



Gender participation in marketing of climbing beans: A case study of Kabale District, South Western Uganda

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Abstract

Gender is considered as one of the most curtailing factors to agricultural production and productivity, especially in sub-Saharan Africa where cultural norms and beliefs are strongly held. This study examines gender participation in marketing climbing beans in Kabale District in South Western Uganda. Specifically, it examines the; 1) marketable climbing bean varieties that women and men produce, 2) strategies women and men use to market climbing beans; 3) proportions of total bean produce that women and men sell per harvest; and 4) gender relations in the marketing of climbing beans by women and men. The study used a cross-sectional survey research design to collect data from 155 women and men selected through stratified, purposive, and random strategies. The respondents were farmers that are actively engaged in the production of climbing bean varieties. The findings revealed that male farmers controlled the climbing bean marketing process through mobility trading and owning retail stores, and attained higher incomes than women farmers. Women produced beans for home food security and were only able to obtain meagre income from selling surplus at lowly farm gate prices to meet pressing family needs such as medical bills and scholastic materials.

Most men used the income from sales of climbing bean to buy assets like land, and invest in income generating businesses like motorcycle-for-hire transport. This study illuminates the gender imbalances at production and market levels that skew economic empowerment against women.

Key words: Assets, cultural norms, marketing, production, varieties

Introduction

More than 60% of the total arable land area in Uganda is under bean (*Phaseolus vulgaris* L.) production (UBOS, 2010). Beans constitute 25% of the total dietary calorie intake, and 45% of the protein intake of both the rural and urban poor (Kilimo Trust, 2012). In Uganda, beans have been produced mostly by women for food security at household level. However, currently, the trend is changing both men and women farmers put labor and inputs in producing beans for income generation. Western Uganda contributes about 44% of total bean production in the country (Ronner and Giller, 2012). However, the market share for women in Uganda is very low compared to men, who dominate the market segment of agricultural value chains (UBOS, 2012). Yet, women market participation could be an effective means for farmers to increase their incomes to move out of abject poverty (IFAD, 2003). Generally, women market participation in developing countries is low, which has slowed down agriculture-driven economic growth and in turn increased poverty levels (Barret, 2008). Compared to men, women farmer entrepreneurs face a number of challenges including lower mobility, less access to production resources, and limited market information (Gurung, 2006). According to FAO (2011), there is lack of specific consideration of the needs of women in policy formulation processes, technology design and extension systems resulting in low participation of women in the marketing of valuable crops.

Climbing beans were introduced in farming communities in Western Uganda as a new technology by 1998 to replace the low yielding traditional bush beans susceptible to pests and diseases. The production of climbing beans has been increasing to about 20% of Uganda's total land area under bean cultivation (CIAT, 2008). Climbing beans are preferred over bush beans because of high productivity, less diseases infestation, less cooking time, suitability for value addition, and high domestic and export demand (Wortmann 2001). However, according to Kaizzi *et al.* (2012), climbing bean production is still below potential, and all business activities in its market segment being dominated by men. Thus, women receive null to limited welfare gains and income growth associated with bean market participation (Kilimo Trust, 2012).

Whereas smallholder farmers are increasingly engaged in the value chains of marketable crops, evidence suggests that women tend to lose income and control as a product moves from the farm to the market. Sometimes, men take over women's enterprises once they become profitable (Spring and Kimberley, 2015). Indeed, in Uganda, women pre-dominate the production segment of grain legume value chains providing 60-95% of the labor force (Ronner and Giller 2012; UBOS, 2012). This situation is driven by underlying gender norms and intra-household relations that define their market participation and control of income (Coles and Mitchel, 2010). The Gender Dimensions Framework (GDF) identifies specific gender-based structural and institutional constraints that affect the relative status and opportunities open to men and women based on four dimensions; (1) participation and practices, (2) access to resources, (3) knowledge, beliefs and perceptions, (4) government laws, policies, and regulations (Rubin and Manfre 2009). The extent to which gender-based factors affect gender participation in marketing of climbing beans is less understood, and this is explored in this study in the context of Kabale District in South Western Uganda. The objectives were to examine the: 1) marketable climbing bean varieties that women and men produce, 2) strategies women and men use to market climbing beans, 3) proportions of total bean produce that women and men sell per harvest, and 4) gender relationships in the marketing of climbing beans by women and men.

Methodology

The study was conducted in Kabale District in south western Uganda. It lies between 29° 45' - 30° 15' East and 1° 00' - 1° 29' South. It borders with the districts of Kisoro to the West, Kanungu to the North West, Rukungiri to the North, Ntungamo to the East and the Republic of Rwanda to the South. The District consists of 19 sub-counties and 3 town councils. Kabale District is a highland district of Uganda, covering 1,864 km². The topography is mainly green, interlocking and heavily cultivated hills with spectacular valleys. The altitude of Kabale District ranges between 1,219 - 2,347 m above sea level. This altitude makes it colder than the rest of the country. Temperatures average about 18°C during the day and fall to about 10°C at night. Rainfall in the district is bimodal with heavy rains between March and May, and a more moderate wet season around October - November. June, July and August are generally the driest months of the year. The long-term annual rainfall in the district is 1093.2 mm per annum. The long term average annual relative humidity is 94.75 at 0600 to 60.4 at 1200 (Langan and Farmer, 2014). Kabale District is the leading producer of climbing beans in Uganda with 92% of farmers ranking them as a major source of income (UBOS, 2012). The Sub counties of Rubaya, Rwamucucu and Kashambya were purposively selected to participate in the study because of their high production volumes, diversity of climbing bean varieties produced, and significant crop trading activities (Ronner and Giller, 2012).

A cross-sectional survey research design involving a gender case study analysis was conducted in 2016. The study was conducted in two phases; first, the exploratory phase that focused on the qualitative aspects of the study such as difference in climbing bean varieties, decision making and family division of labor using key informant interviews and focus group discussions. The second phase consisted of conducting a survey to quantify the aspects under investigation such as gender roles, access and control of family resources, difference in payment of roles between women and men. Standardized gender analysis tools (Rubin and Manfre, 2009) were adapted specifically for participation, practices and knowledge on the market segment of climbing beans.

A semi-structured questionnaire was used to collect data on socio-demographic characteristics of respondents, access and control of resources and benefits, ownership and access of resources, division of labour, seasonal bean yield, control of income and other benefits from the sale of climbing beans. Data were collected from 155 respondents; 86 females and 69 male farmers of climbing beans randomly selected from Rubaya, Rwamucucu and Kashambya sub-counties in Kabale District. The questionnaire was administered to respondents at the farms or homes in one sitting based on the agreed appointments and informed consent. The questionnaire was developed by the investigators and field tested by gender experts at Makerere University and the Institute of Tropical Agriculture (IITA). The focus group discussions and in-depth interview tools were standardized by development agencies like the USAID and FAO.

Focus group discussion and in-depth interviews were used to collect qualitative data. Each focus group discussion composed of eight participants from farmer groups selected from Kibuga and Magandu parishes in Rubaya Sub-ounty; Mparo and Noozi parishes in Rwamucucu Sub-county, and Rutengye and Kafunjo parishes in Kashambya Sub-county. A total of 24 focus group discussions were conducted in the study area, with four FGDs in each of the two selected parishes in each sub county. The four separate focus group discussions conducted in each parish composed of women, men, female youth and male youth groups. The focus groups were later mixed to form a heterogenous discussion to build consensus on the information collected in separate groups. The purpose of conducting focus group discussions was to gather qualitative data to give an in-depth understanding of gender issues in the marketing process of climbing beans. In addition, separate gendered discussions encouraged free talk without intimidation from the opinions of the other genders. The discussions were carried out at parish venues where community-based facilitators usually hold village saving and cooperative association members' weekly meetings. The 24 focus group discussions conducted represented 71% of the registered farmer groups in the three sub counties, based on their functionality and production of climbing

beans. The influencing factor tool was used to establish how community norms & practices, attitudes, demography, institutional structures, economic status, training, political and legal parameters influence the level of women and men participation in the marketing of climbing beans. Access and control profile of resources and benefits tool was used to assess gendered ownership and access of resources used in the marketing of beans to identify who controls the benefits from the resources at both household and community level.

In addition, eight extension workers, three community development officers, 12 farmer group leaders, 10 bean traders and seven credit officers were interviewed as key informants to validate findings from focus group discussions because of their supportive role to farmers involved in production and marketing of climbing beans. A stakeholder analysis tool was used to examine the quality of relationships between farmers and other value chain actors of climbing beans and how those relationships differ as a result of gendered social norms.

Quantitative data were coded and entered into the Statistical Package for Social Sciences (SPSS) version 16 and cleaned from any errors. Descriptive statistics involving cross tabulation and chi square tests of significance were done. Data were exported to STATA version 11 to run T-tests. Descriptive analysis was carried out to generate percentages, means and standard deviation. T-test statistics, chi-square or Z-tests were used to test for differences in means and proportions, respectively. Qualitative data was transcribed, cleaned and analyzed into thematic areas using content analysis and results triangulated across research method and value chain market segments.

Results

Climbing bean varieties produced by women and men

Climbing bean varieties grown in Kabale District were categorized into: the highly marketable bean varieties that cost UGX1800 to 4000/Kg throughout the year, and the low-priced bean varieties that cost below UGX1800/Kg throughout the year. Results showed that generally more women than men are involved in the production of highly marketable bean varieties, with the exception of NABE 12C (Table 1). Women were also the main producers of low marketable climbing bean varieties as compared to men. The difference in production of marketable climbing bean varieties between the two genders was highly significant at 5% (Chi square 13.7685, df.6, P= 0.032).

Table 1. Gender differences in production of climbing bean varieties (n=155)

Climbing bean varieties produced	Women (%)	Men (%)
Highly marketable varieties		
NABE 12C/ <i>Sugar 31/ Katuna</i>	41	59
NABE 26 / <i>Kachwekano</i>	66	34
<i>Kachira</i>	53	47
NAROBAN 5C / <i>Nyiramuhondo</i>	57	43
<i>Mutale</i>	71	29
Flat white bean	75	25
None of marketable varieties	90	10
<i>Chi square 13.7685, df.6, P= 0.032</i>		
Low-priced climbing bean varieties		
<i>Kyenyera-mbure</i>	66	34
<i>Kabweseri</i>	60	40
<i>Ibanga-rwa-Kagame</i>	73	27
<i>Kunkuryembarukye</i>	80	20
<i>Rushare</i>	71	29
<i>Mashemererwa</i>	56	44

Strategies used by women and men to market climbing beans

This study, sought in part, to examine the strategies that women and men use to market climbing beans. The findings indicate that 84% of the women sold their produce to mobile traders while 67% of the men sold their produce by traveling to market centers (Table 2). Men preferred to travel to the markets for better prices, which was up to UGX 2000 UGX/Kg higher than that offered by mobile traders. More men (80%) used contractual farming than women (20%) (Table 2). The difference in methods used by women and men to market their produce was significant at 1% (Chi square 35.1085, df.6, P<0.001).

Table 2. Strategies used by women and men in marketing climbing beans

Selling method of climbing beans (n=155)	Women (%)	Men (%)
Sell to mobile traders	84	16
Travel to market places	33	67
Contractual farming	20	80
Collective marketing	33	67
Sell to retail traders	38	62
Advance payment	95	5
Sell in personal store	48	52

Chi square 35.1085, df.6, P<0.001

Proportions of climbing beans sold by women and men

Results of the quantities of produced climbing beans sold by women and men showed that, on average, men produced 1308Kg/person/year and women produced 408 Kg/person/year; and on average, men sold 71 % of their produce while women sold 54% of their produce (Table 3).

Table 3. T-test for the amount of climbing beans sold by men and women (n=155)

Amount of climbing beans sold	Men (Mean)	Women (Mean)	t	P
% sold/season	70.72464	54.24419	-8.2036	0.0000
Volume (kg) sold/season	462.6957	110.4302	-3.7680	0.0001

Factors that influence the proportions of climbing beans sold by women and men

Findings of the factors that influence the proportions of beans sold by women and men indicate that family welfare needs such as paying debts, medical care bills, and buying scholastic materials significantly influenced the amount of beans women sold (Table 4).

Table 4. Factors that influence the amount of beans sold by women and men (n=155)

Reasons for amount of beans sold	Description	Women (%)	Men (%)	Overall (%)	r ²
Paying debts/advanced money	Yes	94	43	74	61.280***
	No	6	57	26	
Buying permanent assets	Yes	76	95	86	19.4893 ***
	No	24	5	14	
Reserving beans for family food	Yes	93	6	55	143.1329***
	No	7	94	45	
Investing income in business	Yes	41	90	63	39.5055 ***
	No	59	10	37	
Paying school fees	Yes	92	91	91	0.0760
	No	8	9	9	
Paying medical bills	Yes	93	58	80	69.3341 ***
	No	7	42	20	
Buying scholastic materials	Yes	64	9	37	59.364***
	No	36	91	63	
Procuring agro-inputs	Yes	50	77	62	11.6735***
	No	50	23	38	

*, **, *** Significant at 10%, 5% and 1%, respectively

Gender relations in production and marketing of climbing beans (n =155)

In households where the persons selling beans were males, all the beans sold was produced by men and about 36% of beans were produced by women (Table 5). In households where both male and female farmers participated in the selling of the beans, 85% of the beans were produced by women. In addition, 69% of the beans produced by women was sold in dry form. About 66% men sold their beans as fresh pods due to the higher incomes gained from the sale of fresh beans while avoiding threshing cost. Women made decisions on how much beans to sell in households where 100% women were the producers of climbing beans. Men dominated decision making in household where 79% of men were producers of climbing beans. Joint decision making among women and men on how much beans to sell was evidenced in households where majority (85%) producers of climbing beans were women. Joint participation in price negotiation was observed in the household where women and men equally participated in climbing bean production. However, even in the households where 90% of the beans were produced by women, their male counterparts participated in price negotiation (Table 5).

Table 5. Gender Relations in the Marketing of Climbing Beans (n=155)

Extent of market participation	Description	Producer		Market participation (%)
		Female (%)	Male (%)	
Selling person in the household	Female	100	0	17
	Male	36	64	66
	Both	85	15	17
Selling form of beans	Dry	69	31	72
	Fresh pods	34	66	2
	Both	20	80	26
Market information Access	Female	100	0	10
	Male	50	50	84
	Both	67	33	6
Price negotiation	Female	100	0	6
	Male	50	50	88
	Both	90	10	6
Decision making on how much beans to sell	Female	100	0	13
	Male	21	79	49
	Jointly	85	15	38
Decision making on income use	Female	100	0	5
	Male	20	70	48
	Jointly	77	23	47

Discussion

Climbing bean varieties production by women and men

More women than men were involved in the production of highly marketable bean varieties. According to focus group discussion, higher involvement of women in the production of most highly marketable varieties is attributed to early maturity, tolerance to some field pests and minimal use of fertilizers, and the high prices that range from UGX2500-2800/Kg. It was for instance reported by focus group discussants that women are producing *Kachira* because of its sweetness, high yields, tolerance to low soil fertility, high resistance to aphids and less requirement of staking materials. Its moderately priced.

In addition, women were the main producers of low marketable climbing bean varieties. This may be because women tend to prefer producing climbing bean varieties that mature early (2 to 3 months), high yielding and moderately resistant to common pests like aphids and caterpillars. Being mindful of food and nutrition security in their households, women in focus group discussions also reported that they produce *Kyenyera- Mbure* because its pods do not easily shatter when dry in the field, an ideal feature that prevents losses, thus contributes to food security. *Kabweseri* was preferred because it takes less time to cook, thus saves fuel. In addition to the other positive attributes, *Ibanga rye Kagame* was preferred because of its ability to endure heavy rains, and does well with minimal staking materials, which lessens women's burden in the process of producing climbing bean. Further, *Kankuryembarukye* was also preferred by women because it was reported that it can be stored for long periods with minimal damage by weevils, a characteristic that prolongs the storage life of beans.

Strategies used by women and men to market climbing beans

Most men sold their beans by traveling to markets for better prices higher than that offered by mobile traders while majority women sold their produce to mobile traders at farm-gate prices in order to get quick cash to sort out urgent family welfare needs. This may be because the culture and traditions of Kigezi Sub-region in Kabale District tend to restrict the movement of women away from their homes, thus women are mostly restricted to their homes. Also, the geographical landscape characterized by hills and steep slopes tend to be barriers to movements, which increases distance to travel especially to women who mostly move on foot. Men tend to possess assets like bicycles, motor cycles and cars that tend to ease movements of merchandise for sale over long distances. Unfortunately, women in the study area do not ride bicycles and motorcycles because of the underlying cultural restrictions and intimidating landscape characterized by hills, valleys and steep slopes. The women also avoid spending on transport costs and had limited time to travel to market places because

of heavy domestic workload. The pressing needs for money to solve urgent family welfare basics also increase the haste to sell as soon as possible at farm-gate. Jagwe *et al.* (2010) showed that fixed transaction costs largely determine a farmer's decision to participate in the market, and that the extent of participation is affected mainly by proportional transaction costs. Access to market information, whether directly or through formal or informal institutional arrangements, is critical for market participation. Hence, men's dominance of the marketing of climbing beans is attributed to their ability to supply the quantity of climbing bean seed demanded by bulk buyers, access to market information and good social network with other actors like local governments, seed companies and non-government organizations, who are the leading bulk buyers of climbing bean seed.

More men than women being employed in the market segment of climbing beans as retail store owners, mobile traders, transporters, and agro-input traders, also offers men more control over the marketing process and more income generating sources within the climbing bean marketing. This is in line with reports of the Uganda Bureau of Standards (2012), which showed that men dominated the value chain of most crops as traders while women were mostly subsistence producers. Yet, as argued by Blackden *et al.* (2005), women have great potential that just needs to be unleashed. This is also echoed by Ashby *et al.* (2008) in their report on investing in women as drivers of agricultural growth.

Proportions of produced climbing bean sold by women and men

The difference in the amount of beans sold by women and men was attributed to women being responsible for family food security and welfare while men sold much of their produce in bulk to invest in costly ventures such as buying land, investing in agro-inputs and other businesses. The family welfare needs such as paying debts, medical care bills and buying scholastic materials significantly influenced the amount of beans women sold. Men sold their beans in order to buy permanent assets like land; as well as to invest in income generating businesses such as acquiring motorcycle for transport hire, and buying agro-inputs such as improved seed for planting, fertilizers, pesticides and fungicides.

Gender relations in the marketing of climbing beans

Men dominated the marketing of the beans off-farm, while women settled for lower prices that were given at farm-gate. Men were also able to sell beans in the fresh form, cutting down on labour invested in drying beans. Fresh beans sell at higher prices, when taken to urban and sub urban settings. Joint participation in price negotiation was observed in the household where women and men equally participated in climbing bean production. However, even in the households where 90% of the

beans were produced by women, their male counterparts participated in price negotiation. This study illuminates the gender imbalances at household level that are generally skewed against women. Such gender differentials could keep women in the protracted poverty cycle because of gross imbalances in the agricultural products marketing. Merely producing for only home consumption or being limited to farm-gate prices perpetually keeps a woman at a marginalized level, which gravely contradicts with Uganda's Vision 2040 to commercialize agriculture to transform farmers to middle income status by 2040. This study is in line with Farnworth (2008) in his overview on 'Gender and Agricultural Markets' disclosed that women can increasingly supply markets with traditional and high-value produce, but compared to men, women farmers and entrepreneurs face a number of disadvantages, including lower mobility, less access to training, less access to market information, and less access to productive resources.

Thus, the findings of this study could be used by policy makers, Local and central governments in Uganda to trigger policy debate to strengthen and support women farmers for improved agricultural profitability and substantial contribution to household and national economies. The findings of this study can be used as a basis for community development workers to understand factors and institutional structures under which women and men can effectively participate in the marketing aspects of climbing beans for sustainable income generation. In addition, knowledge from the study can point to resources and technological skills needed by women and men involved in the production and supply value chain of climbing beans to achieve equity in income generation from agricultural products.

Affirmative action could also be promoted by public and private development agencies to provide financial and technological inputs to women farmers through women-targeted commercial seed multiplication of highly marketable varieties and education on the marketing process to boost participation in marketing of climbing beans.

Conclusions

Though women produced more climbing beans than men, male individuals dominated the marketing process. Women produced beans for food security and were only able to obtain meagre income from selling some produce at lowly farm gate prices to meet pressing family needs such as medical bills and scholastic materials. Contrastingly, men produced beans primarily for sale and used the proceeds to buy permanent assets like land, and to invest in income generating businesses like acquiring motorcycles for transport hire, and buying agro-inputs, notably, improved planting seed, fertilizers and pesticides. Men were at the forefront of market information

access, price negotiation, as well as decision making on how much beans to sell and on income use.

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