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For whom will the crop be promoted? A search for gender equity along the grain-legume value chains in Uganda

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There is growing interest in gender analysis and value chain analysis as tools for ensuring equitable participation in agricultural commodity markets. This study examined the gender factors that influence the patterns and levels of participation by women and men in grain value chains in Uganda. Data were collected from six districts in three regions of Uganda using qualitative gender tools. Findings show that marked division of labour along gender-lines happens at postharvest handling stages where threshing and winnowing is mostly done by women while men supervise storage and also control marketing and incomes. Division of labour is due to socio-cultural ascriptions to the sexes at community level with women having to work for longer hours than their male counterparts. Groundnuts were regarded as women's crop while soya beans were for men. Regional variations were not significant but there were marked behavioral differences between the poorer and richer households across entire value chains from production to marketing with the poor exercising more caution during marketing to spread risks to the next harvest while the rich preferred one-time bulk sales. Specific interventions are needed to upgrade women participation in grain-legume businesses and scale-up labour saving post-harvest technologies especially draught animals, threshers, tarpaulins and hullers to ease drudgery on women and increase men's participation.

Key words: Gender, equity, grain legumes, value chains, Uganda.

INTRODUCTION

Local people's knowledge and their participation in decision making have gained currency in development discourse as means of ensuring sustainability of outcomes. The targeted people ought to be empowered to own-up the interventions be it in research or a development project toimprove livelihoods. Empowerment may refer to a process of reducing inequalities in people's capacity to engage in a

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participatory process (USAID, 2012).

Conventional research does not require respondents to shape the research agenda. Participatory research, however, requires that all participants are clear about the degree of their participation at the different stages of the process. One tool that has been used to address inequalities in agricultural commodity markets is the value chain analysis (Coles and Mitchell, 2010; SNV, 2011; Meyers and Lindsey, 2012; Me-Nsope and Larkins, 2016). Coles and Mitchell (2010) have suggested that value chains can provide a framework for understanding the differential interaction of men and women in agricultural markets for two reasons. First, value chain analysis aims at a win-win outcome for all participants; and two because it is a qualitative tool that is capable of identifying critical issues and bottlenecks for specific target groups which are useful to generate effective intervention strategies. They cite the work of Laven et al. (2009) who note that gender analysis prioritizes the economic empowerment of women as a central issue. A number of other studies in Uganda have highlighted the significance of value chains in agricultural development (Mugisha et al., 2014; Me-Nsope and Larkins, 2016).

Coles and Mitchell (2010) also argue that value chains can be upgraded through a number of interventions that include: process and product upgrading; functional upgrading; horizontal and vertical coordination; chain upgrading and improvements in the enabling environment. They further note that gender dynamics in value chains play out in two main dimensions, namely: that of scale, which ranges from individual interactions at the household level through clusters of horizontally linked households to the level of the value chain; and, that of participation related issues versus factors that govern levels of gains from participation. Gender inequalities are shaped by gendered divisions of labour, time budgets and decision making at household level; and by differential access to chain functions, services, resources and power at chain level.

In most of sub Saharan Africa, women are known to provide most of the agricultural labour force for food production yet their output is constrained by unequal access to capital assets like land. Women also seem to be more confined to the production segment of the agricultural value chain as they lack capital for investing in other levels of the chain such as agro-processing, transportation and marketing (Me-Nsope, 2016). Providers of support services like extension and financial credit have also been reported to favor men over women because of gender differentials in education and collaterals for credit (IFAD, 2002; World Bank, FAO, and IFAD, 2009; Sambrook, 2011; Njenga and Gurung, 2011; Tegbaru and Kantengwa, 2014).

In this paper, we explore the gender factors that undermine equitable participation of women, men, youth, the richer and poorer households in value chains for both climbing and common beans (*Phaseolus vulgaris*), soya beans (*Glycine max*), groundnuts (*Arachis hypogea*). These pulse crops, classified as grain-legumes are being promoted in different parts of Uganda by the IITA-Nitrogen-to-Africa (N2Africa) project. We hope the findings will contribute to the wider discourse of the role of gender issues in effective upgrading of agricultural value-chains, but most importantly to guide equitable implementation of future similar projects.

Research context

This paper is a result of a gender analysis study that was commissioned by the N2Africa project in January 2016. The goal of N2Africa is to *'put Nitrogen fixation to work for smallholder farmers in Africa'* through enhancing the yield of grain legumes (common bean, cowpea, groundnut and soybean) and expanding the farm area cropped with legumes to improve incomes and food and nutrition security. N2Africa's *Vision of Success* is to build sustainable, long-term partnerships to enable African smallholder farmers to benefit from symbiotic N-fixation by grain legumes through effective production technologies including inoculants and fertilizers. The project focuses on building a legacy of strong national expertise in grain legume production and N-fixation research and development. The project also looks at building capacity to sustain the pipeline and delivery of continuous improvement in legume production technologies tailored to local settings. Project activities focus on cowpea, groundnut and soybean in Ghana and Nigeria, on common bean, cowpea, groundnut and soybean in Tanzania and Uganda, and on common bean, soybean, chickpea and *Faba* bean in Ethiopia Phase I of the N2Africa explored impacts on human nutrition of expanding grain legume production and through engagement with nutritionists from Wageningen University; the project realized the clear benefits of extension services that are targeted to women regarding household consumption of legumes, increasing the dietary diversity which was used as a key proximal indicator of improved nutrition. In Phase II, the project focuses on the food and nutrition security of the poor, with a strong gender dimension, through legume intensification. The focus is to promote double-cropping, intercropping and introduction of climbing beans on small farms. The project aims at investing in opportunities that ensure equitable participation and engagement, targeting labor-saving interventions for women, adding value at household level. For farmers with better market access, value chain approaches are used to provide opportunities to earn income from grain legume production, linking to international, national, and local markets, as appropriate. The gender analysis study, therefore, was commissioned to establish the gender related factors and how they play out along the grain-legume value

chains. It is assumed that understanding of these factors is critical for efficient implementation of interventions and to realize equitable and sustainable outcomes of the project.

Problem statement

During the first phase of the N2Africa, it became clear there were nutritional benefits of targeting extension to women through increased household consumption of legumes and dietary diversity. However, there was still a dearth of empirical evidence about the efficacy of the extension.

The second phase, therefore, highlighted a need for a comprehensive gender analysis that would help provide specific lessons and recommendation for N2Africa project and partner institutions like the World Vision and Africa 2000 Network. The first step prior to this study was to train all field staff of the partner organizations on gender issues in development. This paper discusses the findings of the gender analysis study and their implications needed for the effective implementation of the grain-legume value chains.

Purpose of the paper

The purpose of this paper is to establish the gendered nature of participation in grain legume value chains and its impact on intensification, diversification of income and nutritional outcomes in northern, eastern and southwestern Uganda. Specifically, we discuss the gendered pattern and level of participation by men and women in grain legume value chains; the gender related factors and their influence on the production, marketing, value addition of grain-legumes across the different ecological zones; the impact of gender related factors on intensification and diversification of income and nutritional outcomes; opportunities for women businesses along the various segments of the value chains; labour-saving technologies for women; and specific gender interventions for equitable inclusion of women and men in grain legume value chains.

Theoretical and conceptual framework

The findings can be explained from the theory of force-field analysis. The theory postulates that for any extant problem such as gender inequity along GLVC, there is a sea of forces that is in motion, some of them are favorable for an intervention and others unfavorable. Although these forces are in constant motion, their interaction produces a relatively stable equilibrium. For example, whereas it is well-known that men dominate women in decision making, there is a cultural acquiescence that makes women to submit to their husbands for the sake of a household survival. Often development workers approach a problem with preconceived ideas about the outcomes. This sets in motion other factors that offset the equilibrium point leading to unforeseen consequences. It is therefore an onus upon the intervening agency to identify the factors that may favor or disfavor the planned intervention, in this case, empowerment of women as equal partners in GLVC businesses.

METHODOLOGY

This study was conducted in January 2016 to establish the gendered nature of participation in grain legume value chains and its impact on intensification, diversification of income and nutritional outcomes in northern, eastern and south-western Uganda. A cross-sectional research design involving case studies of N2Africa groups and standardized qualitative gender tools was used to obtain data from 445 respondents from six districts, namely: Apac and Oyam in the North; Kapchorwa and Pallisa in the East; Kibaale in the West; plus Kabale in South-western Uganda. A multi-stage sampling frame was used involving purposive, cluster and random selection techniques. Purposive sampling was used to identify all the districts and sub-counties in the three regions where the N2Africa grain-legume project is being implemented. Cluster sampling was then used to select all the grain-legume associations/groups in the selected sub counties plus one non-beneficiary mixed farmers' group to minimize selection bias towards N2Africa clientele. Finally, a representative sample was obtained by randomly selecting 30% of the sub county-level associations from which the participants in the study were mobilized for the study with the help of N2Africa and its partner staffs in the field with knowledge and contacts of the members.

The data were collected using Key Informant Interviews (KII); Focus Group Discussions (FGD) with groups of men, women, and youths involved in production, processing and marketing in the N2Africa grain-legume project areas, and form children aged between 10 and 15 years. A number of standardized gender analysis tools were used including: wealth ranking matrices; daily activity clock/24 h tool; access and control profile tool; influencing factors tool; review of existing and new labour-saving technologies and practices tool; identification of opportunities for women businesses tool; successes, challenges, opportunities and risks (SCOR) analysis tool; and an interview guide for value chain actors.

Data were analyzed using both qualitative and quantitative methods. Qualitative data was transcribed, cleaned and analyzed into thematic areas using content analysis and triangulated across research methods, value chains and regions. Quantitative data from KII was analyzed for descriptive statistics like frequencies and percentages using the SPSS computer software.

FINDINGS

The purpose of this study was to identify gender gaps along the grain legume value chains in the four regions of Uganda where N2Africa project is implemented. The findings are presented according to the following research objectives.

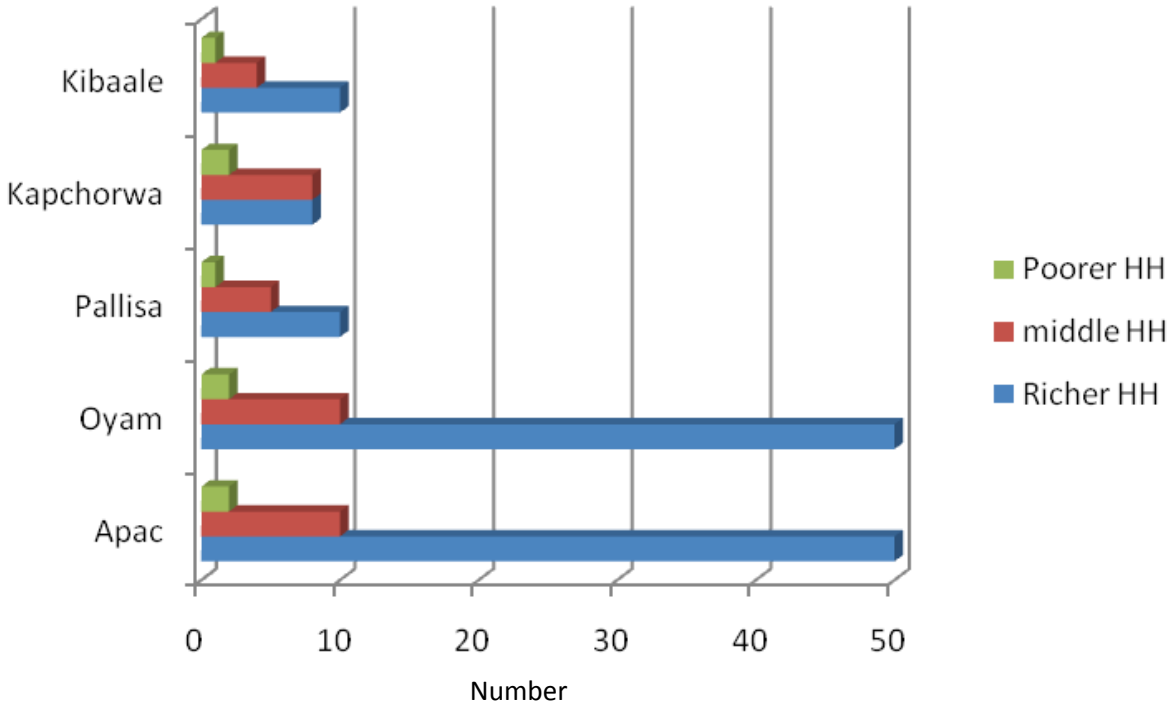

Figure 1. Land acreage cultivated by poorer, middle and richer household by region.

Gendered patterns and levels of participation by women and men

The gendered participation in grain-legume activities along the value chains was determined by wealth ranking exercises highlighting the activities engaged in by the poor, rich and middle income households; the gendered division of labour along the value chain, daily activity calendars as well as access to and control over resources and benefits. The findings are presented as the following.

Wealth ranking of households (HH)

Results in all the six districts show that participation in GLVC is differentiated by social economic status of the household with clear behavioral preferences between the rich, middle and poorer households (Figure 1). Richer households cultivated more acreage; produced a variety of crops for market; had alternative sources of income to support farm operations; practiced joint decision-making at household level; used better equipment and hired labour at every stage of the production cycle; used better seed, fertilizer, better storing of the produce and marketed in bulk.

Poorer households on the other hand had limited land for production or rented it (less than 1 acre); produced fewer crops mostly for food; used mixed farming; relied on traditional inputs including own saved seeds; hand hoes, and family or group labor.

Gender issues were more pronounced among poorer households where decision making and membership to groups in the HHs is largely dominated by men. Households in the Northern region (Oyam and Apac) had more land and livestock compared to those in Western and South western region.

Table 1 shows the differences in productivity behavior of poorer, middle and richer households reported during FGD in Kibaale district in Western Uganda. Similar variations were reflected in other regions that were covered in the study.

Mean daily time use and gender division of labor

The 24 h tool and activity profile was used to assess time use and division of labor in households. The findings showed that both men and women participate in productive work across the three regions, the levels of participation and types of activities undertaken by men and women, however, vary (Figure 2). Differences at production indicate that men undertake seed procurement, provision of land, payment for labour, land clearance, cutting and carrying stakes, spraying against weeds, pests and diseases, and carrying the harvest. Women were reported to undertake the roles of planting, sowing, weeding, plucking, staking, threshing, harvesting, and winnowing. Women participation in planning and marketing stages of grain legumes was reported to be low despite contributing a greater

Table 1. Descriptors of household wealth categories in Kibaale district.

GLVC activity	Type of household		
	Rich	Middle	Poor
Average area cultivated per HH	5 to 10 acres	1 to 4 acres	Less than 1 acre
Crops grown	Maize, beans, coffee, cocoa, bananas, Eucalyptus	Beans, maize	Mixed: Maize, beans, potatoes
Livestock	10 cows	Own small quantities of livestock 3-5 goats or pigs	Zero or 1 goat
Decision making on overall enterprise mix by gender	Joint decision making	Joint decision making	Decision making is dominated by men
Group membership	For both men and women	Largely for men however, women also participate (60:40)	Group membership is largely for men (70:30).
Main sources of income (%)	Business and farming	Farming	Hired labor
Other livelihood activities	Business	Hired labour, brick making, savings groups	Hired labor
Barriers to market oriented crops	Poor loan recovery from clients, lack of markets	Lack of markets, limited land, poor transport, limited access to loans, price fluctuations	Lack of access to information, lack of land, large families associated with laziness

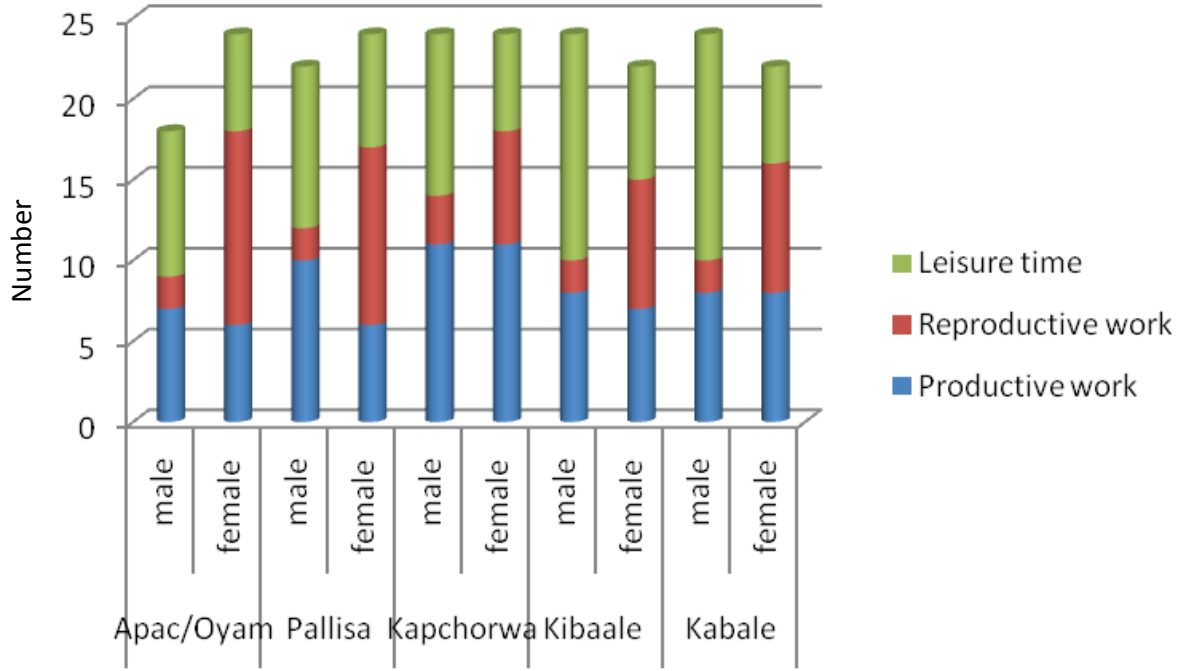

Figure 2. Average daily use of time by men, women, youth and children in hours.

percentage to production of the grain legumes.

Results also showed that women have a longer work cycle doing productive and reproductive work (between 16 to 18 h) compared to their male counterparts (who spend between 10 and 13 h).

Women and girls are largely responsible for reproductive work and men have more time for leisure and rest compared to women across the three regions. This was illustrated by the following statement from a FGD with Women's group in Apac:

"No one can help you with domestic work. After the garden work, men just go and drink. However, during weekends and holidays when children are at home, you may find when they have prepared lunch as you return from the garden"

Participants in FGD reported that the reproductive work burden for women constrains their productivity, participation in alternative sources of income like business, women's groups, and cooperatives, and was reported to be risky to women's health. Men justified their long hours of rest as resulting from doing heavy work that requires enough rest and that they used leisure time to search for information or advise on 'how to plan for the family'. The division of labour in grain legumes was reported to be due to socially assigned roles and responsibilities for men and women as illustrated by the following statement.

"Men are the financial controllers of the families and thus obliged to prioritize income generating activities. Women are responsible for family food security and cooking, therefore when they are cooking men are either doing productive work or resting" Men's FGD – Nalweyo, Kibaale.

In Kapchworwa, male youths were reported to spend more time doing reproductive work (5 h 20 min) than the female youth (3 h 30 min). Conversely, the female youth have more leisure/rest hours (about 14 h) than the male youth (12 h).

Children were reported to spend time doing productive work like gardening and livestock that are major sources of school fees, food, and scholastic materials. They also help their mothers in cooking, collecting firewood and water. The children in Kapchorwa reported having limited time for playing because they are either in the gardens or helping their mothers. Parents also restrict girls from having leisure time to avoid exploitation.

FGD participants in Apac reported minimal participation in community work because NGOs and government have provided water sources and good roads. Community work by children is done at school and church. The most vulnerable groups like widows and divorced women were reported to have heavier triple roles as heads of families assisted by children. Appropriate steps are needed to ensure their inclusion in value chains.

There were gender differences in preference for certain grain-legume crops; hence, the heading of this paper. In the north, soya was reported as a crop for men and groundnuts for women and this influenced decisions about the proportions of the produce to be sold or retained for home consumption. Almost all the soya is for sale except saving for seed while only half of the groundnuts would be sold because it is a major constituent of family diets. In Kabale the climbing bean was categorized as a woman's crop and role. However, new technologies/variety of the climbing beans has attracted male involvement especially in staking and harvesting and looking at climbing beans as a source of income.

Storage and marketing of grain legumes (soy bean, climbing bean, groundnuts and bush beans) in the different districts is dominated by men. Participants echoed the fact that at storage, harvest and marketing men take over due to the element if income attached. The reasons advanced for men's dominance at marketing include being the 'head of the family', women's lack of negotiation skills and mathematical acuity to avert being cheated by scrupulous traders. Value addition to the different grain legumes (Soy bean, climbing bean, bush bean, ground nuts) is minimal across the different districts/regions; farmers largely produce for sell to buyers and traders.

Division of labor along the GLVC

Participants in FGDs were asked about the division of labour for the different activities along the GLVC. Each participant was given 10 stones and requested to estimate the contributions of men and women to each activity by placing the stones against it. The results are summarized in Figure 2.

Figure 3 shows that both groundnuts *(A. hypogea)* and the bush bean *(P. vulgaris)* are women's crops where they do most of the work like planting, weeding, harvesting and processing. However, the men engage in heavy-duty or risk-taking activities like land clearing and spraying. Men also appear to dominate the storage, transportation and marketing segments of the GLVC.

Access and control over resources and benefits

Through focus group discussions, respondents listed resources that women and men use to carry out tasks and whether women, men, youth and children have equitable access to, and controls over their use as well as the benefits from them. Findings across the three regions indicate that both women and men have access to most of the critical resources like land, water for production, collective marketing, spraying

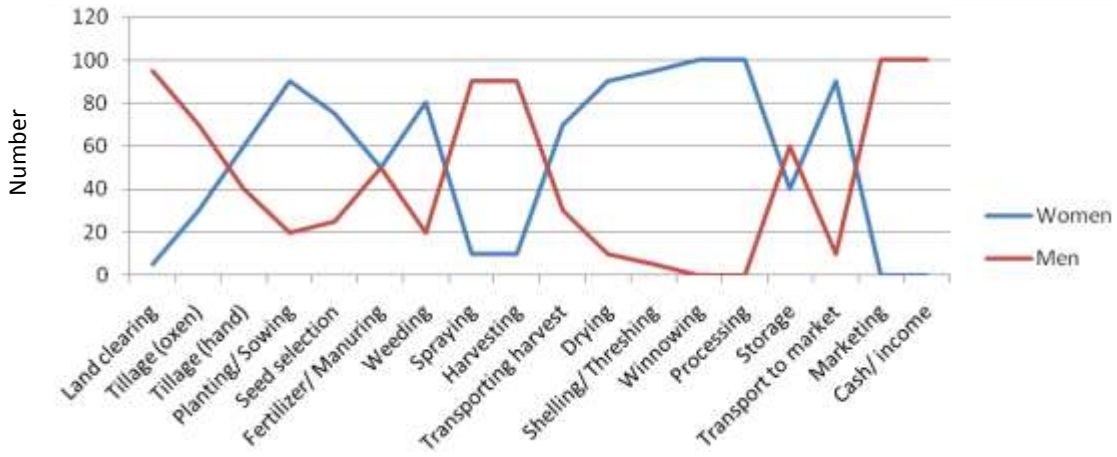

Figure 3. Estimated contributions of men and women to the GLVC activities.

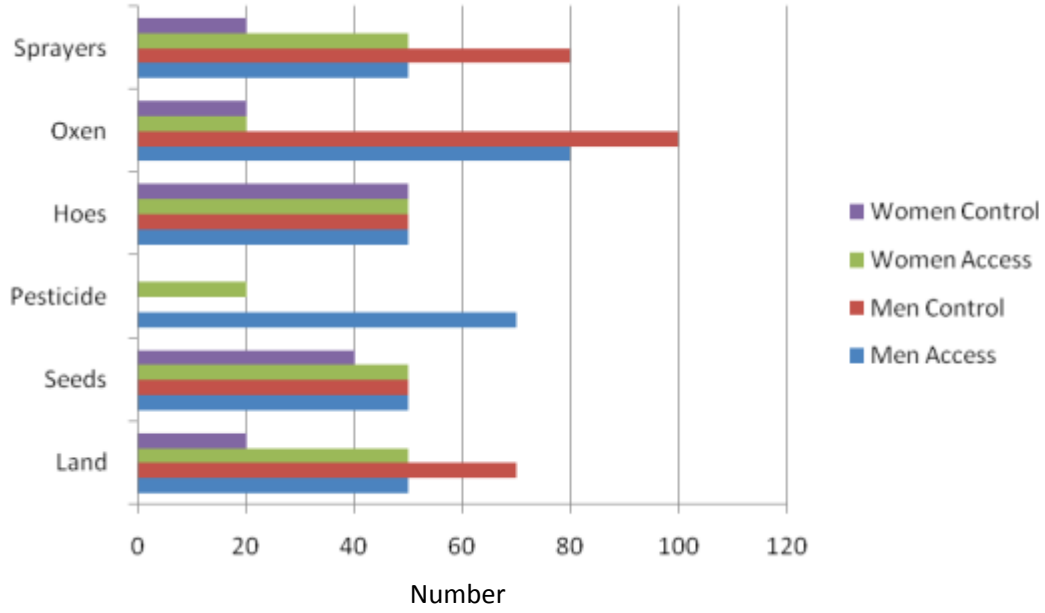

Figure 4. Differential access to and control over resources by men and women in Kabale district.

equipment, village saving and lending associations (VSLA), spray equipment Agro-input, collective marketing centres, and water for production (Figure 4). Men however, exercise power and control over land control, its allocation, disposal or use as collateral. The decision making on where to plant crops like soybean lies with men as owners of land. This is same for other production resources like fertilizers, pesticides, hired labor, cash, market stalls, production equipment (oxen, tractors, weeders, bikes and threshers) as exemplified by the following remarks by a young female from Adek, Oyam district:

"The problem is that you always have to as for permission from men even to keep an animal….land belongs to men and so women just have to follow and obey what their men decide". Why? *"That is how God created us. We are from their ribs and have to obey!"*

Women's limited control over production resources and benefits was justified by the cultural norm and rite of the man as 'the head and provider' of the family. In many cases such a myth has been accepted as a norm by both men and women who agree that it is within God's plan for man to have absolute control over women and resources. Limited control over resources and benefits by youths and children was justified by fact that they are still dependent on their parents. Youth in Apac reported to

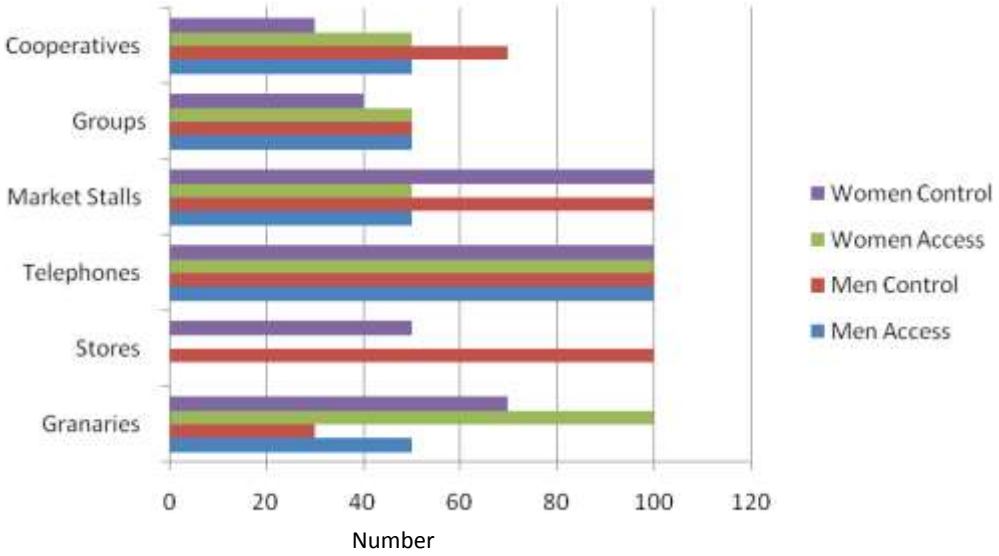

Figure 5. Differences in access to and control over postharvest resources and markets in Kabale district.

have control over hoes, sprayers, telephones and bikes. Male youths have control over oxen, stores and cars as successors of their fathers and future household heads compared to the female youths.

Control over the benefits of production including income largely lies in the hands of men (Figure 5). Women, youth and children have limited control over the benefits of production. Participants noted that once production reaches harvesting stage; it passes onto the hands of the man who markets and controls the use of the income. In situations, where the enterprise is managed by the women; women reported that they still pass on the income to their husband to avoid disagreements. Comparison of findings from the different districts shows that women in Kibaale district as well as Oyam, Apac are more assertive, contribute to decisions over resources and benefits compared to their counterparts in Kibaale, Pallisa and Kapchwora.

The restricted access to and control over production resources and benefits by women and youth implies that they cannot make major decision on expanding or diversifying of production.

Disparities over control over the benefits constrains productivity and contributes to the persistence of subsistence production, reluctance to adopt improved farming methods, and reluctance to engage in large scale production and commercialization of grain legumes.

However, an important finding a cross the three regions was that women are increasingly constraining men's power to sell land by refusal to give consent as provided in the Land Act. The land act obliges men to seek consent from their spouses and children before disposing off family assets like land and animals. Women reportedly said they now have some level of control over disposal of land and family assets. This is in many cases interpreted by men as a threat to their supremacy

"*.....These days some wives want to overpower their husbands from home leadership. They need to be trained in gender roles*."

FGD for men in Pallisa district In Kibaale, respondents reported that as a result of gender training and sensitisation by NGOs like World Vision and the local government, there is improved participation of women in planning. Both men and women participate in groups and have been sensitised about sharing roles and responsibilities. It was noted that there was a clear difference between men who are in groups compared to men not in groups in reference to being gender responsive. Management of income in households is enhanced through storing seeds, saving in SACCOs and local banks and seasonal growing of crops. Husbands and wives "pool" income to support the household. The percentage contributed by women is higher than that of men (85%:15%). Men were reported to make decisions on income-generating investments, livestock while women make decision on food and health care. Both women and men contribute to the education of their children by providing school fees, books, etc.

Factors influencing the pattern and level of participation along the GLVC

Respondents were asked to identify factors in their community that determine the equitable participation of

women and men in grain legume value chains. The following findings are presented.

Norms, attitudes and practices

The cultural definition of roles and responsibilities of women and men, inheritance rights and practices like dowry were reported as major contribution factors to pattern of division of labor in households and along the GLVC.

In Kabale, participants reported that culturally the roles of men included looking after animals, building houses and digging was regarded as a women's role. This accounts for the limited level of male involvement in production of food crops and the heavy workload for women. Like in other regions, ownership of ownership of land is a rite of men. Men determine the allocation of land for different crops or uses. Men reportedly reserve fertile land commonly referred to as "*engaragazi*" for cash crops or own use while the rest or poor land is left to women to cultivate food crops. Lack of ownership and decision making over land by women limits the level of diversification/intensification of the grain legumes including the climbing beans. Women cannot make major decisions on use of the most productive land or produce realized. FGDs estimated that 20% of women largely from richer households have control over the produce realized and 80% is controlled by men. The practice of paying pride has been implied to mean 'purchasing women to do everything. Women also noted the need to toil for their children as a motherly responsibility.

On appositive note, respondents in Kabale reported that the introduction of the climbing beans has positively influenced more involvement of men and boys. While beans are traditionally a 'women's crop; production of the climbing bean requires joint effort. Men and boys are responsible for staking, planting, cutting the trees and spraying, use of manure and transporting the harvest down the sloppy hills while women do planting and weeding.

In Kibaale, participants quoted the rite of rite of headship, inheritance, and ownership over resources as a cultural entitlement for men. Women cannot claim control over land unless passed to them by their parents, after the death of their husband or purchased. The lack of ownership over resources by women is premised on the argument that women are supposed to get married and move to a new home with a husband. However, female respondents noted that even when they get married they are not considered owners of marital property culturally. The final decision making power over most production resources and benefits is culturally reserved for household heads.

Cultural norms also determine the division of roles in the households with reproductive roles assigned to a woman. The different activities along the grain GLVC are socially recognised as either male or female tasks. Participation of women in leadership is constrained by cultural belief that a woman cannot be a leader which is why women are often members and not leaders of groups. The aforementioned cultural norms were similarly reported in Oyam, Apac, Palisa and Kapchorwa.

Negative community attitudes

Negative community attitudes and peer pressure further backs the limited male involvement certain in productive roles and reproductive roles. A faith leader from Kabale noted that some people think that men who work with their wives are 'bewitched'… *culturally men cannot do maintenance roles like cooking, washing plates, clothes; growing food crops is a women's role.*

Negative attitudes towards women in business and leadership were also reported to limit the participation of women in business.

Domestic violence

Domestic violence was noted to be a challenge for women and children. Women in Kabale reported that they prefer working alone because they feel less pressurized and in order to control their produce. The practice of men playing authoritative roles and controlling produce/income, selling produce for alcohol was reported to be wide spread. Alcoholism was reported to be a major constraint to male involvement. Domestic violence is rampant during harvest due to misunderstanding and conflict over the benefits/income realized from production.

"*Now that it is a harvest period, these cases are too many. We receive about 10 cases in a week of women reporting a husband misappropriating income, GBV, child neglect, abandoning the home, etc."* CDO Kasambya Sub county, Kibaale.

Lower levels of education and lack of information among women

Most women and female youth have low levels of educational attainment. Men and boys engage in alternative sources of income while women spend more time doing farming and reproductive work. Youths identified illiteracy among the parents, cultural briefs that value boys over girls, lack of capital and information, laziness as major factors that influence their participation.

Economic value attached to crop types

Ground nut is generally referred to as a women's crop

Table 2. Summary on influencing factors by region.

Influencing factor	N	E	W	SW
Cultural norms and practices with role expectations for men and women; decision powers made a reserve for men	x	x	x	x
Productive assets like land are solely controlled by men	x	x	x	x
Educational differences between men and women affects marketing at HH level and successes of women-led/ men-led business	x	x		
Negative community attitudes and peer pressure			x	x
Domestic violence			x	x
Alcoholism			x	x
Low household income	x		x	
Crop type, e.g. staking of beans	x	x		x
Nature/Physiology of men and women	x			

with nearly half of seasonal harvest reserved for home consumption. Men attach less value to grain legumes and prefer production of other crops that fetch more income while women attach value to it as a source of food and for selling. Soybean is more preferred by men and 90% is marketed, the rest is preserved as seed for next season. The economic factor also explains men's dominating role in marketing of produce.

As one produce dealer noted "women normally bring say groundnuts in basins or tins but the men bring in sacks.

Demographic factors

Most women get married at a young age and often produce many children which they have to take care of. In addition, they are also responsible for looking after the elderly relatives which adds to their reproductive roles.

Attitudes of community towards development workers

Based on past experiences (may be from NAADS), some farmers and community members no longer trust extension workers and community development workers as a result of unfulfilled promises and poor time management (Table 2).

Gender factors and the intensification and diversification of income and nutritional outcomes

From the survey, the impacts of gender related factors/issues are two-fold, that is, direct and indirect. The direct impacts are easily discernible while the indirect impacts are less obvious.

(a) Low acreage, productivity resulting from limited male involvement and limited decision making by women on use of major resources and the benefits as evidenced by the following quotations from FGDs:

"*If women were to do the marketing, income realized would be high because women are good negotiators. Men also control forests hence limiting the production of climbing beans"* Female FGD Kabale

(b) Low production coupled with depressed produce market prices means little is left for sell to meet household food security and income needs. Food shortages lead to food insecurity which results into malnutrition especially for children.

(c) Inequality in sharing income proceeds from sale of farm produce reduces the morale and commitment of the women to farm. Some women reported that as a result of men pocketing all the money after marketing the produce, they also get little amounts of the produce (especially before bagging) and sell without the knowledge or consent of the men:

"Low food production results from women withdrawing from work as a protest to men denying them income from the sales"

"*As a farmer I would keep seeds for planting in the next season but my husband keeps selling the produce in small quantities to buy alcohol; I rather sell all beans and buy a goat that he can't easily sell"*

(d) Other factors reported were: the low family incomes to meet basic family needs; women failure to repay loans leading to mortgaging

resources and double payment of interest; domestic violence and misunderstandings resulting from unequal sharing of income; limited
participation of women in business due to male dominance in decision making at household level; women have lower self-esteem eroded by dowry and absolute power by men over resources, benefits and decision making; poor access to extension and community development workers; and, a high fertility rate with high dependency burden on women as family care givers.

DISCUSSION

The purpose of the gender analysis was to establish the gendered nature of participation in grain legume value chains and its impact on intensification, diversification of income and nutritional outcomes. The findings from all the six districts (Oyam, Apac, Pallisa, Kapchorwa, Kibaale and Kabale) indicate that farmers' participation in GLVC is not only differentiated along gender stereotypes of men and women. Participation is influenced by the socioeconomic status of the household. The poorer, middle and richer households were reported to exhibit different characteristic tendencies in regard to sources of seeds to plant, the labor and technologies used as well as their marketing behavior during harvest. The poorer households were for example reported to market their produce in smaller quantities at weekly local markets as a survival strategy for spreading the risks compared to their richer counterparts who sell large quantities at once because they have other livelihood strategies for assuring their survival. This is in consonance with other studies that show that poor people are risk averse and rational when adopting new technologies because their very survival takes priority.

The results also showed that women and girls in all regions worked for relatively longer hours (16 to 18 h) in a typical 24 h day cycle due reproductive domestic chores work compared to their male counterparts (10 to 13 h) who have more time for leisure and rest.

This means that men can have time to participate in N2Africa or other training opportunities as well as take part in leadership roles at community level than their female counterparts who are culturally ascribed to perform household chores and provide food for their families. The implication is that scheduling of training events that aim to assure equal participation of men and women should be scheduled in a participatory manner to suit women's busy schedules.

Secondly, some interventions that seek to assure equity for men and women without addressing the socio-cultural division of labour inequalities in the community may end up increasing the work burden on the women. Deliberate efforts must therefore be taken to engage and conscientize communities about gender issues for the benefits of everyone involved in GLVC.

The results also showed that whereas both women and men in all the three regions had access to
most of the critical resources like land, water, marketing, spraying equipment, village saving and lending associations (VSLA) and other agro-inputs, the men exercise the power and control over such resources and decision making. However, the women in Kabale had greater control over resources and benefits compared to the other regions. This was reported to result from their hardworking and assertive nature and that the Bakiga culture allows women to control food production. Generally speaking, women, youth and children have little control over the benefits that accrue to the household from production and there is need to sensitize GLVC farmers about the benefits of sharing roles and responsibilities between men and women.

Several factors were found to influence the pattern and level of participation of the different gender in the GLVC and to reinforce gender imbalance between men and women, and these include: cultural norms, beliefs and practices about role ascription, land inheritance and dowry; community attitudes and perceptions including compliance to peer pressure; generally lower levels of education and lack of information among women compared to their male counterparts; gendered preferences due to the socio-economic value attached to each grain legume by men (income security) and women (food security). It was noted for example that the men in Pallisa, Oyam and Apac preferred Soya bean (*G. max*) because of its market value as a cash crop while groundnut *(A. hypogea)* was regarded as a women's crop because of its domestic uses as sauce. In some cases, the introduction of climbing beans (*P. vulgaris*) which requires collection of long sticks for staking; was reported to provide a male participation role in a crop that is traditionally regarded as a women's crop. Their participation has been reinforced by the realization of the economic value/cash returns of the crop. A similar observation about the influence of economic gains from soya beans was made in the eastern and northern regions.

The other factors that were reported to influence the gendered patterns and levels of participation of women and men in GLVC were: domestic violence which heightens during the marketing of the produce because of the mistrust between men and women at marketing stages; constraints to women in GLVC businesses such as the low and unreliable local markets prices; their relatively lower business acumen compared to men; lack of starter capital since men reserve final decisions to starting a business; the triple roles of women limits their involvement in businesses; limited knowledge on value addition; negative attitudes among men towards engaging their women in business; precedence of domestic needs over business; relatively lower levels of literacy among women for bookkeeping among others. The study also

highlighted some business opportunities for women along the GLVC and these included: existence of mixed or women only groups and/or associations have enabled women to meet often, share ideas, access training, gain knowledge and even pool resources together; emergence of VSLAs that facilitates access to affordable credit; existence of some labour saving agro-technologies like donkeys in Kapchorwa and ox-traction in Teso drudgery for women; emphasis by government and development partners on farming as a business; collective bulking and marketing of produce through Area Cooperative Enterprises (ACEs); increased access to valuable information and communication and technologies (ICTs) like mobile phones and local FM radios; and a growing population with demand for foods.

Overall, these findings do not present a drastic departure from extant discourse on gender in agriculture. There are, however, some affirmative steps that may be needed by N2Africa and these include among others: a differentiated approach for targeting the GLVC interventions to meet the production and marketing needs of the poorer, middle and richer households in communities based on the wealth categories of the farmers; sensitizing target communities through a community dialogue approach about the mutual benefits of planning and equitable sharing resources and benefits including awareness of gender laws for betterment of household food security, nutrition and incomes; schedule GLVC activities at the time women are free from domestic chores; taking cognizance of the differentiated preference towards certain crops by women (groundnuts and common beans for food) and men (soya bean for cash) by up-scaling technologies that encourage equal participation; developing short tailor-made business courses for women farmers to boost their participation in the GLVC businesses; involving local cultural leaders and faith leaders in gender sensitisation/gender main-streaming meetings; specific steps should be taken to assure affirmative action towards ensure women participation in leadership of Area Cooperative Enterprises (ACEs) and rural producer organizations (RPOs) in order to enhance their role in decision making and access to markets; a follow-up quantitative survey since the five-days were not adequate to allow in-depth interviews with the stakeholders.

CONCLUSIONS AND RECOMMENDATIONS

However, the following recommendations were suggested based on the results:

(1) N2Africa with its partner organizations like the World Vision and Africa 2000 should develop differentiated approach for targeting the GLVC interventions to meet the production and marketing needs of the poorer, middle and richer households in communities since use of resources, technologies and practices appear to be variegated by wealth categories of the farmers.

(2) Grain legume farmers in all regions are constrained by gender stereotypes that ascribe roles and decision powers to men and women. Men for example, have more time for the rest and exercise more power over access and control of production resources and benefits that accrue to their families. N2Africa and its partner organizations should thus sensitize their client communities through community dialogue over joint planning and equitable participation, ownership of resources and benefits including awareness of gender laws for betterment of household food security, nutrition and incomes.

(3) Since women and men have different workloads, N2Africa and its partner organizations should schedule GLVC activities at the time women are free from domestic chores/reproductive work.

(4) N2Africa and its partner organizations should take cognisance of the differentiated preference towards certain crops by women (groundnuts and common beans for food) and men (soya bean for cash) by up-scaling technologies that encourage equal participation in grain legume chains such as animal-traction, shellers, hullers, processors and innovative staking practices for the climbing bean among others to encourage male participation.

(5) Since women have relatively lower education attainment compared to men in all regions, N2Africa and its partner organizations should develop short tailor-made business courses for women farmers to boost their participation in the GLVC businesses.

(6) Given the deep-rooted nature of gender issues into cultural norms and institutions, N2Africa and its partners should endeavour to always involve local cultural leaders and faith leaders in gender sensitisation/gender mainstreaming meetings where the patterns and levels of participation of women and men in GLVC are discussed.

(7) Since the overarching aim of Phase II N2Africa project is to enhance the participation of women in GLVC for better food security and nutrition, specific steps should be taken to assure affirmative action towards ensure women participation in leadership of Area Cooperative Enterprises, rural producer organizations (RPOs) and other such organs for enhanced role in decision making, equitable sharing of benefits, access to market and collection of income.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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