 6 shows the sources of sweetpotato identified by traders in the Kisumu and Homa Bay local informal retail markets.

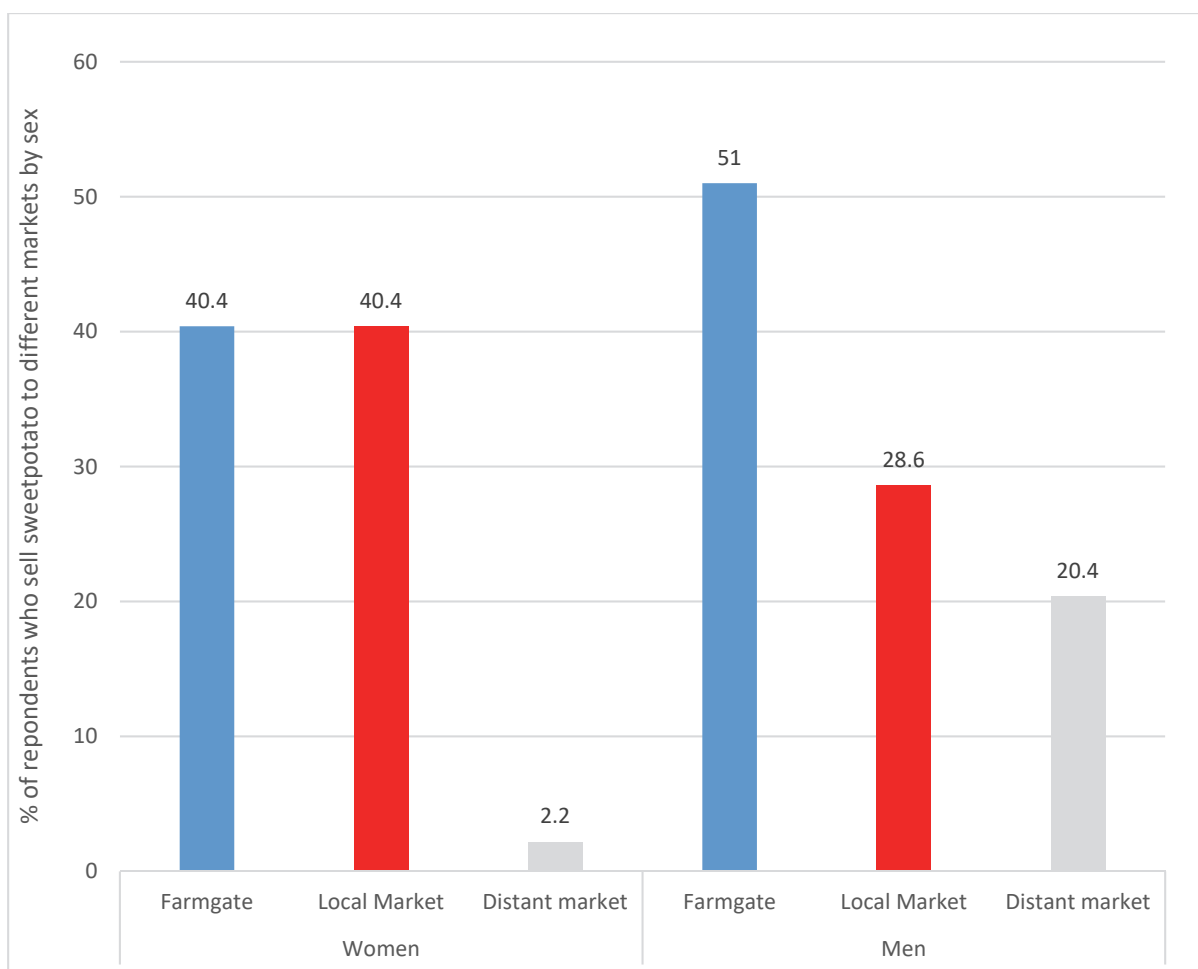
**Table 6:** Sources of sweetpotato for traders in Kisumu and Homa Bay markets

Source of produce	% of traders
Trader buys from farm gate	61
Gets produce through an intermediary	32
Farmer delivers to the trader	7
Trader buys from other traders in another market	19
Trader buys from other traders in the same market	19

The majority of the traders purchased their sweetpotato at the farm gate. In the market survey, traders gave a variety of reasons for this. These included the lower prices and the assurance that the crop would be fresh, which would reduce its chances of rotting and loss at the market. They noted, however, that buying sweetpotato roots from the farm gate limited the quantities they could buy because the crop was bulky and there were also transaction costs associated with the search for the roots among the farms.

For white-fleshed sweetpotato, women and men targeted different markets. For example, baseline data from SUSTAIN showed that while sweetpotato sales occurred mostly at the farm gate for both men and women, more men than women sold sweetpotatoes in distant markets (Figure 3).





**Figure 3:** Point of sale for sweetpotato by farmers by sex

**Data source:** SUSTAIN baseline data

Women sold sweetpotato in markets that were at an average distance equivalent to 14 walking minutes while for men this was significantly longer at 37 minutes (Table 7). More women than men sold the crop in the local markets. For traditional sweetpotato, during gluts men could sell sweetpotato in Kitale—the nearest large town—where women wholesalers and other intermediaries bought it in bulk.

**Table 7:** Distance to point of sale by gender

	Women	Men	Both	p-value
Distance in minutes to main point of sale	14	37	15	0.000

**Source:** SUSTAIN baseline data

In regard to whether men preferred selling sweetpotato at local or distant markets, one male FGD participant said:

“I will say in general there is a season when we target Kitale as the market for our sweetpotato harvest, and that is when everyone and every market around us is flooded with sweetpotatoes.” Male commercial FGD participant, Bungoma.

It was noted that few women used distant markets such as Eldoret, preferring to sell their crop locally and in nearby markets, such as Kamkuywa. The lack of mobility for women was often linked to the division of labor in

the home and the distance they were willing to travel to sell sweetpotato. In times of glut, men could also sell sweetpotato in distant markets using their bicycles as the means of transport.

White and yellow-fleshed sweetpotato market traders had considerable trading experience, averaging 13 years. The newest trader had been in the business for half a year and the oldest for 46 years. This shows that sweetpotato trade was not new for most of the women traders, who found the business profitable as a source of income, and that they had a lot of experience in it.

### ***Challenges faced by white and yellow sweetpotato market traders***

Most sweetpotato market traders were women therefore it is important to understand what challenges they faced if this trade is to be improved in order to increase its profitability and incomes accruing to women. The most important challenges mentioned were related to sweetpotato transportation, access to capital, and sweetpotato root perishability (Table 8). Weather and high market dues were also mentioned but were not considered to be so important.

**Table 8:** Challenges faced by sweetpotato traders

Challenge	Frequency of mention	Detail
Transport	9	Bulkiness of sweetpotato roots, delays in produce delivery, high transport costs, losses during transport
Perishability	8	Root rotting, shrinkage, and discoloration
Inadequate supplies	6	Poor yields of sweetpotato
Limited market	6	Low demand especially in the season of surplus, and preference for other food
Limited capital	9	
Low profitability	3	
Lack of proper market	3	Lack of designated stalls
High storage costs	3	
Price fluctuation	2	

Sweetpotato retailers suggested various ways in which their business could be improved (Table 9).

**Table 9:** What needs to be done to improve sweetpotato trade

What could be done to improve sweetpotato trade	Frequency of mention	Detail
Capital for business start up	14	Access to loans and grants from donors
Increase sweetpotato supply	10	Encouraging farmers to grow sweetpotatoes; growing improved, early maturing and disease-resistant varieties; weevil control
Find other markets for sweetpotato	5	International markets, processors
Proper harvesting of sweetpotato	3	Harvesting mature sweetpotatoes
Promote nutritional benefits of sweetpotato	3	Use of media in sensitizing producers and consumers
Designate a location in markets for selling sweetpotato	2	Construct sheds etc.

### ***3.2.2 OFSP marketing and gender***

There was limited OFSP marketing in the retail markets in Kisumu and Homa Bay. This section therefore relies mostly on the results from FGDs and IDIs. The qualitative data shows a general perception that the involvement of men in the cultivation and marketing of OFSP increased compared to the yellow and white-fleshed varieties

over a three-year period. Men's groups attributed this to the opportunity for selling OFSP to businesses for large sums of money instead of retail. Men's FGDs stated that women were interested in the white and yellow varieties, which were easy to sell in the local markets. This was often disputed by women who maintained that they also were interested in OFSP markets where bulk sales could be made, but they sometimes faced challenges in participating in them. In explaining why men were interested and engaged in the OFSP business, a participant in the male commercial FGD in Kamiola stated that it was because OFSP had a ready and lucrative market and that it was introduced as a variety with a good market:

“... if you harvest it and weigh it, they said in two weeks you can get paid, and the money can assist you.”

Some men were of the view that OFSP business was often conducted jointly by the husband and the wife, although it was the man who made the majority of the decisions, such as on how much land to allocate to this new lucrative crop.

The fact that OFSP could be easily sold to Organi Limited and the money sent directly to mobile phone accounts was regarded as a big plus by men. In some FGDs, men claimed that women found it hard to sell OFSP at local markets because it was not popular with consumers owing to its soft and watery texture. While women agreed that OFSP was not popular in local markets, they indicated their interest in engaging in its trade, particularly because of its ready market, where one simply called the buyer when the crop was ready for picking up. Their lack of engagement in OFSP was not the result of their preference for small volume sales but it emanated from the challenges that they faced when trying to commercialize their enterprises. The women and men who belonged to groups were engaged equally in selling of OFSP.

“The way the groups work – and I am from a group – [it] does not discriminate against women or men. There is nothing like the men selling one thing while the women sell another. Once you register with the group indicating your interest to grow sweetpotato you will be free to grow it just like any man would be. If a man has a wife who is a member of this group, you will find that when the time to market the crop comes, she will sell it as any man would. Once we find a market for the crop, women are free to sell the crop like the men are.” Male commercial FGD participant, Rodi.

This perspective bears out the fact that men and women who belonged to sweetpotato farmer groups or cooperatives found it easier than non-members to engage in OFSP trade. For men and women who sold their crop to Organi Limited, there was no difference in the procedures except that some women needed a male relative or neighbor to sell it on their behalf. In a sample of five men and four women, the average weight sold by women was 18% higher than that sold by men (Table 10).

The volumes of OFSP sold were, however, underestimated in some cases. For instance, a farmer who had sold some of his OFSP in bags (a common weighing measure) to a local school, before being assured by Organi Limited that it would buy from him, did not include the roots sold to the school in his estimate. Another male respondent stated that his wife often sold small quantities of OFSP at local roadside markets or to other women in the community, quantities that were not weighed and therefore not included in the volume he reported. Both male and female farmers stated that to participate effectively in OFSP marketing they needed to be assured of markets, since OFSP did not do well in local informal markets.

**Table 10:** Estimated weight of OFSP sold during the last season (individual respondents)

Sweetpotato sold to Organi Limited (kg)	
Male respondents	Female respondents
253	360
250	275
571	*
571	253
85	1,650
1,142	286*
<b>Total weight sold</b>	<b>2,872</b>
	<b>2,824</b>

\*Not sure exactly how much was sold

From the IDIs it seems that men and women equally were engaged in selling OFSP to Organi Limited. However, as was the case with the two women in the sample who were not sure of the exact weight of the roots they sold to Organi Limited, sometimes widows depended on men in their village to sell OFSP on their behalf. In these cases, they were often unsure of the buying price or the exact volume sold. In the example, below, the man selling on behalf of the widow reported the correct price back to her:

“Do you see this person who was explaining to me how I can prepare sweetpotatoes and how the sweetpotatoes can help me because my husband is dead? He is the one who told me to grown OFSP and that he would take mine to Organi Limited along with his share. When the money comes, he pays me. ... He paid me KES 4,000 for three bags. He told me that it was KES 14 per kg.” Widowed female respondent, Kabondo.

Like widows, women who were not registered with Organi Limited often relied on their registered male relatives to sell OFSP on their behalf and again often they were not sure of the volumes they had sold.

**Case story: Relying on others to sell crops reduces ability to fully benefit from the sales, regardless of gender as this interview with a male respondent from Kabondo illustrates**

***Why did you start the business of this sweetpotato?***

After finishing school, I went to college. I did tailoring. After that I came back home where I started farming. I was cultivating and selling sweetpotato. Finding people to buy from me was very difficult so the sweetpotato would rot in the farm. I resolved to look for a market and I decided that Nairobi was the best place to sell sweetpotatoes.

***How did you start going to Nairobi?***

There was a friend who was doing sweetpotato business in Nairobi. I gave him my sweetpotato to sell. I had planted a lot of sweetpotatoes, nearing 4 acres. The first time he took mine with him to Nairobi, but the second time I told him that I wanted him to take me to Nairobi. He is the one who took me to Nairobi. When my friend took my sweetpotatoes to the market in Nairobi, he paid me KES 1,500 per bag, but when he took me to Nairobi I found that sweetpotatoes were being bought at KES 4,000 per bag. This gave me the confidence that I could pay my expenses in Nairobi and still make a very good profit.

When asked to say who sold sweetpotatoes to Organi Limited, two respondents made these comments:

“Men ... Only men know those people. Since men are the sole owners of the land, it is good to let them sell sweetpotatoes when they are to be sold in bulk.”

“It is because most men do not like petty issues that they prefer to participate more fully when selling sweetpotatoes in bulk than when retailing them. Secondly, Organi Limited buys sweetpotato in kilograms, which is easy for men to weigh and estimate, while in retailing one has to count the sweetpotato roots and give a certain number for a given price, which is not easy for men to do.”

Participants in a mixed male FGD, Rodi.

Because OFSP generated higher income than traditional sweetpotato varieties and was easy to sell, in IDIs and FGDs it was often mentioned that men were increasingly engaging in its marketing, sometimes displacing women who had been engaged in sweetpotato trade for many years.

### ***Type of markets for OFSP***

The principal buyer was Organi Limited, although some men sold OFSP for quick cash to local bakeries, hospitals, and schools.

Women preferred selling OFSP to Organi Limited than retailing white sweetpotato, for the following reasons:

- They preferred bulk selling.
- Organi paid by the kilogram, which women regarded as fairer than paying by the heap or bag, which was the practice in the retail markets.
- Organi paid more for sweetpotato than farmers could get from the local retail markets.
- Organi was considered honest and reliable, and farmers were confident that it would pay them. This was not so when one sold sweetpotatoes on credit to market traders; they were not always assured that they would get their money.
- With Organi, farmers always knew how much they would be paid once they delivered their sweetpotato, but local market traders could try to short-change farmers by claiming that the sweetpotato rotted before it could be sold.
- OFSP did not sell well in the open market, so it was cultivated only for Organi Limited.

Some farmers said that they had tried to sell OFSP in the retail market with varying degrees of success. The sweetpotato retail survey collected data on the general availability of sweetpotato in the retail market. White-fleshed varieties were the most popular, followed by yellow-fleshed varieties (Figure 4). Over 90% of the traders traded in those two varieties, while about 27% traded in OFSP.

The findings from the study generally show a decrease in the volume of sweetpotato the traders were selling and a decline in the demand for sweetpotato, which was more pronounced for OFSP (Table 11).

**Table 11:** Demand for sweetpotato

Demand supply variable	Increased	Decreased	Remained the same
Volumes of sweetpotato trader is selling (n = 41)	15	80	5
Demand for sweetpotato in general (n = 41)	37	58	5
Demand for OFSP (n = 26)	4	81	15

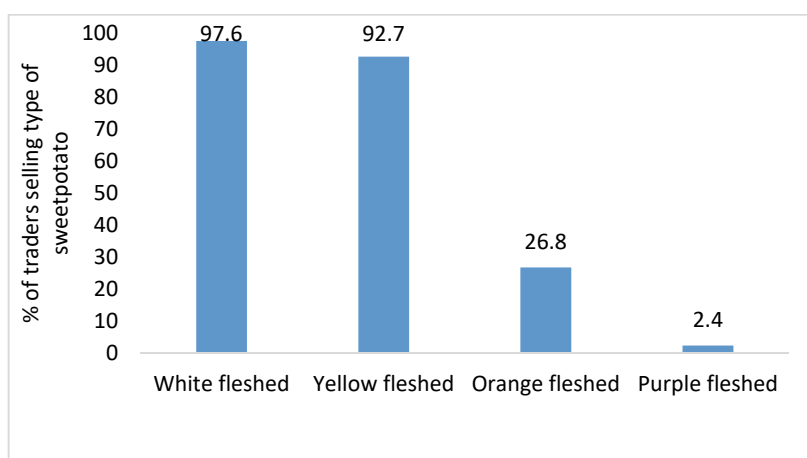
The decrease in the volume of sweetpotato sold was related to the low yields of the crop (Table 12). Other challenges were connected with postharvest issues, especially the harvesting of the roots before maturity and the general decline in sweetpotato production. The traders mentioned that the decrease in the demand for

sweetpotato among consumers was associated with the rise in the cost of living, which limited the money available to spend on sweetpotato. They also said that preference for other foods such as bread and potatoes had affected sweetpotato consumption.

**Table 12:** Causes of the decrease in sweetpotato trade according to traders (n=41)

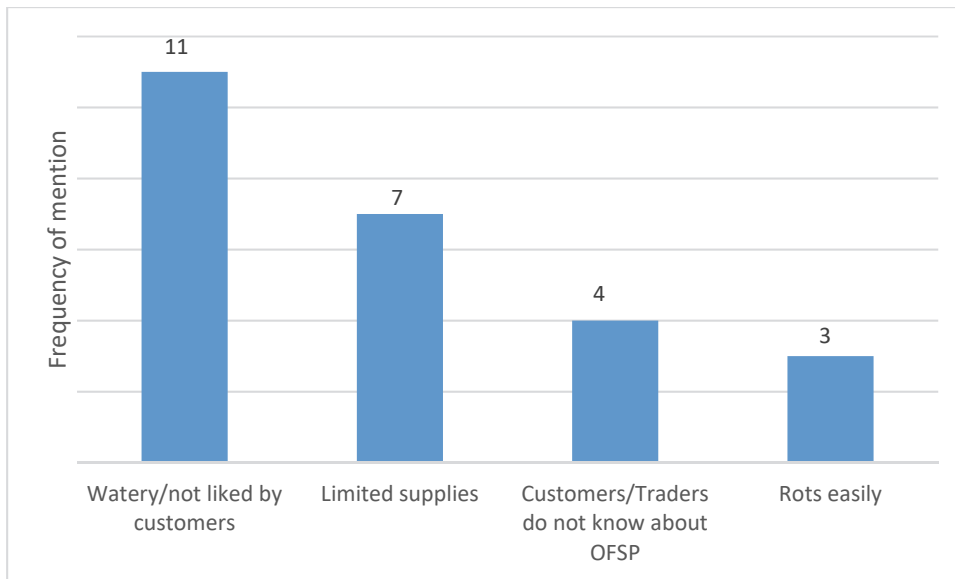
	Frequency of mention
<b>Causes of the decrease in the volume of white/yellow sweetpotato sold</b>	
Rise in cost of living	7
Low yields due to pests, diseases, drought etc.	6
Decreased sweetpotato farming	5
Early maturity/harvesting before maturity	3
Many sweetpotato traders	3
<b>Causes of the decrease in the demand for white/yellow sweetpotato</b>	
Rise in cost of living	8
Preference for other food e.g. bread, potatoes	6
Reduced sweetpotato farming	3
<b>Causes of the decrease in OFSP demand</b>	
Not liked/watery texture	11
Rots easily	2
Causes constipation	1

Results from the market survey show that OFSP did not do well in open markets, so farmers cultivated it mainly for Organi Limited. In fact, the majority of traders sold only white and yellow-fleshed varieties (Figure 4).



**Figure 4:** Common types of sweetpotato traded

Figure 5 shows the reasons given by traders for why OFSP varieties were not popular among them. OFSP was disliked because of its watery texture and ease of rotting.



**Figure 5:** Why retailers did not like to trade in OFSP

The qualitative study supported the view that OFSP was not popular in the open, informal markets. A 57-year old male respondent from Kabondo noted: “Kabode ... people don’t like buying it. People know that it is used for making bread ... they call it the bread sweetpotato.” Another reason that OFSP was not popular was because its supplies in the market were low and people did not know it. The proportion of traders aware of OFSP and its nutritional benefits was 54%. Those aware of OFSP learned about it from fellow traders (52%) or a non-governmental organization (NGO) or a development agency (28%). Only two (5%) traders had heard about it over the radio.

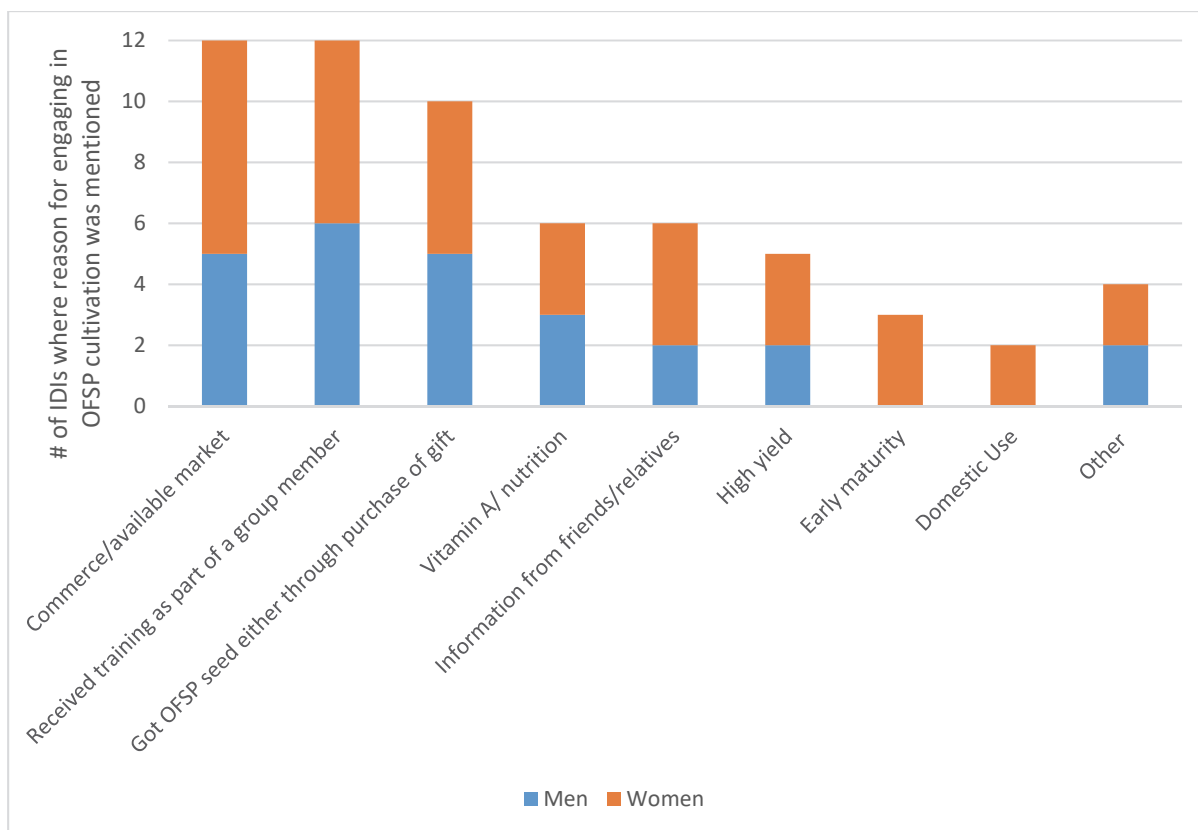
The fact that white/yellow-fleshed sweetpotato was destined for a market different from that for OFSP was regarded by many farmers as a benefit. For example, when asked why they still cultivated white-fleshed varieties instead of focusing only on OFSP, which could generate a higher income, women farmers stated that white/yellow-fleshed varieties were often sold for instant cash while payment for OFSP was often delayed. If someone needed quick cash it was better to also have the white varieties since they had a local and vibrant cash market.

Farmers who planted OFSP did not abandon traditional varieties, for the following reasons:

- Traditional varieties were regarded as tasty and so were planted for food while OFSP varieties were usually planted to sell to Organi Limited.
- Women valued the fact that white and yellow-fleshed varieties could be kept for long periods in the ground un-harvested, enabling them to be harvested piecemeal over a long period for food for their families.

### 3.3 Why OFSP?

In the IDIs both women and men farmers were asked why they were interested in cultivating OFSP; for both genders the commercial potential of OFSP was the source of their interest. Access to training, seed, and information were also among the top reasons (Figure 6).



**Figure 6:** Why men and women farmers cultivated OFSP varieties

### **OFSP commerce**

Some women were interested in the profitability of OFSP, which was higher than that of white or yellow-fleshed varieties.

“I started with the traditional sweetpotatoes. People would come and fetch my harvest ... they would put it in bags and take it to Nairobi. It did not make much profit. I decided to stop growing traditional varieties and to focus on orange-fleshed sweetpotato because, if I bring it here to the factory, I will get my money. They will pay me via Mpesa.” 70-year-old married woman, Kabondo.

It was noted in interviews with women that while a bag of white or yellow-fleshed sweetpotato fetched KES 500 in the market, a similar bag of OFSP was sold to Organi Limited for four to six-times more, between KES 2,000 and KES 3,000, which made OFSP farming and selling attractive to women. Some women considered that their status as widows or wives in polygamous marriages pushed them to engage in OFSP. They believed that OFSP profitability could provide them with a stable, independent income to cater for their needs, such as paying school fees for their children:

“I needed income to take care of myself because I was married as a second wife and I used to wait for a long time before my husband could send me money. I had to find something that would bring me money.” 38-year-old woman in a polygamous marriage, Homa Bay.

Women often considered their involvement in a commercial enterprise as a pathway to independence from men; such ventures were a way of freeing them from reliance on men for money to meet their daily needs.



Men were more interested in farming sweetpotato for its commercial potential and profitability:

“In farming, this is what I like: if they bring a new crop and tell us of its benefits, my first question is, what can I get from an acre? When I heard that from an acre I could get 4 tons of OFSP roots, it occurred to me that from a quarter [of an acre] I could get a ton. So my question was, whether the crop would be sold by weight or by the number of bags as we usually do here. It turned out to be in terms of kilos, so I found out that from an acre I could make KES 14,000, which was a good profit. So, I got into OFSP farming, even though the season was late. I decided to join in to find out if the crop would be beneficial.” 67-year-old married male respondent, Bungoma.

Men frequently stated that they would be interested in using the money from OFSP to invest in property, pay school fees for their children, and in some cases invest in agriculture through hiring labor. Both men and women often referred to OFSP as ‘sweetpotato for business’ while white and yellow-fleshed varieties were generally regarded as subsistence crops.

Although OFSP was preferred for its market potential, white and yellow-fleshed sweetpotato were also regarded as important because of their social role:

“That one, Nyar Koyugi [a white-fleshed variety], I grow it for food. When I get a visitor, I give him some to carry home. If a relative comes to visit I let him have some to carry away. But this orange-fleshed type is mine for making money.” 48-year-old married female respondent, Kabondo.

Farmers tended to first try out OFSP on small land parcels and then increased the area depending on the profitability of the crop. Table 13 shows the size of land that farmers started with.

**Table 13:** Start-up land for OFSP

Female respondents	Amount of land	Male Respondents	Amount of land
IDI59 – married woman, Bungoma	¼ acre and now ½ acre	IDI57 – married man, Kabondo	¼ acre to 1 acre now 2 acres
IDI39 – married woman, Bungoma	¼ acre	IDI45 – married man, Bungoma	¼ acre
IDI70 – married woman, Kabondo	1 acre will now increase to 1-½	IDI67 – married man, Bungoma	¼ acre
IDI43 – married woman, Kabondo	¼ acre	IDI42 – married man, Kabondo	1 acre
IDI37 – married woman, Rangwe	1 acre because had believed in promises of a market that did not materialize	IDI40 – married man, Kabondo	¾ acre
IDI48 – married woman, Kabondo	1 acre	IDI76 – married man, Homa Bay	½ acre
IDI32 – widowed woman, Kabondo	Less than ¼ now plant a ¼ because of lack of land	IDI38 – married man, Homa Bay	¼ acre
IDI34 – widowed woman, Kabondo	½ acre		
IDI38 – married woman Homa Bay	¾ for vine multiplication; 1 acre for roots		
IDI52 – married female	¼ acre		

“When this business of orange-fleshed sweetpotato came, I planted one acre. I got a lot of money from it, KES 25,000. I was very happy. I am still cultivating that sweetpotato because it has profit. I started with one acre and I will add a half of an acre.” 70-year-old married female respondent, Kabondo.

“I started with ½ acre, and when I saw its profitability I went to 1 acre. Currently I have 2 acres. When I harvest it and take it to the factory and I am given that money I am happy. It allows me to obtain what I want. I can pay school fees and I have even bought a cow.” 57-year-old married male respondent, Kabondo.

### ***Training on OFSP***

Both men and women regarded training as important in their decision to take up OFSP farming and marketing. The training covered aspects such as how to plant OFSP, its benefits related to income and health, and use of improved seed. The information and encouragement from extension officers was regarded as important.

#### **3.3.1 Why women did not target high value sweetpotato markets**

It is clear that for small volumes of white-fleshed sweetpotato women could actively participate in its marketing. For large volume sales and commercialization, as the participation of men increases women may become sidelined or restricted in what they can sell.

Many reasons were given as to why women were not engaged or encouraged to sell sweetpotato in bulk or to big buyers like Organi Limited. One such reason was that often women did not belong to the groups that could sell sweetpotatoes on behalf of farmers. Alternatively, they might not have had the permission of their husbands to sell big volumes of crops. In some instances, when they allocated land, men might have given only a small portion of it to women to grow white/yellow-fleshed sweetpotato for small volume sales and family food, but allocated a big portion of the land to OFSP, which they controlled. Men might also have prohibited their wives from engaging in high-value crop sales without their permission.

Men frequently stated that the gender division of responsibilities in the household meant that women could not participate in high-volume markets. For example, men said that they were responsible for taking care of the high-expenditure household needs, such as school fees, while women were responsible for low-expenditure needs, such as buying salt and cooking oil. That meant that, even when women cultivated sweetpotato, men had to be in charge of its high-value sales. Men also stated that since they owned the land and were also better acquainted with Organi Limited and CIP, it was better if they sell OFSP to these organizations.

Some men said that women were not capable of dealing with large markets but were fine with small markets at which they could sell their crops to reduce dependency on their husbands. This view was challenged by women who stated that the main obstacles to their participation in high-value markets were related to household gender relations and dynamics, where men took it as their role to engage in high-value sales and left women to deal with small-value sales to meet kitchen needs.

#### **3.1.2. Source of land and investments for sweetpotato farming**

Farmers planted different crops, such as coffee and banana as well as trees for timber or wood, and frequently said that they chose a specific piece of land for OFSP if it was suitable for the crop. However, they did not specify what made certain land suitable for sweetpotato except to say that the crop did well there.

The women seed multipliers frequently stated that for sweetpotato vine multiplication, including OFSP, they preferred to use their own land rather than rent land owing to the insecurity of tenure associated with rented land. However, crops like maize could be planted on rented land. Both men and women farmers were aware that sweetpotato needed to be rotated with other crops and it was easier to do that on owned rather than rented land. Some male OFSP farmers mentioned that when they started planting OFSP they used rented land because their wives, who were not yet convinced of its value, were against having it on their land:

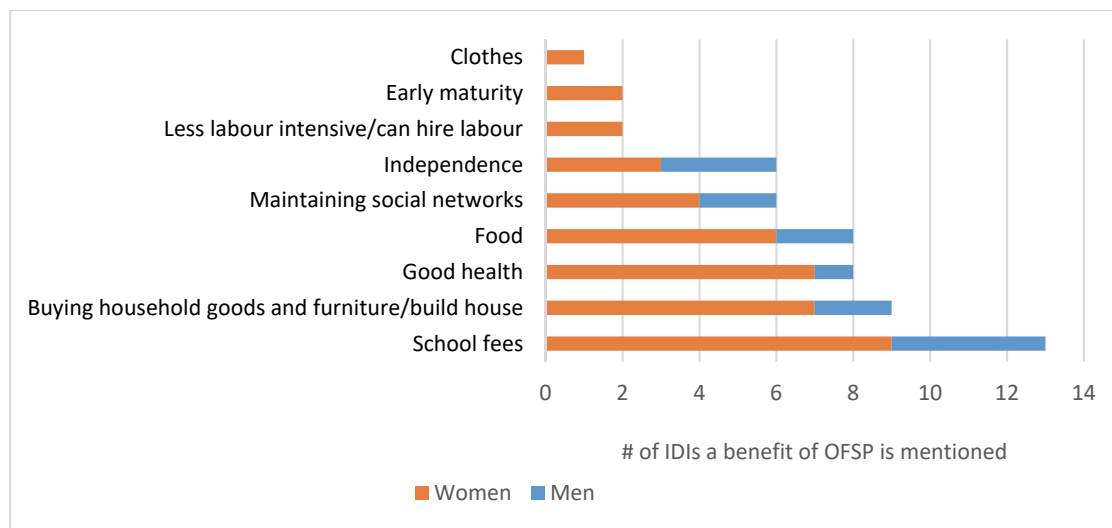
“I rented land because if I had taken it to my own land there would have been some opposition. I decided to plant it there so that if I made a loss or gain no one would trouble me. Some people were claiming that it was not sweet, so I felt that with those kinds of comments, if I had planted it at home, I would have received a lot of opposition from my wife. It was better for me to plant it somewhere else and then later my family could decide whether it was worthwhile or not.” 67-year-old married male respondent, Bungoma.

From that perspective, one can see that women who did not have decision-making power over land or money to rent land might have had problems entering the lucrative OFSP trade if they did not have supportive husbands. However, widows often could decide where and when to plant sweetpotato.

### 3.4 Benefits of OFSP

#### 3.4.1 Social and health benefits

Figure 7 shows some of the benefits that men and women mentioned as emanating from participation in OFSP production and marketing. Women mentioned a much wider range of benefits than men.



**Figure 7:** Benefits of OFSP mentioned by men and women IDI respondents

Farmers often mentioned that a farmer who failed to grow enough maize for family consumption could use the money from selling sweetpotato at Organi Limited to make up the shortfall. Maize was a staple food and was consumed mostly as ugali.

The ability to pay school fees from OFSP earnings was a key benefit for both men and women. It was mentioned several times that OFSP was early maturing, often available for sale within three months of planting, and usually

coinciding with the time school fees needed to be paid. Farmers mentioned that proceeds from sweetpotato had enabled them to keep their children in school and even university.

“I got a total of KES 11,542 [USD 115] from selling OFSP roots and vines. If I subtract the KES 6,000 that I used for labor I will end up KES 5,500 profit [USD 55]. Normally I don’t get that much profit. Usually farmers don’t have money at that time but we who had sold OFSP had some money. OFSP money has helped us pay school fees. By the time we are selling OFSP we would have sold maize a long time ago and used the money to purchase fertilizers in order to plant again. Yet schools still require money. So, the money from OFSP helped us a lot in March.” 67-year-old married male respondent, Bungoma.

“The biggest difference for me is that previously I used to have challenges paying school fees for my three children in secondary school, but OFSP has helped me with that.” 59-year-old married female respondent, Bungoma.

Both men and women farmers were interested in improving their living standards through improving their homes, for example by building better houses or buying household furniture such as sofa sets and mattresses.

“I paid for the solar panel using the orange-fleshed sweetpotato money. In my house, I used to sit on ‘skeleton’ chairs, now I sit on ‘butterfly’ seats, courtesy of orange-fleshed potatoes.” Female commercial FGD participant, Kabondo.

“I lived in a leaking mud house and was a subject of ridicule. Now I am in a house like this one... I did not have cattle that I could use to plough, but now I have cattle to plough with and to milk.” 42-year-old married male respondent, Kabondo.

“[OFSP] has helped me to make my house beautiful with seats and paint. I have also bought shoes and even clothes.” 59-year-old married female respondent, Bungoma.

It was noted several times that those who were engaged in OFSP farming could afford to buy chairs to sit on, big mattresses, television sets, and solar panels, and they slept comfortably, ate good food, wore nice clothes, and generally lived well.

The income derived from sales of OFSP enabled a variety of foods to be purchased which together with OFSP enabled households to enjoy a more diverse, healthier, and more balanced diet. In addition to paying medical bills, some women farmers were also able to pay for health insurance through the National Health Insurance Fund using money from selling OFSP, which made it easier for them to access health care.

Selling of OFSP improved social networking opportunities for men and women farmers. It was frequently mentioned that sweetpotato customers were prone to speak well of farmers from whom they bought roots. In some cases, for women the engagement in OFSP improved their community relations:

“... it has increased unity among the community. Women especially sit together and talk. Therefore, OFSP has raised something new amongst the women, making them want to see what they can do together, be it weeding or any other task, they do it together. You hear them say, ‘If I get this, I think I will buy sheep.’ This crop has created a situation where people are discussing development matters.” 67-year-old married male respondent, Bungoma.

“Now, if I say that I want to go to see my MP [member of parliament], it is easy for me, because I will go through our sweetpotato group. She called us to visit her and got to know us.” 42-year-old married male respondent, Kabondo.

Engagement in markets, whether for OFSP or other sweetpotato varieties, provided networking opportunities that allowed both men and women to have access to new ideas and resources, even from beyond their community.

Both men and women mentioned that engaging in OFSP trade had boosted independence in decision-making for women. For example, women could easily buy household goods, go on a journey or attend family functions and funerals, all without having to ask for money from their husbands. One woman put it aptly this way:

“Sweetpotato business is a good ‘husband’ who gives me money without insulting me.” 38-year-old married woman respondent, Homa Bay.

Both men and women indicated that they sensed more respect from other community members when they started doing well through their engagement in OFSP marketing.

“I can give an example of myself. Now, if something happens in the community like a death, you will see them saying that so and so will be the chairman of the burial committee. And this is because of his wealth from sweetpotatoes. Or they will make him the chairman of a group. This never happened to me before, and it is just because of sweetpotatoes that it is going on now.” 43-year-old married male respondent, Kabondo.

It was reported to be common for people to be despised because of poverty. Some poor people gained social respect after their economic situation improved following their involvement in OFSP commercialization.

One respondent said that the advent of OFSP had rid him of his excessive family responsibilities. Now he could allocate pieces of land to his children to plant and manage OFSP with the understanding that some of the proceeds from the sale of roots would go towards their school fees and the rest to their personal expenses and pocket money.

### **3.4.2 Economic benefits**

To understand how economic benefits accrued to men and women, we analyzed plot level data from the SUSTAIN baseline study, although it mainly focused on white-fleshed sweetpotato farming. The findings showed that:

- Women controlled many of the sweetpotato plots, meaning that more women than men sold sweetpotato and controlled the income from sweetpotato plots (see Table 14).
- The income from sweetpotato sold from the plots controlled by women was significantly lower than that from the plots controlled by men or by both men and women ( $P$  value $<0.005$ ). Although not significantly different, the income from sweetpotato sold from the plots controlled jointly by both men and women was higher than that for the plots controlled by men only.

**Table 14:** Sale and value of sweetpotato produced in plots owned by men and women

	Sweetpotato sellers (%) <sup>*</sup>	Sweetpotato income control (%)	Mean value of sales (KES)
Women	78	65	2,851
Men	12	13	5,855
Both jointly	10	22	9,211

Note: \*n = 409

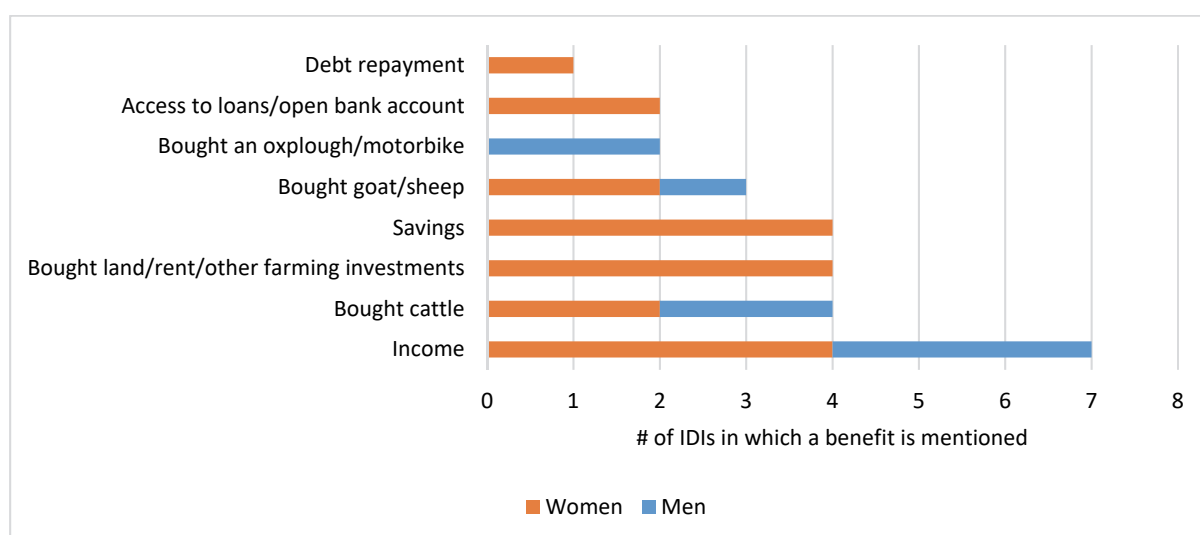
Table 15 shows how men and women perceived their decision-making power for income from household sweetpotato plots.

**Table 15:** Control of income from the plots managed by male or female farmers or by both male and female farmers

Who owns the plot	Who controls sweetpotato income		
	Female sales	Male sales	Both male and female sales
Female	84	0	3
Male	5	76	0
Both	12	24	98

It was clear that rarely did women control income from male-owned plots was controlled by women, but some men and both women and men controlled some level of income from female-owned plots. It is obvious from the data that decisions over income from jointly managed plots were made jointly. Although the qualitative study did not look at plot level data, it is possible that these same trends were true for OFSP farming and trade; for example, men’s support was often needed for women to participate in its trade.

Figure 8 shows some of the economic benefits mentioned by men and women as emanating from participation in OFSP production and marketing. Women mentioned a much wider range of benefits than men.



**Figure 8:** Perceptions on economic benefits by male and female respondents (n = 20)

### **Income**

Increase income was the most commonly mentioned benefit from OFSP by both men and women. It was often mentioned that OFSP matured quickly, allowing farmers to make money faster than with other crops.

“Since this business of orange-fleshed sweetpotato came, I have planted one acre of the crop. I made a lot of money, KES 25,000. That made me very happy. I am going on with that sweetpotato because it is profitable. I started with one acre but I will expand to one-and-a-half acres.” 70-year old married female respondent, Kabondo.

“Do you see that woman, the one who has just left this place? She came to my home and told me, ‘Mama Anyango, you have done me so good. I have made a whole KES 20,000, which I would never have made from the ordinary sweetpotatoes’”. 48-year-old married female respondent, Kabondo.

Income from OFSP was particularly appreciated, not only because it was a large lump sum, but also because it usually came when farmers did not have money after having spent the proceeds from maize sale on the purchase of inputs like fertilizers, and yet they still needed to pay school fees. It was also noted that the possibility of making good income from OFSP farming had resulted in increased interest by young people to get land from their parents to grow OFSP for their own income.

Compared with maize, OFSP was regarded as better for income, not only because it generated more money, but also because it was regarded as a quick money maker.

“You find that if you grow maize on a quarter acre and you grow sweetpotatoes on the same plot size you will get more money from the sweetpotato plot.” 45-year-old married male respondent, Bungoma.

Because of the high-income potential of OFSP, men also were increasingly getting engaged in its production and trade.

### ***Investing in livestock***

The high income from OFSP enabled men and women to invest in livestock. Although in the qualitative interviews, women were more likely than men to mention investing in smaller livestock such as goats and sheep, both men and women farmers mentioned investing in large livestock like cattle.

“When my in-law brought me that money [from selling OFSP] I bought a goat, and now my goat has kids. It gave birth to twins, so I made a gain. Now I have five goats in total from the one that I bought. I love it [OFSP] because it has helped me to acquire possessions that I did not have before. Now, if I have a problem, I will sell a goat to raise money to solve it.” 32-year-old widowed female respondent, Kabondo.

A male respondent mentioned that he was able to buy cattle and move into cattle ownership with the high income he made from selling OFSP. Cattle were important for men and women because they could be used to pull ploughs, which made sweetpotato farming and harvesting easier.

### ***Investment in land acquisition***

Some women said that they had been able to purchase or rent land to expand their businesses. It is interesting that it was mostly women who mentioned this, which could be attributed to the fact that men could inherit land from their fathers. In fact, a common refrain was that women did not previously own land, so access to money gave them an opportunity to own this means production.

### Savings

Only women respondents mentioned that the OFSP farming business had enabled them to save money and open bank accounts, as well as making it easy for them to pay back debts. Women were quick to acknowledge that, had it not been for their involvement in OFSP farming and their control over money from its sales, they would not have been able to accumulate savings or to easily meet some of their financial and social obligations.

“I have a bank account that I opened when I started bringing orange-fleshed sweetpotato here. Before that I did not have a bank account. Where would I have got money for that from? The account helps me to save so that when I want to go on a journey I can. If you keep money in the house, you will use it up without planning.” 48-year-old married female respondent, Kabondo.

In some cases, the ability to accumulate savings improved dialogue between husbands and wives over how the family resources and income should be used. Some women pointed out that men were now consulting them more regarding family investments.

### 3.4.3 Challenges

Men and women farmers were asked about the challenges they faced in the OFSP business. Since OFSP and white/yellow-fleshed varieties targeted different markets, some of the challenges raised did not cut across all the varieties (Figure 9).

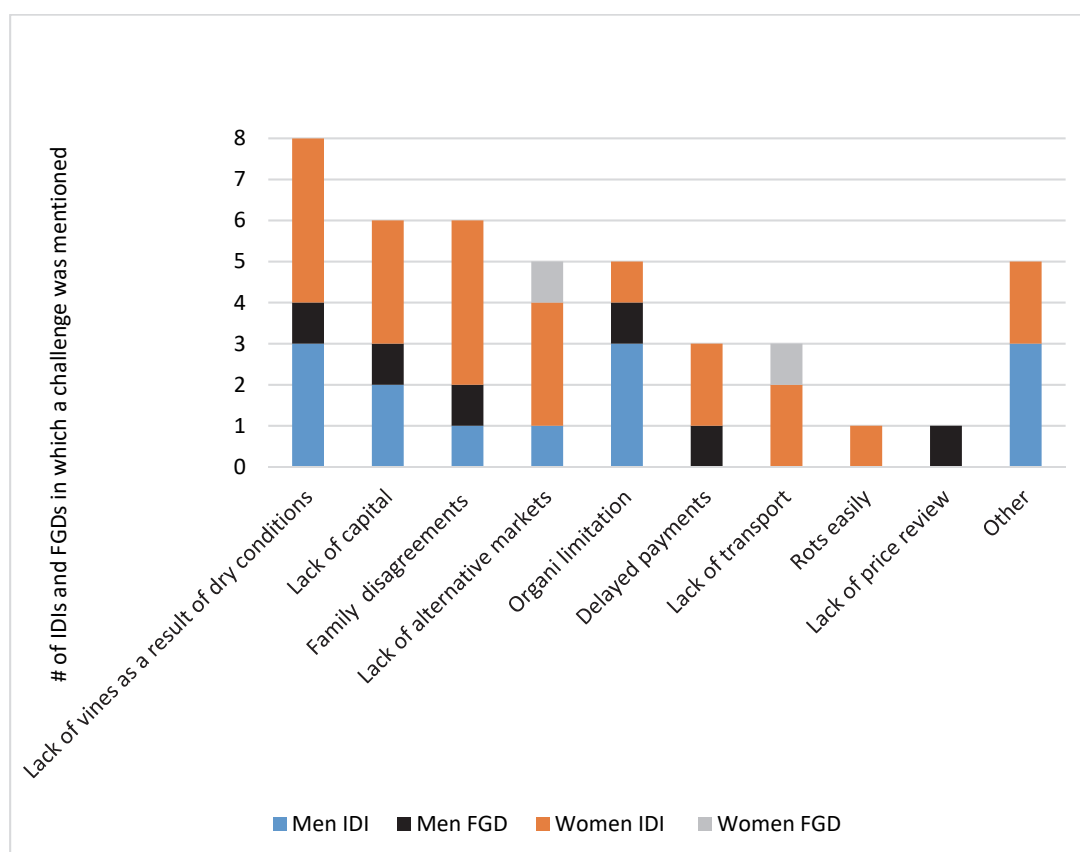


Figure 9: Challenges in OFSP trade



### ***Farming and marketing challenges***

OFSP varieties were regarded as not being tolerant of dry spells. During long dry spells OFSP vines are difficult to conserve and access. At the same time OFSP root yields are severely lowered, which affects their trade. This was a key challenge for both men and women OFSP farmers and traders.

Some men mentioned that widows and single women may lack the financial resources needed for land clearing and preparation to cultivate OFSP at a significant scale. For example, without capital women may not have been able to hire oxen or labor for land preparation to expand their farming enterprises.

OFSP was regarded as a high maintenance crop as oxen and hired labor were needed to make the vine ridges and weed the plots to ensure high yields. In contrast, for white-fleshed sweetpotato, farmers relied on implements such as hoes and did not need large start-up capital. A married female respondent from Kabondo stated that sometimes one might have hired oxen for ploughing but “the people with oxen lie to you that they will come but don’t and your sweetpotatoes or vines go bad.” In addition, labor for ploughing needed to be paid for up front.

Family disagreements could compromise the ability to participate in OFSP farming business. If a spouse did not see the need to take up OFSP farming it could be difficult for the interested spouse to engage in it. Some men mentioned that because of the high incomes related to OFSP farming and business, sometimes women and young people in the home started demanding for pieces of land to plant an OFSP crop that they could control, and that might have caused problems within a household by increasing land conflicts. Women frequently stated that their husbands could stop them from engaging in OFSP by denying them access to oxen or land if they were not interested in the crop:

“If you find a man who does not like it, problems will be heaped on you. You are the one who is going to plant it and weed it. All that will be upon you. When it comes to the day of harvesting, he will hang around because he will want to be the one to remove the harvest from the field for marketing. When it is time for work, he goes far away, but when the time for money comes, he draws near. Women have problems! You won’t even know how many kilos of sweetpotatoes you have harvested. He does not want you to know. He will tell you that you did not bring the land with you into your marital home and that the land is his. So, you will just keep quiet and move on to your other things.” Widowed female respondent, Kabondo.

Women whose husbands did not want OFSP in their farm but who had access to money could rent land when they needed to, but in general they were not able to participate in OFSP farming.

Another issue that was a source of family disagreements was the way the money from selling OFSP was used.

“What challenges do women face in this business of sweetpotatoes? If a woman who does this job is married, she has a problem because she will not receive the money from it. When the husband gets money for the crop, you will not see it. He becomes fierce. When you receive the money yourself, you will be able to put it to good use... If my husband misuses the money from the crop we have worked together on, my spirit will get dampened and I will be discouraged from farming sweetpotatoes since I will not benefit from the money.” Widowed female respondent, Kabondo.

It seems that family disagreements did not affect the ability of men to participate in and benefit from OFSP but they did for women.

The lack of alternative markets for OFSP was a big challenge for farmers, especially since the companies and organizations that bought OFSP sometimes did not show up or showed up too late, when the sweetpotato had already gone bad. This lack of reliable markets also affected the reputation of people in the villages who were encouraging others to cultivate OFSP.

“I also tried to train teachers who live nearby to cultivate OFSP. When the sweetpotato was ready they said, ‘Lillian, the sweetpotatoes are ready, call the sweetpotato people for us.’ But when I called the buyers none came for the sweetpotato. So, I am living in the village with people who now see me as a liar who is playing around with them. There is no market but the sweetpotato is ready.” 37-year-old married female respondent, Rangwe.

Both men and women frequently expressed frustration and sometimes anger at the unreliability of the OFSP market and the losses that they sometimes incurred as a result.

It was noted that sometimes the main OFSP buyer, Organi Limited, lacked the capacity to purchase all the sweetpotato available for processing, which led to rotting of the sweetpotato on the farm and the shouldering of most of that burden by farmers.

“Another challenge is that here people plant when the weather is favorable and so everyone plants at the same time and harvests at the same time. But the company has only one machine and cannot handle all the sweetpotatoes. When they delay, the sweetpotatoes rot in the soil.”

“I am afraid of planting sweetpotatoes for Organi because it is they who also tell you when to deliver the sweetpotatoes to them.”

Participants in mixed male FGD, Kabondo.

The lack of capacity at Organi Limited to handle large OFSP consignments in glut periods was regarded by farmers as a key challenge. Delays in payments by the company were another challenge as this could affect the ability of farmers to make the investments they needed to improve their farming enterprises.

Men were also concerned about lack of transport options and the poor roads, while women worried about the cost of hiring transport, which they said they could not afford. Other challenges included the lack of storage facilities for use when Organi Limited delayed in buying OFSP roots, loss of rented land if the success of an OFSP farmer led to jealousy of the land owner, and OFSP’s perceived greater susceptibility to attack by pests and diseases.

### ***Gender-related challenges***

Farmers were asked to state their specific gender-related challenges. Quantitative baseline data for sweetpotato sales had indicated that sales were higher for married than widowed women, although the difference was not significant (Table 16). This might have been a result of the challenges that were specific to widowed women.

**Table 16: Decision-making by widowed and married women (calculated from quantitative baseline data)**

Variable	Widowed women who made decisions on sale of sweetpotato	Married women who made decisions on sale of sweetpotato	P-value
Average amount of value in KES accruing to women from the sale of sweetpotato	2,056 (2,269.80*)	2,990 (4,172.14*)	0.140

\*Standard deviation

It was frequently noted that widowed women did not have access to the capital they needed to hire labor and oxen for land preparation.

The gender-related challenges mentioned in the qualitative study related to the misuse of money by men, which caused suffering to women and children in the household.

“You can find that some men who previously did not drink alcohol take it up after joining sweetpotato farming and getting money. ... You also find that some men break up their families and marry young ladies. This has also led to children dropping out of school, given that the parents are not around to supervise them.” Mixed male FGD participant, Kamiolo, Kabondo.

Alcoholism resulting from access to new and extra cash by men was regarded as an important problem and a source of violence within the home. Women also talked about health issues, such as backache resulting from bending over for long periods during planting and weeding OFSP.

#### ***Solutions to challenges as suggested by study participants***

- Collection centers built close to the villages with well-equipped storage facilities such as cold rooms where sweetpotatoes could be kept without the risk of spoiling.
- Improvement in linkages with other markets.
- Promotion of OFSP in local markets.
- Provision of technical extension officers to educate farmers on the best farming practices.
- Access to processing machines.

Other solutions could include providing irrigation services to maintain vines and using household approaches that promote cooperation between men and women to ensure that women too were able to benefit from their labor and efforts in OFSP farming.

### **3.5 Improvements in livelihood associated with sweetpotato commercialization**

The men and women participating in the FGDs were asked to rank people in their community on a ladder based on an individual’s economic status; the number of steps on the ladder was decided by each group. Each group was given 20 pebbles which represented 20 households in the community – selected by the group to represent a range of different wealth levels.

Firstly, each group was asked to create a wealth ranking ladder showing the status of the village today. The first step was to identify the people considered as the better-off farmers then to describe why they were regarded as such. The participants were also asked to do the same thing for those who they considered to be at the bottom of economic the ladder. After creating this wealth ranking (ladder), they were asked to distribute the 20 households (using the representative 20 pebbles) on the ladder. They were then asked to look at the ladder and make any adjustments needed to reflect the wealth categories in the community three years ago.

Almost all the FGDs had five steps in their ladders. Wealth rankings for three years ago were intended to capture the time immediately before the SUSTAIN project introduced OFSP commercialization in the area. While any changes in wealth rankings cannot be wholly attributed to this process of OFSP commercialization, for households engaged in commercialization, OFSP commercialization certainly contributed to the general improvement of livelihoods. The results of the exercise are described below:

### 3.5.1 Step 5 – the better-off farmers

The better-off households were mainly described as financially stable households living in permanent houses built of brick or stone with a separate kitchen and toilets, and with children in good schools such as private or boarding schools. They had no problem paying school fees for their children. They had fenced compounds and access to electricity and piped or borehole water. They were land owners with the capacity for large-scale farming using machinery such as tractors. The better-off farmers were also considered to be engaged in some form of entrepreneurship. Their other resources included dairy cattle, plenty of chickens, goats and sheep, as well as money to hire tractors or employ villagers with ploughs to work for them. The better-off households often had good means of transport, so they could easily access markets, and had strong social networks. Because of their networks they had easy access to markets, and also had access to local county government officials, who often granted them favors.

While men and women had similar perceptions regarding what the better off farmers were like, women’s groups noted that families of the better-off were well taken care of, well dressed, and had enough good food to eat.

#### ***Sweetpotato farming***

Often the better-off farmers were regarded as skilled farmers engaged in large-scale sweetpotato farming with plots of sweetpotato as large as 7 to 10 acres.

“There are some who go even up to eight acres. He has money. He can even rent someone’s farm.”

“His sweetpotatoes are not being picked up by the buyer; he takes them there in person. They have the means of transport.”

“They farm sweetpotato and it is removed from the farm when it is going to the buyer. There is nothing like looking for a market. He harvests when he has a ready market. The sweetpotatoes are yet to be weeded but he has already told a buyer that he has planted them.”

Mixed male FGD participants, Kabondo.

When engaged in sweetpotato farming, the better-off households often did it at a large scale and had no problems accessing the market. They had better access to farm machinery and good knowledge on sweetpotato farming and livestock keeping, compared to others in the community. It was suggested that the better-off would benefit the most from commercialization of OFSP farming.

### 3.5.2 Step 4

People in this step were regarded as those with permanent brick houses, fenced compounds, motor vehicles for some or motorbikes, boreholes for some, and water tanks or the ability to harvest water. Their children attended good schools and they could afford good-quality health care at private hospitals. A mixed male FGD participant from Kabondo described them as sometimes “trying to emulate the person at the top but not at the scale.” People on this step were said to have small families and to have family members gainfully employed elsewhere, which meant that the pressure on the family land was low. They could afford to hire labor.

#### ***Sweetpotato farming***

Farmers at step 4 were considered to have medium-sized sweetpotato farms. They could easily mobilize labor to help them and were highly skilled and knowledgeable about sweetpotato farming. These farmers could afford to grow 2 to 5 acres of sweetpotato, to rent big lots of land from other villagers, and to hire out their trucks for

transport or oxen to plough other people's fields. It was also noted that many people in this category did not live in the village but in town, where they worked, and most of their rural homes were looked after by hired help.

### **3.5.3 Step 3**

Farmers at this step had semi-permanent houses that in some cases were made of both mud and cement. Their children were assured of three meals a day and some education, although they went to relatively inexpensive village private schools. These farmers could afford health care and often were good farmers. Some of them had pit latrines, an ox plough, a hand cart, a motorbike and probably a small business (kiosk) at their home or in a central location. They might also have solar energy in their homes. People at this level were also likely to have small, young families and relatively small pieces of land.

#### ***Sweetpotato farming***

It was judged that people at step 3 planted half to one acre of sweetpotato and used the money from the crop to pay for basic needs such as children's school fees or to purchase second-hand motorbikes. At this level intermediaries tended to purchase sweetpotato from farmers in the village and bulk it for sale elsewhere. Some of the FGD groups associated people at this level with unscrupulous practices, such as promoting the use of cheap child labor for their sweetpotato enterprises.

### **3.5.4 Step 2**

Farmers at this level did not have all the basics in life. They could not afford three meals a day and worked as manual laborers for other farmers. They usually lived in small, iron-sheet houses with neat mud walls. Their farms were very small and their children were sometimes sent home from school when fees were not paid. Some people at this level did not own land but could rent small pieces to farm. To some extent they could also hire oxen to plough their land and were sometimes engaged in sharecropping: they worked with others who could plough the land and then they would share the crop. It was noted that farmers at this level often had food stores that could sustain them for a while and might own small livestock such as chickens and goats. Women noted that people at this step often did not have enough clothing.

#### ***Sweetpotato farming***

Farmers at step 2 planted very little sweetpotato and usually it was for family consumption, although they sometimes carried small amounts on the head to sell in local markets. They might have had an eighth to a quarter acre of sweetpotato. Some people at this level also rented out their land.

“You may find that those who have better living standards may misuse them when they lease their land. They can be underpaid when they lease out their land for sweetpotato farming. There have small plots of land, which they lease to those who have money, but those people take advantage of their situation.” Mixed male FGD participant, Kamiola, Kabondo.

### **3.5.5 Bottom step people**

People placed at the bottom of the ladder were those who lived in mud and grass-thatched houses in slum-like conditions. They were used by better-off farmers as cheap labor and their children did not go to school but served as cheap labor for others. They lived from hand to mouth, were illiterate, and could not afford to meet their basic needs. They often had very small pieces of land, more like kitchen gardens, and often begged in the village. Farmers at this level often had many children.

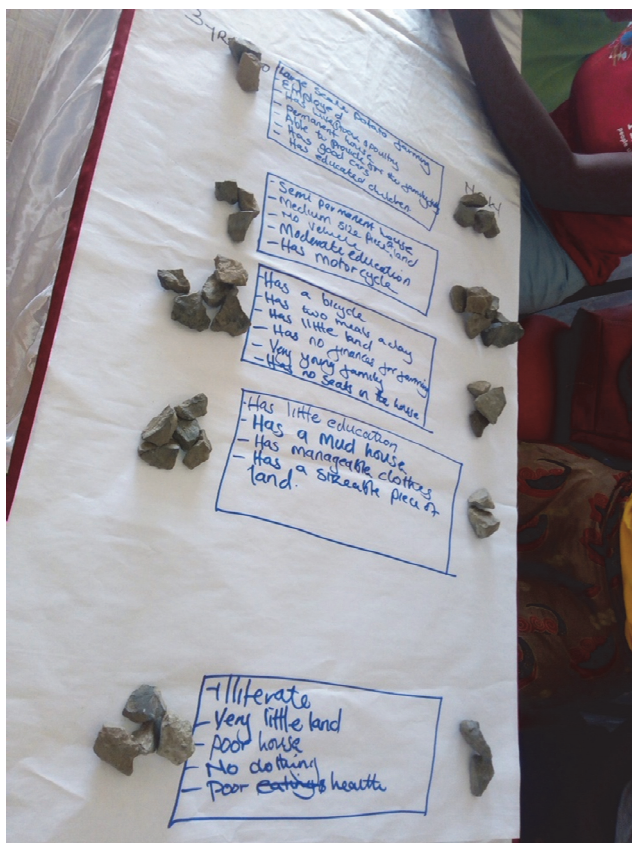
“Unlike the highest ranked person in the community, the person at the lowest step of the ladder of life leads a hopeless life because he is lazy and has not embraced any type of farming to improve his life. He even does not have a piece of land to practice farming. He actually leads a hand-to-mouth type of life.” Mixed female FGD participant, Kabondo.

### **Sweetpotato farming**

People at the bottom of the ladder were said to cultivate sweetpotato on a very small scale, mostly for home consumption with very little for sale. The majority did not have land to grow sweetpotato but were involved in a lot of the sweetpotato activities, serving as laborers for better-off households. They might also rent out their land when they had financial problems and then serve as the source of labor for working that land. Lack of labor and capital may have prevented them from engaging in sweetpotato farming.

### **3.5.6 Livelihood changes is the previous three years**

Three men’s and three women’s FGDs were asked to rank their community members on a community ladder to see if over the three years since the commercialization of sweetpotato households had moved up or down the ladder. Each group was given twenty pebbles to represent the total number of household in the village and asked to discuss and agree on how to distribute the pebbles to represent households across the different wealth ranks. The picture below illustrates how one women’s FGD distributed the pebbles:



**Picture 1:** How a group of women distributed households (pebbles) across the different wealth ranks)

Table 17 illustrates the average distribution by six FGDs (3 Men FGDs and 4 women’s FGDs)

**Table 17:** Perception of women and men of relative wealth of community members 3 years ago and now.

FGD	Average number of community members (n=20) in each wealth class as judged by 3 FGDs			
	Steps 1 &2		Steps 3-5	
	3 years ago	now	3 years ago	now
Women’s	10	5	10	16
Men’s	12	10	8	10

In general women were more positive than men in their perception of the general improvement in the community’s living standards as they suggested more people had moved up the community ladder than men did. For instance, women saw higher levels of movement of people from steps 1 and 2, the poorest people, to the higher steps: for example, three years ago, on average women placed 10 community members on the bottom two steps and 10 on the top three, but now less than five were placed on the lowest two steps and more than 16 on the top three steps. Men considered that people at step 1 had benefitted from sweetpotato commercialization that allowed them to move up the ladder through income from labor provision.

“What has benefited these people mostly is the source of income that they get from laboring.”

“They see that if they go and work in someone’s farm, they will get breakfast and lunch on top of the pay.”  
Mixed male FGD participants, Kabondo.

Apart from the earnings from labor, people at step 1 were judged to have not benefited from sweetpotatoes in any other way.

“They are just laborers.”

“The business of potatoes has brought no benefit that gives these people money.” Mixed male FGD participants, Kabondo.

The people at the bottom of the ladder basically provided labor for sweetpotato cultivation and harvesting, as well as for washing the sweetpotato roots after harvesting. Because they worked for various people as casual laborers, they were said to be likely to have the most information regarding which vines were best to plant for good yields. People at the bottom of the ladder were regarded as having nothing and to be living a life of suffering.

Men believed that in general living standards had improved because Organi Limited provided a good market and high prices for their sweetpotato, and also because they did not have to rely on intermediaries whom they considered as exploitative. But not all the improvement in living standards could be attributed to the commercialization of sweetpotato. Community regeneration projects, such as the building of better roads that made it easier for farmers to access markets for all agricultural products, were also a factor.

Men stated that people at step 4 did not benefit much because many of them did not live in the villages but in urban centers and they hired workers to manage their affairs in the village. It was noted that those at this step could be at the risk of falling into poverty if things did not work out well in the urban centers and their employees in the village, who largely were unsupervised, mismanaged their farms.

Improved availability of information was regarded as a reason the poorest group of farmers was shrinking in number. Having access to information leads to improved farming practices, better decision making, and

enhanced access to markets, which leads to improved livelihoods. Companies like Organi Limited that were introducing commercialization of different crops also brought with them new and improved farming methods that led to higher yields and better access to markets and a general improvement in farmers' lives.

### ***Consequences of sweetpotato business***

With the general improvement in livelihood, farmers also noted an increase in crimes in the community, such as robbery, usually after farmers had been paid for sweetpotato. Availability of jobs, for example in washing of sweetpotato, was blamed for the rise in school dropout rates and early marriages; young men could use their earnings to entice girls into such relationships.

“The youth drop out of school when they realize that they can get quick cash from washing sweetpotato. When they do this job, they are paid.”

“After receiving income from sweetpotato labor, young men go for young ladies; some of them get pregnant and are driven from their homes by their parents and end up in early marriage.”

“After selling potatoes you buy new touchscreen phones and then you feel that you are man enough to marry a lady.”

Mixed male FGD participants, Kabondo.

For young people, if commercialization is not managed well it may have negative consequences. For example, women mentioned that sexual harassment of young women had increased in their communities due to the presence of uncontrollable young men with a lot of money in their pockets.

Women were more positive in their outlook about commercialization of sweetpotato, which they credited for their economic empowerment; they no longer relied on their spouses for money for their daily upkeep. They also felt that they had gained respect in their families because they could contribute to the purchasing of assets.

Men blamed sweetpotato commercialization for making land in the community difficult to lease owing to high competition and increased rents. According to men, households that had relied on renting land were not performing well. But women were of the opinion that commercialization had not changed land ownership and they still depended on men to get land as cultural beliefs restricted married women from owning land. They mentioned that with money from sweetpotato commercialization they were, however, now able to rent small pieces of land to expand their sweetpotato business.

### **3.6 Changes in decision-making power**

Sweetpotato commercialization may impact empowerment levels of men and women across different domains, affecting their well-being positively or negatively. In this section we look at how sweetpotato commercialization has affected men and women's empowerment in regard to: input in production decisions, autonomy in decision-making, access to productive resources, control over income, participation in leadership positions in the community, and control over time allocation within households.

This section is based on eight FGDs, four with men and four with women, with a total of 26 men and 44 women. On average men and women who participated in the FGDs had 0.8 and 0.7 acres under OFSP, respectively. We examined whether changes had occurred in decision-making, comparing the situation at the time of the surveys with the situation three years previously, and whether that change could be attributed to sweetpotato commercialization.



The empowerment comparison tool used to understand the decision-making dynamics utilized empowerment domains adapted from the Women's Empowerment in Agriculture Index (WEAI) IFPRI (2012). FGD participants were asked to score their perception of their own empowerment as well as the general perception of the empowerment of others in their community.

In the WEAI the empowerment domains are defined as:

- Agricultural production: sole or joint decision-making over food and cash crop farming, livestock, and fisheries, as well as autonomy in agricultural production.
- Resources: ownership, access to and decision-making power over productive resources, such as land, livestock, agricultural equipment, consumer durables, and credit.
- Income: sole or joint control over income and expenditures.
- Leadership: membership in economic or social groups and comfort in speaking in public.
- Time: allocation of time to productive and domestic tasks, and satisfaction with the available time for leisure activities.

While it uses the original domains as espoused by the WEAI approach, the comparison tool used participants from the same farmer groups, trader associations or communities in single sex groups, as opposed to households as used in the WEAI. This study adapted and modified a set of indicators and attributes developed by Agri Pro Focus, a pro-agribusiness network, and defined a weight for each domain. The participants were then asked to score each attribute on a scale of 0 to 5: '0' meant the participants had no power to make decisions or be engaged in a particular attribute; '5' meant that they had complete power over decisions regarding those attributes.

A three-phased approach was used. Participants were first asked to vote in private for each attribute, based on their own personal experience. The score for a single domain was obtained by calculating the average of the scores given for all its attributes (reported in section 3.6.1-3.6.6). An empowerment score was then obtained by calculating the weighted average of the scores given for all the domains (3.6.7). Once the individuals cast their vote, they would then, along with the rest of the group, agree on a group score, which reflected the status of men or women in the community, and give the reasons for that score. Group members were also asked to score what they thought were the levels of empowerment for members of the opposite sex across the different domains. Focus group facilitators recorded the votes and the reasons given for assigning a certain level of empowerment for a domain (3.6.8). While the empowerment score is calculated as the weighted average of the scores for the domains, the decision matrix also gives researchers and program implementers the ability to dig into each domain to understand its dynamics so as to develop relevant strategies.

### **3.6.1 Input in production decisions**

The men and women were asked to individually vote on the levels of empowerment they felt they had at the time of the study and three years previously in their ability to make decisions related to agricultural inputs. At the individual level, women were more likely than men to see an improvement in their decision-making power in crop production decisions. However, both men and women saw a big improvement in the general community decision-making trends (Table 18).

**Table 18:** Men and women's perceptions about input in crop production decisions

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
What crop to grow	1.7	2.5	1.3	2.6	2.2	2.4
What acreage to allocate to crops	2	3	1.7	3.2	2.3	2.8
Allocation for food crops vs cash crops	2.1	3	1.6	3.1	2.7	2.8
What variety of sweetpotato to plant	2.1	3.2	2.1	3.4	2.1	3
Adoption of new technologies/ practices related to sweetpotato	1.8	3.6	1.6	3.7	2	3.5
<b>Community score</b>	1.6	3.3	1.3	3.7	1.9	3

Men stated that it was they who made most decisions about the size of the crop area because they were responsible for ploughing the land using oxen and ox-drawn ploughs.

“In this village, we use oxen to plough and it is men who do the ploughing. When I say that I will only plough two acres and then my wife says we are planting three acres, I will plough two acres and then sit back and watch, since I will be tired.” Male commercial FGD participant, Rodi.

Although women perceived their power to have increased over the three years, they also agreed that men had more say. Their reasons for the perception about men’s power were similar to those mentioned by men, as well as the fact that men controlled the capital needed to invest in farming. Men said that women could not oppose men’s decisions because men owned the land. However, in the discussions some men said that since they had only one wife, they often consulted with her and came to decisions together. This is possibly the reason that in private voting, men’s scores were mostly lower than those of women.

Men noted that three years earlier they had little power over the acreage for sweetpotato because women were responsible for its production. However, when the new improved sweetpotato was introduced and promoted, and sweetpotato production made easier by the use of tools such as oxen and ploughs, men’s power to decide on sweetpotato increased.

“In past years we had little power. It was the women who were specialized in sweetpotato weeding, and they would seldom allow us men to work in the sweetpotato farm because they believed that we would damage the developing roots. So, I feel we had little power then. These days, I can decide to plant sweetpotatoes on even one full acre and do the weeding, and when harvesting comes, I use an ox plough to harvest in order to take it to the companies.” Male commercial FGD participant, Rodi.

In the past men would instruct women to grow sweetpotato mainly because it was important for family food. However, because of the training offered and the profitability of sweetpotato, men had acquired interest in making decisions on it. The key resource over which men had power was land; if they did not like sweetpotato they could choose not to allocate land for its production, which would make it difficult for women to cultivate it.

In individual interviews, men were likely to say that it was they who decided on how much sweetpotato to use for food and how much to sell to Organi Limited, because they planted it. Additionally, men stated that although they could consult women, women were obligated to support the man’s decisions.

“I see that they [women] have power, for instance, when I have a suggestion on anything, I ask her what she thinks of it, and she generally will go with what I suggest. [Even if she at first rejects the idea]

she must follow what I say. She can give her suggestions but in most cases she will follow mine.” Male commercial FGD participant, Kabondo.

Women from polygamous marriages indicated that they had power to make decisions as they could not depend on their husbands for upkeep. Women in Rodi stated that the past three years had seen an improvement in their ability to choose which crop to grow because their husbands mostly worked outside the community or were not interested in farming.

“Many years ago, men had little power on decisions regarding the planting of sweetpotato because then men had no training on the crop or did know about the modern methods of farming.”

“In the past our wives would just come home with some new sweetpotato varieties from wherever they found them and plant them. In many cases men would simply plough the land and leave it for women work on. We would therefore be lying to say that we had a lot of power back then. It is just today that we have that power, a lot of power. But back then, men had little power.”

Male commercial FGD participants, Rodi.

Previously, women made the decisions regarding sweetpotato inputs and varieties. However, with the training accompanying the new varieties, men had grown in confidence to make decisions related to those varieties.

Currently men saw themselves as having more decision power over the crop than women because the crop had been commercialized and the vines were not cheap. Additionally, men regarded women as unwilling to take the risk of bringing in new varieties when they were cultivating sweetpotato for commerce:

“Three years ago, we [men] had little say in sweetpotato farming. This was because it was the women who would go looking for sweetpotato vines. They would just bring home some varieties without involving you. Even yesterday they came home with a variety they call ‘Mpesa’, and they just informed me that that was what it was called. But now we have a lot of power because we have come to learn about orange-fleshed sweetpotato, which they say is soft but I know that businesswise it is far better than this other type that they like. So now, I have a lot of power; back then I had little power.” Male commercial FGD participant, Kabondo

When sweetpotato was cultivated for food only, men were not really interested in its day-to-day management. But as in other cases relating to the adoption of technologies that need large capital outlay, men became more involved in making farming decisions when OFSP was introduced.

In regard to how much sweetpotato to grow or even the varieties to plant, power may depend also on how long the couple has been married.

“If am newly married and I am the one providing everything, I will not consult her. I have an independent mind, and when I say that ‘this season I want to grow sweetpotatoes on this half acre’, that will be final. That was the situation three years ago. Now that I have lived with my wife for three good years and she now understands my strengths, when I tell her that I want to grow sweetpotatoes on a two-acre plot and she says that she might not be able to tend it alone, I pay attention. I tell her that I will hire someone to help her with the work, and she will give in. This shows that both of us now have power, because we have to consult each other. At this point I cannot just make decisions alone

thinking that I have a lot of power and that I can plough as much land as I like without considering that afterwards someone else is going to weed it.” Male commercial FGD participant, Rodi.

So, the longer the marriage, the more consultation occurred between husbands and wives in decision-making.

### 3.6.2 Autonomy in marketing of sweetpotato

Men and women were asked to individually and privately vote on the level of empowerment they felt they had at that the time of the study and three years before in their ability to make decisions related to sweetpotato sales. At the individual level, women were more likely to see an improvement in their decision-making power in sweetpotato sales. However, in regard to the community trends, both men and women saw a large general improvement in decision-making (Table 19).

**Table 19: Men and women's perceptions about autonomy in marketing of sweetpotato**

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
Where to sell your sweetpotato	1.7	3.4	1.5	3.4	1.8	3.4
Who to sell your sweetpotato to	1.7	3.3	1.6	3.4	1.8	3.2
What price to sell your sweetpotato	1.6	3.1	1.4	3.4	1.8	2.9
What proportion of the sweetpotato harvest is sold	1.8	3.1	1.3	3.3	2.4	2.9
<b>Community score</b>	0.8	3.5	0.9	4	0.8	2.9

Men stated that three years before the study they had little power to decide whether to plant sweetpotato for food or for sale because the crop was not commercial. Women grew it to meet food needs and to sell in small quantities. Men did not see the benefit of sweetpotato production and were therefore not actively engaged in it. Women mentioned they had more decision-making power when the husband was away or when he was not directly involved in sweetpotato farming, and if women did all the work.

In some cases, both men and women reported that crop decisions were made jointly by the husband and wife, especially if they both had received training on sweetpotato and were both engaged in sweetpotato farming. In some instances, men regarded sweetpotato as a family farming business, since both they and their wives contributed in it, and they saw the need to consult on decisions related to the sale of the crop. Men mentioned that they were now highly engaged in sweetpotato because it was now a commercial crop, and that when it came to selling the crop to Organi Limited, they had more power. Three years ago, the issue of who had the power to decide on sweetpotato pricing did not exist because there was no market for the crop.

“Men now have the power to decide how much of the sweetpotato crop to sell but this was not so three years ago because it was women who provided most of the labor.” Female commercial FGD participant, Kabondo

“Men have the power to decide how much to sell but three years ago they did not because women were free to distribute sweetpotato in any way they liked since it was not commercialized.” Female commercial FGD participant, Rodi

Women’s high perception of themselves as making decisions about selling sweetpotato may not have been misplaced. The retail market survey showed that 65% of the traders purchased sweetpotato mostly from women and only 11% of them mostly bought from men. The reason for this was that sweetpotato production was mainly

in the hands of women (10 responses). Eight traders also said that it was easy to trade with women. Some 76% of traders noted that there was usually no difference in sweetpotato price between women or men sellers. Those who said that there was a difference in price indicated that women sold their sweetpotato cheaper than men and women were more accommodative and it was easier to negotiate prices with them.

### 3.6.3 Decisions on inputs for sweetpotato production

Men and women were asked to individually and privately vote on what they considered their level of empowerment to be during the period of the study and three years before on decisions related to input use for sweetpotato. At the individual level, women were more likely to see an improvement in their decision-making power for such decisions than men (Table 20).

**Table 20:** Men and women's perceptions about their ability to decide on inputs for sweetpotato farming

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
How the available family labor will be used	1.7	3.4	1.4	3.4	2.2	3.4
What inputs to buy for sweetpotato production	1.9	3.4	1.4	3.5	2.4	3.2
Who decides to hire additional labor for sweetpotato production	2	3.3	1.5	3.5	2.5	3.1
Application of chemicals/fertilizers for sweetpotato	1.4	3.1	1.2	3.5	1.7	2.5
<b>Community score</b>	1.9	3.6	1.1	3.9	2.8	3.3

While women perceived their ability to make decisions on the use of family labor to have improved, men were adamant that this still remained their role. According to men, women could decide on the use of family labor in the 'kitchen' but not in farming activities.

“When the evening comes and in planning for next day, men just inform their wives of the work to be done and the plot on which it will done. That shows we have a lot of power there.”

“The reason we have a lot of power here is that we do not sit together to discuss things. I may just come home in the evening, even drunk in some cases, and I will tell them about where we will be going to work the next day, and that becomes the final word, since I did not give anyone the chance to contribute to the discussion. Again, most of them have not learnt these new techniques.”

“Even when I am drunk, once I have spoken, they will have to accept my decision, and if they do not, I will tell them to quit my home.”

Male commercial FGD participants, Rodi.

The following facts were noted regarding the allocation of family labor:

- Men had all the power to allocate family labor and their word was the law, although some husbands consulted with their wives.
- Men’s power over the control of labor had changed slightly over the three years.
- Women did not have any control over family labor allocation because children, who they could control, were mostly at school. Women noted that their power over family labor was limited to the young members of the family. They were in agreement with the view that they had little power over family labor and could exercise it only during school holidays and over the children who were at home at that time.

Regarding hiring of labor in general it was noted that:

- Men were responsible for hiring labor because women did not have money or were not willing to contribute to that.
- Men had more control over hiring of labor during the time of the survey than in the past because they had money from sweetpotato sales.

### 3.6.4 Ownership of assets

Men and women were asked to individually and privately vote on the level of empowerment they felt they had during the time of the study compared to three years before on asset ownership in their households. Women often reported having witnessed an improvement in asset ownership but for men no change had occurred. Perceptions of asset ownership, as reflected in the low scores assigned, were very low for both men and women (Table 21).

**Table 21:** Men and women's perceptions about their ownership of assets

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
Land	0.8	1.3	0.7	1.6	0.9	1
Farm equipment e.g. ox cart, ox plough, hand held tractor, etc.	0.7	1.3	0.8	1.8	0.7	0.7
Farm tools e.g. hoes, slashers, pangas, spraying cans	0.9	1.3	0.8	1.6	1	1
Cattle, horses and donkeys	0.8	1.3	0.8	1.7	0.8	0.8
Goats and sheep	0.7	1.2	0.8	1.6	0.7	0.7
Poultry	1	1.4	1.1	1.8	1	0.9
Means of transport (motorized transport) motorcycle, car	0.4	1	0.6	1.6	0.2	0.3
Bicycle	0.6	1.1	0.6	1.6	0.7	0.6
<b>Community score</b>	0.6	0.8	0.3	0.9	0.9	0.8

Men decided on the farm equipment to be bought as they had more money than women did. Men often mentioned that women were concerned with buying household utensils or clothes for themselves and the children, which would often leave little money to invest in farming. Men could buy assets without consulting their wives.

Women perceived their power over assets to have improved compared with the situation three years before, owing to the commercialization of sweetpotato. They now had money to purchase some assets in their own name.

### 3.6.5 Purchase, sale and transfer of assets

Men and women were asked to individually and privately vote on what they felt was their level of empowerment at the time of the study compared to three years before in their ability to make decisions related to the purchase, sale, and transfer of assets. At the individual level women had observed more improvement in their decision-making power over asset purchase, sale and transfer than had men (Table 22). The improvements in scores for women are very large while for men it has remained the same or decreased. For example, men perceived a decrease in their power over assets from 3.9 in 2015 to 3.1 in 2018 while women perceived an increase in their power over assets from 1.8 in 2015 to 3.7.

**Table 22:** Men and women's perception about their ability to purchase, sell or transfer assets

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
To which extent is there decision-making power to sell or transfer livestock (large)?	1.4	2.9	0.3	3.1	2.6	2.6
To which extent is there decision-making power to sell goats and sheep (small livestock)?	1.5	2.9	0.5	3.0	2.8	2.7
To which extent is there decision-making power to rent out land?	1.2	2.4	0.5	2.6	2.1	2.2
To which extent is there decision-making power to sell means of transport?	1.3	2.5	0.5	2.6	2.3	2.3
To which extent is there decision-making power to purchase new assets?	1.8	3.4	1	3.7	2.7	3.1
<b>Community score</b>	3.2	3.3	1.8	3.7	3.9	3.1

However, while women voting showed large increases in perceived power, during discussion of the scores, women maintained that they had made slight gains in their power to sell and transfer large livestock, but experienced gains over their control over small livestock. For large livestock while women felt that they were increasingly consulted or informed in decision related to transfer of large livestock especially when it came to renting out livestock, however for sales women were often not consulted by their husbands. For example, in one FGD men mentioned that women could not sell large livestock such as cows even if the livestock were registered in their names because potential buyers would question why it was not the husband doing it.

“If a man takes a cow or an ox to the market it is recognized that he is the owner and has the authority to do so, but when it is a woman doing so, it is usually questioned, ‘Mother of so and so, we have not seen the old man here. There must be a reason why you are taking the ox to the market.’ She must be thoroughly investigated.” Male commercial FGD participants, Kamiola.

Although women generally saw a slight improvement in their position, it was not sufficient to empower them in livestock ownership. Men stated that they decided on the management of sheep and goats because these had a high ‘conversion value’, for example five goats were equivalent to one cow. However, it was noted that men were involving their wives more and more in decisions about family assets such as livestock, for the following reasons:

- Men used to have sole power over cattle assets, but they were learning to involve their wives in issues relating to livestock so that if they died their wives would recover cattle loaned to others.
- Men had to inform their wives before disposing of large assets in accordance with the new laws on the management of family assets<sup>2</sup>.
- Men were consulting with their wives before renting out land because legally women could block such transactions if they were not informed of them or did not agree with them.
- Although men had a lot of power to decide on assets, particularly on their purchase, once the asset was bought, they could not easily dispose of it without the wife’s consent.

<sup>2</sup> The Matrimonial Property Act, 2013

### 3.6.6 Access to services

Men and women were asked to individually and privately vote on what they assessed their level of empowerment to be in their ability to access services at the time of the study and three years before. At the individual level women had seen more improvement in that area than men had.

As far as sweetpotato farming is concerned, there were no extension services three years before the study, since the crop was not considered to be viable for farming as a business. But at the time of the study farmers had access to extension services, which provided them with a platform to learn about sweetpotato farming.

**Table 23:** Men and women's perception about their ability to access services

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
Extension services related to sweetpotato business	1.1	2.9	0.9	3	1.3	2.7
Access to business loans/other credit facilities to expand sweetpotato business	0.8	2.4	1	3.2	0.6	1.3
Farmer training colleges	1	2.5	1.2	3.5	0.7	1.3
Demonstration plots	1.3	3.2	1.1	3.4	1.6	2.9
Access to bank	0.9	2.9	0.9	3.5	0.9	2.3
Training (record-keeping, business planning, leadership, etc.)	1.1	3.1	1.2	3.6	1	2.6
<b>Community score</b>	0.6	2.4	0.4	2.8	0.7	2.3

In the past, training opportunities for women sweetpotato farmers were few, since sweetpotato farming was not seen as a serious business venture. However, once it was commercialized, women's access to training opportunities improved and the benefits of the training and seminars could be seen and attested to by their family members.

It was noted that men had little access to extension services. This was because in general there was little extension work in villages; women attended the training on sweetpotato farming because they did all the work pertaining to the crop; and widows found it easy to attend the training.

For the men and women who said that both men and women attended training, it was noted that:

- They made joint decisions regarding who would attend the training.
- Both the men and the women were independently invited for the training, so it was open for both of them to attend.
- Farming was a family business, so it was necessary for both men and women in the family to be equipped with relevant knowledge.

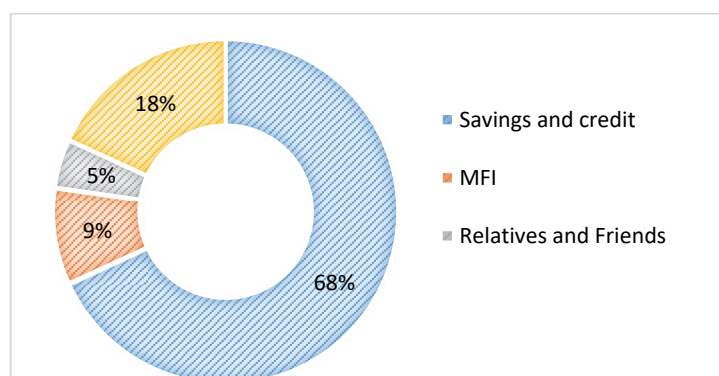
The men who said that they usually attended the training gave the reason for this as their wives' engagement in household chores that made it difficult for them to attend.

Access to loans was said to be difficult for men because they did not usually belong to groups or were afraid to lose their assets if they faulted on the loan. It was noted that microfinance services and loans were not easy to access and repayment terms were not friendly to farmers. For instance, it was noted that one could get a microfinance loan to invest in sweetpotato farming but the lender would expect repayment to start right away



on a monthly basis, even before the sweetpotato could be sold. Additionally, most finance training was on 'table banking'<sup>3</sup> targeting women, so men could not access such loans.

The role of group membership in accessing loans cannot be overemphasized. In the retail survey, 54% of the traders (who were almost all women) belonged to a trade group or cooperative. The main service they received **from** their group was the savings and credit facility, which about 70% of the traders mentioned. Of those who had obtained credit for their business the year before the study, 60% were traders, and 76% of those used the credit facility for sweetpotato trade. As Figure 11 shows, 68% of the credit was from savings and credit schemes.



**Figure 10:** Sources of credit for traders

### 3.6.7 Decision-making overall score

Women saw a general trend towards empowerment. Men also perceived their empowerment on decisions about asset ownership to be low (Table 24).

**Table 24:** Overall decision-making and empowerment scores

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
Input in production decision-making	1.9	3.1	1.7	3.2	2.3	2.9
Autonomy in production of sweetpotato	1.7	3.3	1.5	3.4	2	3.1
Input for sweetpotato production	1.8	3.3	1.4	3.5	2.2	3.1
Ownership of assets	0.8	1.3	0.8	1.7	0.7	0.8
Purchase, sale or transfer of assets	1.4	2.8	0.6	3	2.5	2.6
Access to services	1	2.8	1	3.4	1	2.2
<b>Decision-making overall score</b>	<b>1.4</b>	<b>2.8</b>	<b>1.2</b>	<b>3</b>	<b>1.8</b>	<b>2.4</b>

#### Key observations

- We identified a score of four out of five per domain as having reached the minimum desired level of empowerment. None of the men or women's overall scores reached this minimum, which shows that there is still much to be done for both men and women positive engagement in on farming decision-making.
- Although the scores were low, there was a significant improvement in empowerment in all aspects compared with the situation three years before.

<sup>3</sup> Defined by ActionAid as "a group funding strategy where members of a particular group meet once every month, place their savings, loan repayments and other contributions on the table then borrow immediately either as long- or short-term loans to one or a number of interested members".

- The scores for men for the period three years before the study were generally higher than those for women, but the reverse was the case for the scores at the time of the study.

### Simple model results

Two simple multiple linear regression models (tables 25 and 26) were applied to understand whether gender was significant for decision-making. The first model looks at three years before while the second model looks at the situation during the time of the study.

**Table 25:** Dependent variables (decision scores 3 years before the study)

Variables	Coefficient	t-value	P-value
Gender	0.746	3.87	0.000
Education	-0.092	-2.65	0.011
Household size	-0.042	-1.23	0.224
Constant	2.215	5.04	0.000
n = 56, Adj. R <sup>2</sup> = 0.220, RMSE = 0.693			

**Table 26:** Dependent variables (decision scores at the time of the study)

Variables	Coefficient	t-value	P-value
Gender	-0.559	-5.05	0.000
Education	-0.015	-0.74	0.462
Household size	-0.044	-2.26	0.028
Constant	3.480	14.00	0.000
n = 57, Adj. R <sup>2</sup> = 0.392, RMSE = 0.399			

Gender is shown as significant in the two models, but the coefficients are different. In model 1, depicting the situation three years ago, men's rating in regard to decision-making was higher than the women's rating of themselves. In model 2, women's rating on decision-making was higher than that of men. This means that women perceived their position to have improved from three years ago and perceive themselves to be more involved in the decision-making than men.

Education was only significant in the first model. The negative coefficient score means that the educated participants scored decision-making involvement by women lower than the non-educated participants. However, the effect of education is not significant in the second model. Household size is significant in the second model; the bigger the household size, the lower the score rating for decision-making by women.

### 3.6.8 Group scores on decision-making

**Table 27:** Group decision-making scores

	Overall (n = 58)		Women (n = 32)		Men (n = 26)	
	2015	2018	2015	2018	2015	2018
Input in production decision-making	1.6	3.3	1.3	3.7	1.9	3
Autonomy in production of sweetpotato	0.8	3.5	0.9	4	0.8	2.9
Inputs for sweetpotato production	1.9	3.6	1.1	3.9	2.8	3.3
Ownership of assets	0.6	0.8	0.3	0.9	0.9	0.8
Purchase, sale or transfer of assets	3.2	3.3	1.8	3.7	3.9	3.1
Access to services	0.6	2.4	0.4	2.8	0.7	2.3

These scores are from the four FGDs for men and four FGDs for women for decision-making on the three sweetpotato production decisions; three women FGDs for decisions on asset ownership; and two women FGDs for decisions on the purchase, sale and transfer of assets, and access to services.

- The community scores were generally higher than the individual scores.
- The scores followed the same trend as the individual scores.
- In all cases for women, there was an improvement in the scores

### 3.7 Decision on the use of money obtained from OFSP business

To understand further the positive or negative effects of OFSP commercialization, we undertook to find out how budget decisions were made on money received from selling the crop. In the FGDs, men were asked to draw up an ideal budget for KES 10,000 earned from a hypothetical sale of OFSP. After creating the ideal budget, they were then asked to create a more realistic budget for the same amount of money but this time basing the budget on how men in their community spent money from their farming enterprises. Table 28 shows both budgets.

**Table 28:** Men's mock budgets

	Male commercial FGDs							
	Kamiola <sup>a</sup>	Kamiola <sup>b</sup>	Bungoma <sup>a</sup>	Bungoma <sup>b</sup>	Kabondo <sup>a</sup>	Kabondo <sup>b</sup>	Rodi <sup>a</sup>	Rodi <sup>b</sup>
Own clothes		3,000		2,000				600
Taxi home		3,000						
Food home	1,500	2,000	1,000	1,500	1,000		1,500	
For wife		500		500		1,000		500
Phone		2,500						
Drink alcohol				5,000				
Farming	2,000		3,000	1,000	8,500	3,000	2,000	
Entertainment						2,000		5,000
School fees	3,000		4,500			4,000	3,500	
School uniforms	1,000						1,000	1,000
Pocket money					500			900
Side chick (extramarital affair)								2,000
Family emergency	1,500						1,500	
Debt	1,000						500	
Saving			1500					

**Notes:**

<sup>a</sup> = ideal budget

<sup>b</sup> = realistic budget

In the ideal hypothetical budget, men were likely to include food for the home, investment in farming, schooling expenses, and family emergencies. Men said that this approximated to their own budgets since they were responsible family men. However, for their realistic budget they pointed out that although money was still set aside for food for the home, the allocations for entertainment, including alcohol, and personal clothing were substantial. No money was set aside for savings and the allocation for investing in farming was reduced from the ideal budget level.

Owing to a data collection error, women did their budgets differently. Women in the group were asked to work in pairs to make a budget for their families using a hypothetical KES 10,000 obtained from selling OFSP (Table 29).

**Table 29: Women's mock budgets**

	Susan Rodi+B20	Everline Rodi	Consolata Rodi	Freda Kabondo	GRACE Widow	Susan Kabondo	Irene Kabondo	Budget 1 Bungo	Budget 2 Bungo	Budget 3 Bungo	Budget 4 Bungo	Brenda Auma
School fees	6000	3000	4500	5000	6350	5000	1000	5000			6000	5000
Farming	4000		2000			4100			5000	2000	2000	1000
Household shopping		7000	1000	1000	1000		2000	3000	3000	2000	1000	1000
Medical			500									
Transport			1000									
Emergency			1000	1000		400	500					2000
veterinary services				1000								
Personal shopping				1000								1000
fertiliser					1650		2500					
seed purchase					1000							
food						500						
saving							1500	2000	2000	2000	1000	
Goat							2500					
tithe										1000		
other needs										3000		
spouse												1000

Women’s budgets were similar to the ideal budget created by men. Their highest allocations were for schooling and farming. They frequently stated that men’s budgets were not always transparent and that some men used family money on alcohol, while women were concerned with issues like food and school fees.

“When I harvested my crop, I didn't know it could sell for the money I got. I went and bought sugar together with the other things to be used in the house. And all this was possible because of sweetpotatoes. I didn't know I could get almost KES 10,000. Surely God is great! Sweetpotato has given me so much ... I will plant it forever.”

“When men get money from sweetpotatoes they will not pay even for treatment of a sick child or buy clothing or food for their families. Men who drink will not even care about getting food for their home. But when we get money, we know from the beginning we need to take care of the household needs. When a woman goes to the market, she carries the burden of the whole house with her, and the money could help in various ways to alleviate the burden, but men don’t know about this.”

Female commercial FGD participants, Kabondo.

While there were men who consulted their wives on their family needs, both men and women agreed that once the money came in men did not generally consult women on budgets. Men acknowledged that women’s budgets were usually family friendly. Men were regarded as very difficult when it came to discussing family budgeting, particularly those who drank. It was also said that some men claimed all the family land to be their personal property, as well as all the produce from it, and so they denied their wives the right to decide on family budgets even if they had contributed labor. This has implications on whether the benefits of commercialization, including sweetpotato commercialization, accrue to entire households or to individuals within them. For example, women who made joint budget decisions with their husbands were often happy about how money was used. This shows that if decisions regarding expenditures are made jointly then families can benefit.

## 4. Summary of findings and discussion

In this section we look at whether commercialization of sweetpotato has positively or negatively affected the well-being of smallholder farmers. We had originally wanted to focus also on traders but OFSP is not yet available in local markets, so most of the discussion will be on OFSP producers who also sell OFSP through formal markets.

### **How does commercialization of sweetpotato affect (positively or negatively) the well-being of smallholder farmers and their families, particularly women's opportunities as producers, traders, and consumers?**

Understanding gender inequalities in access to resources or the gender division of labor is important because it can also have implications on whether and how men and women can benefit from interventions.

Both men and women in Homa Bay and Bungoma regarded sweetpotato, beans, and maize as important crops. Sweetpotato was considered important because it was both a food and cash crop. Commercialization of sweetpotato has a long history in the region. However, in some cases the reasons why men and women regard these crops as important vary depending on their roles and responsibilities. For example, because women have limited access to resources, women FGDs mentioned that sweetpotato was important for them because it was a crop with low input demands. Also, because women have restricted mobility, sweetpotato was an important crop because it could be marketed locally. When it came to maize, men were more engaged in its marketing.

Traditional white and yellow-fleshed varieties of sweetpotato are often sold in local informal markets and also transported to distant markets in Nairobi and other cities. Commercialization has been mostly informal and organic. Its nature has evolved with the emergence of new factors, such as the increasingly dominant involvement of the private sector. The men and women who were able to effectively participate in commercialized OFSP mentioned various economic benefits from the crop including the ability to purchase livestock such as goats and cows, build better houses, and buy household furniture such as sofa sets and mattresses. Commercialization of OFSP was also credited with job creation for young people and the poorest within the community.

The literature includes cases where commercialization of crops has disadvantaged women (see Fischer and Qaim, 2012). In the case of sweetpotato in Bungoma and Homa Bay, participation in commercialized sweetpotato production allowed some women to challenge hierarchical male domination in their relationships resulting in a shift towards more equality in decision making. For example, when women were able to contribute more to the household budget, some husbands consulted their wives on household-related decisions.

Women were also able to purchase livestock, which improved their economic standing relative to that of their husbands. Ability by women to purchase livestock improved their access to and control of resources.

Women mostly said that sweetpotato commercialization improved their ability to buy or rent land, thereby improving their ability to own the means of production. Some women were able to open bank accounts and save money, which also increased their independence since they could then fund the lifestyle they wanted as well as be in a position to maintain social relations with family members who lived far away. Women regarded maintaining these social relations as important; it was through social relations and networks that they could access some of the resources they needed.

However, using the social relations approach revealed examples where commercialization exacerbated gender inequalities. The introduction of OFSP and private sector interest in purchasing sweetpotato has in some cases increased household and community inequalities between men and women. For example, it was noted that men were not interested in local sweetpotato varieties because they were sold locally and did not fetch much money. It was also suggested that while women were interested in the commercialized OFSP, some of them preferred white and yellow-fleshed varieties because of the availability of local markets for them. Local markets were favored by women for two reasons: they allowed easy access to cash for day-to-day running of the households and they allowed trading of the crop in small quantities, which did not interest men, so women could control the cash from those sales. However, with the introduction of private sector buyers such as Organi Limited, which bought large amounts of OFSP at high prices, men become more involved in the trade, taking over from women. Although men's involvement is not in itself problematic, what is problematic is when the benefits of such trade are monopolized by men and not shared amongst other household members.

For women, the main obstacles to participation in high-value markets were related to household gender relations and gender dynamics; men felt it was their role to engage in high-value sales leaving women to deal with low-value sales to meet 'kitchen needs'. Due to their role as household heads, men felt entitled to the control of larger amounts of income accrued by the household. The opportunities provided by selling OFSP, due to its ready and lucrative market, may have resulted in the exclusion of some women farmers from OFSP trade as men took over. Orr et al. (2016) notes that in Zambia, when groundnuts became lucrative, men started claiming that they were a gender-neutral crop, while in the past when they lacked markets they were regarded as a women's crop. Similar issues are coming up in Bungoma and Homa Bay; although men have not claimed that sweetpotato is gender neutral, they claim is that any high-value crop should be controlled by them as head of households and as land owner.

### **Gender implications of the commercialization of sweetpotato value chains**

Unequal access to resources and networks by men and women impact on the ability of women to fully benefit from commercialization. For both men and women to benefit from commercialization of any crop, the need for equitable access to the resources required for its successful commercialization

cannot be overemphasized. For example, both men and women pointed to access to training and knowledge acquisition as a key resource that enabled them to commercialize and improve their sweetpotato production. Additionally, access to marketing groups was regarded as important in engaging in commercialization. However, in many cases women did not belong to marketing groups, which limited their ability to participate in sweetpotato commercialization. Widows for the most part did not belong to marketing groups and relied on male relatives or other men in the community to sell OFSP on their behalf. This could affect their incomes as these male relatives were not always honest about the money they made in the sales.

Unequal gendered access to resources, such as land, could determine whether and how men and women were able to benefit from commercialization. On commercialization, Dancer and Sulle (2015) suggest that gender equitable and inclusive business models "... must necessarily enable both men and women to have equitable access to resources such as land, the capacity to earn significant income, and the opportunity to participate in business negotiations and family decision-making processes".

Some of the prerequisites that Dancer and Sulle (2015) mention were missing in the process of OFSP commercialization in Bungoma and Homa Bay. For example, there was general agreement that because men owned the land it was their right to control large amounts of cash income from all crops, including OFSP. Some women needed permission from their husbands even to participate in commercialized production of sweetpotato or to use specific land for sweetpotato production. However, the role of individual agency among women to take advantage of commercialization needs to be acknowledged. Some women were able to rent land so that they could produce a crop over which they had control.

The study validates the importance of joint decision-making in ensuring that men and women benefit equally from commercialization. It indicates that men and women are simply people whose interests may converge and diverge at different times. That perspective alludes to the importance of household approaches in farm produce commercialization. For instance, households where men and women made joint decisions about production and marketing of OFSP produced more sweetpotato for the market than did those where such decisions were made individually. Men and women in households where production decisions were made jointly were able to benefit from commercialization of sweetpotato, and often pointed to improvements within their home and in household welfare from sweetpotato marketing. Cooperation was important for women since it could facilitate their access to resources such as ploughs and cattle, helping them to produce larger quantities of sweetpotato and leading to good incomes.

In regard to crop income decisions, women were completely excluded where men made all the decisions or where they had decision-making power over income from the sale of crops produced by women within their households. This highlights the need for household approaches to commercialization and is in line with the suggestion of Orr et al. (2016) that a commercialization model should recognize that men and women may cooperate and sometimes have conflicts, and that bargaining can promote higher incomes for both men and women. However, we found that

cooperation and bargaining were possible only where both men and women had equal access to information and knowledge related to the crop and the commercialization processes. In Bungoma and Homa Bay, this meant that where men and women both got information and were trained on OFSP production and in managing the family farm as a business, the likelihood of both men and women benefitting in a manner that was satisfactory to them was high. Some women used the fact that they provided more labor than men for sweetpotato production as a bargaining chip to have access to and control over income from the sale of the commercialized sweetpotato. There was also conflict, for example over land when young members of households and women started demanding land to cultivate their own OFSP crop in conditions where land in general was limited.

When promoting commercialization, practitioners need to understand how gender-based social differentiation within the community may affect the ability of men and women to benefit from the commercialization processes. Dancer and Sulle (2015) suggest that the propensity of companies to sign outgrower contracts with male heads of households has wrestled control of income from some crops from women. The privatization model adopted for OFSP, however, did not involve outgrower contracts, although farmers did register with Organi Limited. Theoretically, men and women could equally join and produce sweetpotato for the company. Although both women and men sold OFSP to Organi Limited, during FGDs and individual interviews some women mentioned that all the money went to their husbands, who made decisions over its use. This contrasts with what happened with white and yellow-fleshed sweetpotato, for which most women were able to control the income from the plots they managed.

Other social differences, such as marital status and age, also affected the ability of women to benefit from sweetpotato commercialization. For example, some widows were not able to effectively participate in the OFSP commercialization processes because they had to depend on male relatives or other male community members to sell OFSP to Organi Limited on their behalf. Because they were not registered with Organi Limited, those widows were not in control of the marketing process and often were not sure of the amounts they sold or the true value of their commodity. For some women such obstacles stood in their way of directly reaching the formal OFSP markets.

Women in polygamous relationships had more independence and ability to participate in commercialized OFSP production than did women in monogamous households. They often hailed OFSP as providing them a means to look after their families without relying on their husbands.

It was also clear that, compared with older married women, newly married women had little control over income from sweetpotato commercialization, even when they contributed all the labor, owing to cultural norms relating to deference for male household heads.

Often children from poor homes provided labor to better-off farmers, which caused them to miss out on education and contributed to a vicious cycle of poverty.



### **Impact of sweetpotato production on people's ability to move up and down the community wealth ranking ladder**

The ability of people to improve their livelihoods through sweetpotato commercialization depended on many factors including access to factors of production and other resources. Access to such resources is biased towards men. Farmers who had access to land or the resources to rent it and pay for labor (the better-off farmers) benefited the most from commercialization of sweetpotato because they could increase their production and thereby their profits.

Farmers regarded to be at the bottom of the community wealth ladder were seen as not able to benefit from sweetpotato commercialization. For instance, such farmers only provided labor in some cases in return for a wage or food or both, and so could not benefit in a significant way. Sikana and Kerven (n.d.) noted a similar situation among pastoralist communities where they concluded that commercialization led to the development of "structural dependencies ... between labor-supplying and labor-demanding households, resulting in stratified social systems." In Bungoma and Homa Bay such structural dependencies emanated from circumstances that allowed better-off households to use money earned from commercialized crops to purchase or rent land from the poor households, increasingly turning them into labor providers for the rich households.

While there is a widespread view that is beneficial to increase the participation of young people in agriculture, sweetpotato commercialization may have had a negative consequence: some of them were dropping out of school to make quick money working on the farms of better-off sweetpotato producers. Also, land rents had increased. This means that households that had relied on rented land to produce subsistence crops, including sweetpotato, could no longer access such land at prices they could afford. This may have had the effect of digging people deeper into poverty.

Women noted that when they had access to money from sweetpotato commercialization they used it for their family's well-being by buying items such as clothes and food. OFSP commercialization allowed women and men to diversify income sources from sweetpotato. White-fleshed sweetpotato gave them small amounts of instant cash that could be used for the general day-to-day upkeep of the family while the larger sums obtained from OFSPs allowed them to make big investments, such as buying livestock or sending children to school which, in the long term, would help to move them out of poverty.

### **Differences in gender implications between white/yellow-fleshed sweetpotato and OFSP**

The perception of men and women on the different sweetpotato varieties differed in a number of key areas, which in turn influenced how they were affected by commercialization of sweetpotato. These differences were in some cases due to the nature of gender relations in the community. For example, although most women acknowledged the market potential of OFSP, they still regarded white-fleshed sweetpotato as important because of its role in maintaining social relations. Women could give white-fleshed sweetpotato to friends and family, but with increasing cultivation of OFSP these social obligations were increasingly being ignored; for both men and women OFSP was meant for commercial purposes and could not be given out for free like the old varieties.

## 5. Recommendations

Strategy	Study results	Actions
<p><b>Improving quality of sweetpotato</b></p> <p>Improve the availability of quality vines</p>	<p>Men and women farmers stated that a key challenge for their OFSP enterprises was the poor availability of quality vines. OFSP varieties are regarded as not tolerant to dry spells, so the vines are difficult to conserve and access during dry spells while at the same time root yield is severely lowered, which affects the ability to trade. This was a key challenge for both men and women farmers and traders in OFSP.</p>	<ul style="list-style-type: none"> <li>• Introduce simple irrigation technologies to promote vine multiplication, for example use drip irrigation to conserve planting material.</li> <li>• Train both men and women on the use of irrigation.</li> <li>• Involve men and women in evaluation of irrigation technologies to ensure their needs are met and addressed.</li> <li>• Organize both men and women farmers in groups for better access to irrigation.</li> <li>• Partner with large farmers to ensure economies of scale during vine collection.</li> <li>• Encourage women’s groups and individuals to produce vines for sale.</li> <li>• Develop gender-responsive radio programs to educate farmers on good agronomic practices.</li> </ul>
<p>Linking farmers to capital sources</p>	<p>Both male and female farmers mentioned the lack of access to capital as a key challenge in expanding their OFSP enterprises. Women were especially affected. For example, it was often noted that widows did not have access to the capital they needed to hire labor and oxen to help with land preparation to expand their farming enterprises. An analysis of baseline data on sweetpotato sales by widows and married women who indicated that they made decisions regarding the selling of sweetpotato shows higher sales for married women than widows.</p>	<ul style="list-style-type: none"> <li>• Train male and female farmers on savings and credit management so they can benefit from SACCOs.</li> <li>• Link farmers to microfinance institutions and other credit providers.</li> <li>• Provide access to affordable loans.</li> <li>• Provide access to women friendly loans and credit facilities.</li> <li>• Develop a gender module on household cooperation and decision-making and incorporate it into farmer savings and loans training initiative or training on production and marketing.</li> </ul>
<p><b>Improving commercialization benefits accruing to men and women</b></p> <p>Employing household-based approaches to sweetpotato commercialization</p>	<p>The study validates the importance of joint decision-making in ensuring that men and women benefit equally. Family disagreements related to income use and investments were mentioned as a key challenge. It was also mentioned that farmers often do not budget but spend money as it comes, which can create tension in the home or lead to misuse of money. Families may have disagreements that compromise their ability to participate in OFSP farming business. If spouses do not agree on starting of OFSP farming, it might be difficult for the interested spouse to engage or trade in it.</p> <p>Only female respondents said that OFSP farming businesses had enabled them to accrue savings and open bank accounts, as well as making it easy for them to pay back debt.</p>	<ul style="list-style-type: none"> <li>• Train male and female farmers on savings and credit management, as well as family budgeting.</li> </ul>

<p>Household approaches, including promotion of household budgeting</p>	<p>Women's budgets were similar thematically to the ideal budget for men. Women invested more in schooling and farming. Women often stated that men's budgets were not always transparent and some men spent family money on alcohol while they were concerned with items like food and school fees. Although there were men who consulted their wives on financial decisions, both men and women agreed that women's budgets were usually family friendly, but women were normally not consulted by men once the money came in. Women who made joint budget decisions with their husbands were often happy about how money was used. This shows that if joint decisions are made regarding expenditures, families benefit. What was clear was that none of the income from the male owned plots was controlled by women, whereas income from some of the female owned plots was controlled by males (4.7%) or both males and females. Additionally, compared with older married women, newly married women had little control over income from sweetpotato commercialization, even when they were contributing all the labor, owing to customs relating to deference for male household heads.</p>	<ul style="list-style-type: none"> <li>• Develop a gender module on household cooperation and decision-making and incorporate it into farmer savings and loans training initiative or during training on production and marketing.</li> <li>• Train male and female farmers on business skills, including marketing and profit making.</li> </ul>
<p>Training on good agronomic practices, benefits of OFSP, improved seed and marketing offered to both men and women</p>	<p>Both men and women regarded training as having played an important role in their decision to adopt OFSP.</p> <p>Households where men and women made joint decisions about production of OFSP and its marketing produced more sweetpotato for the market than those that did not make joint production decisions and they also made joint decisions on the use of income from marketed sweetpotato. Women in polygamous households had more independence and ability to participate in commercialized OFSP production and often hailed it as providing a means for them to look after their families without waiting for the husband or begging for his money. They had unfettered access to training and markets.</p>	<ul style="list-style-type: none"> <li>• Develop gender-sensitive farmer selection and recruitment protocols and share them with the extension, lead farmers, and other local partners involved in farmer selection and recruitment for training.</li> <li>• Identify strong women leaders in local communities to help with mobilizing women in the community.</li> <li>• Develop alternative ways to recruit women to participate in training.</li> <li>• Integrate gender modules into farmer training initiatives to promote collaboration at the household level.</li> <li>• Train farmers on business skills, including marketing, and profit making.</li> </ul>

<p><b>Improving markets</b></p>	<p>It was stated that women often did not belong to groups that could sell crops on behalf of farmers and that they might not have had permission from their husbands to sell big volumes of crops and thus were relegated to small local markets.</p>	<p>Facilitate women to participate in farmer groups focusing on the production of sweetpotato planting material.</p> <ul style="list-style-type: none"> <li>• Encourage women to join farmer marketing groups or encourage formation of gender-responsive groups.</li> <li>• Work with and encourage women sweetpotato/OFSP farmer groups and target them with market training.</li> <li>• Train farmers on business skills including marketing and profit making.</li> <li>• Improve linkages with other markets.</li> <li>• Promote OFSP in local markets.</li> <li>• Provide farmers with technical extension officers who can educate them on the best farming practices.</li> <li>• Provide access to processing machines.</li> </ul>
<p>Diversification of markets</p>	<p>Results from the market survey show that OFSP did not do well in the open market, and farmers said that they cultivated it only for Organi Limited. They also said that they would like other outlets for their OFSP crop because the market monopoly exposed them to the risk of price manipulation. Additionally, sometimes Organi Limited did not have the capacity to absorb all the OFSP produced, which resulted in losses with sweetpotato rotting in the farm with nowhere to sell it.</p>	<ul style="list-style-type: none"> <li>• Involve both male and female farmers and entrepreneurs (as group members and individuals) in business training courses.</li> <li>• Offer practical training events in marketing, including hands-on rapid market assessment and farmer-trader clinics.</li> <li>• Include men and women farmers in training on development of tools, pretesting, market survey, simple analyses, and marketing decision-making.</li> <li>• Develop gender responsive marketing strategies.</li> <li>• Establish a platform to identify and exploit marketing opportunities.</li> <li>• Construct stores at household/community level for use for sweetpotato when capacity at Organi Limited is overwhelmed.</li> <li>• Involve women in evaluation of stores.</li> </ul>
<p>Male and female farmers stated that OFSP was not popular in the open market because it did not have the preferred traits, for example it was described as watery.</p>	<p>Work with breeding programs to introduce OFSP with locally preferred traits so that the crop serves a dual purpose as the raw material for Organi Limited and other private sector players and as a commodity for local markets and mature informal sector markets. If OFSP can meet culinary demands in addition to private sector needs, its local market and alternative markets can develop organically, which would benefit women more since they dominate informal sector markets.</p>	<ul style="list-style-type: none"> <li>• Work with breeding programs to introduce OFSP with locally preferred traits so that the crop serves a dual purpose as the raw material for Organi Limited and other private sector players and as a commodity for local markets and mature informal sector markets. If OFSP can meet culinary demands in addition to private sector needs, its local market and alternative markets can develop organically, which would benefit women more since they dominate informal sector markets.</li> </ul>
<p>Retailers do not like OFSP because it rots easily, so they concentrated on white and yellow-fleshed sweetpotato, which have a longer shelf life.</p>	<p>Introduce OFSP storage facilities in city retail markets.</p> <ul style="list-style-type: none"> <li>• If storage is managed by trader groups, train them on its management and review the groups' management rules for gender inclusiveness, i.e. to include women on the management committee and to have them in non-passive roles, e.g. as representatives on both the executive and technical committees.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce OFSP storage facilities in city retail markets.</li> <li>• If storage is managed by trader groups, train them on its management and review the groups' management rules for gender inclusiveness, i.e. to include women on the management committee and to have them in non-passive roles, e.g. as representatives on both the executive and technical committees.</li> </ul>

Promote consumption of OFSP in local markets through behavior change communication campaigns	OFSP has only one marketing channel, i.e. Organi Limited, but local consumers of everyday boiled sweetpotato do not like it.	<ul style="list-style-type: none"> <li>Promote OFSP in local informal sector markets through cooking demonstrations, recipe books, and behavior change communication. BCC and local demand creation are key in establishing sustainable medium-scale businesses by creating alternative markets to mop up excess OFSP volumes not consumed by Organi Limited or other private sector buyers.</li> <li>Disseminate nutrition knowledge at community meetings that men and women attend.</li> <li>Use male peer groups to disseminate OFSP nutrition information.</li> <li>Disseminate knowledge and information on sweetpotato nutritional qualities.</li> <li>Promote the integration of sweetpotato into the culinary culture. Project implementers to work with local men and women to develop guide books and recipes that integrate OFSP in local cuisine.</li> <li>Involve men and women in tasting and evaluating OFSP recipes.</li> </ul>
Promote consumption of OFSP in urban markets through BCC campaigns	Urban-based retailers stated that OFSP was relatively unknown by their clientele, that they also did not know how to cook it and were not aware of its nutritional benefits.	<ul style="list-style-type: none"> <li>Design and implement an OFSP promotion campaign in the targeted urban areas using radio (local and national languages), market stalls, promotion events and posters.</li> <li>Make promotional events and strategies (pamphlets and posters) accessible to women and men.</li> </ul>
<b>Improve women's engagement</b>		
Engaging women in sweetpotato agribusiness	Sweetpotato retailing was dominated by women, although men dominated high volume sales.	<ul style="list-style-type: none"> <li>Train women in improved business skills so that they can engage at the higher nodes of the value chain as well as supply quality roots to the market.</li> </ul>
Challenging gender norms that prevent women from participating in high value markets	Men stated that since they were the land owners and were also better acquainted with Organi Limited and CIP it was better if they sold OFSP to Organi Limited in bulk.	<ul style="list-style-type: none"> <li>Train women actors on improved business skills so that they can engage at higher nodes of the value chain as well as supply quality roots to the market. Work with men and women champions to promote engagement of women in high value sweetpotato production and trade in their communities.</li> </ul>
<b>Addressing cross-cutting gender issues: changes at the project level</b>		
Training on gender offered to project staff to be gender inclusive	Targets need to go beyond numbers of farmers reached to whether livelihoods for both men and women are improving.	<ul style="list-style-type: none"> <li>Train partners and CIP staff on gender-sensitive project design and implementation.</li> <li>Train extension staff and other project staff on household approaches to ensure that men and women benefit from OFSP commercialization.</li> <li>Directly invite both men and women to participate in project activities (use the couple training approach).</li> <li>Project partners to ensure that women are recruited and participate in all project processes, and to report on targets.</li> </ul>
A gender-responsive behavior change communication strategy	Project implementers to integrate gender into the project's BCC strategy	

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## Annex 1: Common sweetpotato varieties and their traits

Variety name	Color of flesh	Color of skin	Characteristics and use	Negative characteristics	Men	Women
Orange			For making bread		1	
Local	Yellow/white		Local market		1	
Organi	Orange		For Organi market; takes 3 months to grow; market is good; sold by the kilogram		2	7
	Yellow/white		Takes long, up to 7 months		1	
Bungoma	Yellow	White	Food and local market			1
Bungoma	Yellow	Red	Mostly for food; preferred in local markets; takes 6 months to maturity			1
Nyathi odiewo	White		Floury; used for food and local market; gets ready fast; has no vitamin A			1
Kuny kibuojo	Yellow		Floury; used for food and local market; has no vitamin A			1
Orange	Orange		Vitamin A			1
Kalamu	White		Floury, firm flesh and sweet; ready in 5–6 months			1
Amina	Orange		Matures in 3–4 months like orange variety	Does not do well; the roots are small and is not profitable		2
Kuny kibuojo	White	Red	Early maturity; high yielding			1
Nyar koyugi	White	Red	Used for food			1
Nyathi odiewo	Yellow		For food; sold to brokers; can stay long in the soil, up to 6 months		2	1
Nyar tong	Yellow					1
Jokeya kenya	White		It is big sized and the flesh is firm; for local markets			2
Abiro nyuol	White		Very sweet and has powdery flesh			1
Kuony kibuojo	White		Sweet, firm flesh; preferred by local markets			1
Kabode	Orange		For Organi Limited for business; has big tubers and is soft; preferred for making mandazi and chapatti; has vitamins; high yielding; not liked in local markets	Not good in drought conditions	4	
Vita			Small tubers; less soft than Kabode; preferred for making mandazi and chapatti	Not good in drought conditions	4	
Nyar milambo			Home consumption		1	
Sweetpotato of the Agriculture People					1	
Nyuol ber					1	



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CIP is a research-for-development organization with a focus on potato, sweetpotato and Andean roots and tubers. It delivers innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and drive the climate resilience of root and tuber agri-food systems. Headquartered in Lima, Peru, CIP has a research presence in more than 20 countries in Africa, Asia and Latin America.

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