Intra-Household Decision Making on Production and Income Generation Options among Women in Mara Region, Tanzania

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Abstract

Women's ability to make decisions on production matters and income generation in the household is crucial to reduce gender based violence, improve women's production ability, improve livelihood of household members and reduce poverty among women and a country in general. The study examined the contribution of Cassava Adding Value for Africa II project towards empowering women cassava producers to make decisions on production matters and income generated from cassava crops. The study was conducted in Rorya, Bunda and Serengeti Districts in Mara Region where the project was implemented. The study employed census method whereby data were collected from all the three project Districts and wards. A total of 246 women participants and those who did not participate were randomly selected. The proportion of 50% was applied to select the participants from the sampling frames of women who participated in the project and those who did not. A questionnaire was used to collect quantitative data and Focus Group Discussion and Semi-structured interviews were used to collect qualitative data. Quantitative data collected using questionnaires were used to compute levels of women empowerment. Furthermore, chi-square tests were run to reveal if there were any associations between socio-economic characteristics and level of women empowerment. The results showed that women who participated in the cassava value chain intervention project were categorized into high level of women empowerment compared to women who did not, and who were categorized into low level of women empowerment. These findings suggest that agricultural training provided by CAVA II project exposed women to new, updated and improved methods of cultivating cassava. The findings show further that women with five or more acres of cultivating cassava were categorized into high level because they possessed more acres, plus the training received from the project which resulted into high cassava yields. The findings also show that age had an association with the level of women empowerments whereby women between the ages of 35 and 55 were classified as having a high level of women empowerment, which was linked to their age. This shows that in patriarchal society, women of this age, whether married or not, were considered mature enough to make judgments. In comparison, women and girls between the ages of 15 and 34 were not allowed to make decisions in the home that affected productivity and income. The other significant association revealed by the study was between farm and wage labor activities and level of women empowerment. The findings show that women who were farmers and employed were categorized into high level of women empowerment as compared to women who were only livestock keepers. It is therefore can be concluded that interventions which target women in agricultural production can increase their empowerment status hence influence their decision making in production and use of resources required from production activities. It is therefore recommend that Government and Development partners programmes should design and implement project which will enhance women empowerment and which in turn will increase their participation in decision making at the household levels. This will lead to improved livelihood and reduction of poverty in farming communities in Tanzania.

Keywords: Women empowerment, intra-household decisions, production, income, options

Introduction

Empowerment has been defined as the continuous process that alter individual's lives through increasing critical consciousness, with a focus on the capability to choose, through both individual and collective actions. Intellectuals such as (Cornwall, 2016; Batliwala, 2010; Kabeer, 1999; and Rowlands, 1995;) established that empowerment is not something that can be done to or for anyone else but relatively, is an expansion of women's consciousness and capacity to act, both individually and collectively to transform lives. Empowerment is not equivalent to having unlimited options and unrestricted freedom to choose whatever one wants. As argued by Kabeer (1999) that choices can be done through three interrelated dimensions: agency, as the process by which choices are made and individuals' sense of self-worth; resources, the medium through which agency is exercised and achievements, the outcomes of the agency.

Similarly, women empowerment is viewed as the ability of women to make individual and joint decisions within the household (Johnson *et al.,* 2016; 2017). However, bargaining power within a household is the crucial indicator of women empowerment and its outcome on the welfare of the entire family (Padmaja *et al.,* 2018). Moreover, Jeckoniah *et al.* (2012) argued that the imperative attribute of women empowerment is the position where they are able to make decision and have influence within the household and their decisions are respected at household level and community in general.

Intra-household decision making can be well understood as negotiation among family members on how to allocate financial resources within the same household (Sultana *et al.,* 2013). In the same line, Diego and Quentin (2010) argued that decision making and resources allocations within the household are imperative for economic and human development. That is, such decisions have huge impact on the welfare of individuals at the household level and at the community level in general. Sultana *et al.* (2013) argued that, women's preferences and responsibilities for making decisions within the household do influence economic outcomes. Also, Njuki *et al.* (2016) claimed that women decision making and the increase of their bargaining power within the household depends largely on women's control over income from agricultural activities particularly the intra-household allocation of income between men and women, and the ability to make decisions about purchases.

Moreover, Seebes (2011) argued that gender inequality within the household has effects on the women welfare. She pointed out that if women will have low bargaining power, low access to resources and household income, then it is more likely that they will have low bargaining power outside their homes such as accepting low wages at work places. In line with this, Akhtar *et al.* (2018) in Pakistan revealed that major decisions on family wellbeing, cropping pattern and marketing of produce are made by men. The same was argued by Shibata *et al.* (2020) that the decision within the household about the adoption of new agriculture innovation is mainly done by men without asking permission from their wives. However, their wives must seek permission from their husbands when introducing new innovations which is due to the fact that husbands are bosses and the wives are subordinates since new innovations require financial resources to buy seeds, materials and pay casual labour, which in most cases are provided by men. In addition, it was also revealed that decisions on innovation output like how to spend income from innovation is entirely done by men.

Furthermore, as revealed by (Sultana *et al.* 2013; Kabir and Jahana 2013), education and employment levels, income and other socio-economic factors do hinder women's participation in decision making in the household. That is, the authors argued that land ownership, occupation pattern and involvement of women in cooperative and Non-Governmental Organisations (NGO) which educate them on their rights, self-awareness and decision making have positive influence on women's ability to participate in decision making within the household. However, the authors emphasized that there are other entrenched factors that deeply affects women's ability to participate in decision making like traditional, beliefs, attitude and practices.

In addition, as argued by Malghan *et al.* (2017), intra-household inequality is not well researched by the current inequalities discourses. There are also few researches on a study of the household as a social unit where inequalities are taking place. Besides, as argued by Laven *et al.* (2009) value chain intervention on gender and empowerment do have positive changes for women on issues like access to capital, training and extension and decision making in the production process in the household. However, the author did not establish whether women empowerment through value chain approach have any impact to women farmers in making decisions around production matters and income generated within the household level. This study therefore tries to fill knowledge gap by examining the contribution of the Cassava Adding Value for Africa. (CAVA) II project which opted the value chain approach to implement its activities in Mara Region. These strategies were implemented to empower women smallholder famers to make decision around production activities and the use and control of income generated from cassava production in their household.

Materials and Methods

Description of the Study Area

The study was conducted in Mara Region using the case study of the Cassava Adding Value for Africa (CAVA) II project. Mara region is located in the Northern part of Tanzania Mainland. The region is located between Latitudes 1°0′ and 2°31′ and Longitude 33° 10′ and 35°15′. It contains 3 010 150 square kilometres in total whereby, 10 584 square kilometres of such being water area. There are six administrative districts within the region: Musoma Urban, Musoma Rural, Tarime, Rorya, Serengeti and Bunda URT (2012).

Mara Region has a total of 128 383 households which is equivalent to 83.8% of root and tubers crop growers in Mara region (ibid). Cassava being the leading crop grown in Mara region the CAVA II project decided to implement some interventions to increase its production. The project aimed at boosting the economy of cassava farmers particularly women and the vulnerable groups. Out of the six districts, the CAVA II project was implemented in three of them: Rorya, Bunda and Serengeti. The economy of these districts is mainly dependent on three sectors namely agriculture, livestock keeping and fishing. These sectors employ more than 81% of the total adult residents. These districts were selected because it was CAVA II project implementation area.

Research Design and Sampling Frame

Research design

The study employed a cross-sectional design which allowed data to be collected at one point in time. This technique was useful for a descriptive study as well as for determination of relationship between variables (Kothari, 2004). This design was also useful as it allowed data to be collected using tools like questionnaire for collecting quantitative data and focus group discussions and semi-structured interview for collecting qualitative data. In addition, the method allowed the collection of data from a large number of respondents within a short period of time (Creswell, 2014).

Study population and sampling frame

The study population for this study was women who participated and those who did not in CAVA II project. To make it possible to identify the different elements in the target population the sampling frame were the villages from the three Districts where the project was implemented and three non-project wards as shown on table 1.

Sampling technique and sample size

The study employed census method because data were collected from all the three Districts and wards where the project was implemented. Census method is a situation when all items are covered, no element of chance is left and highest accuracy is obtained (Kothari, 2004). This sampling technique allowed complete enumeration of all people in the population.

The census method allowed the researcher to select all three Districts namely: Rorya, Bunda and Serengeti Districts in which the CAVA II project was implemented. Furthermore, from each District, the researcher selected all the wards in which the CAVA II project specifically was implemented. These included Ikoma in

Table 1: CAVA II project implemented areas and proposed control areas

Project implemented areas		
District Council	**Wards**	**Villages**
Rorya	Ikoma	Nyamasanda
Bunda	Guta	Guta
	Sazira	Misisi
	Nyamang'uta	Kaloleni
Serengeti	Manchira	Bwitenge
	Morotanga	Morotonga
Non-project areas		
Rorya	Katare	Ikoma
	Kisorya	Gobire
Bunda	Nyamansura	Nyasura
	Isenye	Mcharo
Serengeti	Runga'abure	Nyamirama
	Isenye	Isenye

Rorya District; Guta, Sazira and Nyamang'uta in Bunda District; and Manchira and Morotanga in Serengeti District. From these Districts all women who participated in the project were interviewed. The proportionate of 50% was applied to select the participants from the sampling frames of women who participated and those who did not participate in the project. Therefore, a total of 246 respondents were randomly selected from the sampling frame of all women who participated and those who did not participate in the CAVA II project in the study area.

A sample determination formula by Kothari (2004) was used to arrive at the sample size for this study as presented in Equation 1.

$$n = \frac{z^2 \times p \times q}{e^2} = \frac{1.575 \times (0.01) \times (1 - 0.01)}{0.01} = \frac{0.0246}{0.0001} = 246 \ldots (1)$$

Where: n=sample size of women farmers, z^2=Desired confidence level, p=0.01 (Sample

Table 2: Number of women participants and non-participants in each study village

Project implemented areas			
District Council	**Wards**	**Villages**	**Number of women**
Rorya	Ikoma	Nyamasanda	20
Bunda	Guta	Guta	20
	Sazira	Misisi	23
	Nyamang'uta	Kaloleni	20
Serengeti	Manchira	Bwitenge	20
	Morotanga	Morotonga	20
Non-project areas			
Rorya	Katare	Ikoma	20
	Kisorya	Gobire	20
Bunda	Nyamansura	Nyasura	20
	Isenye	Mcharo	20
Serengeti	Runga'abure	Nyamirama	23
	Isenye	Isenye	20

proportion), q=Precision rate or accepted error and e= level of precision.

Data Collection

Data were collected from April to June 2020 for both qualitative and quantitative ones. Quantitative data were collected using a questionnaire which was composed of closed-ended questions. The sampling unit was an individual woman who participated in the CAVA II project and those who did not. The aim was to get data which will provide sufficient information on the contribution of CAVA II project on intra-household decision making power on production activities and income generation between women participants and non-participants.

Qualitative data were collected using focus group discussions (FGD). A total of three FGD's were conducted and each FGD composed of six women who only participated in the project. The FGDs covered issues like how women were making independent financial decisions before and after CAVA II project implementation, the extent of women empowerment on the use of income from cassava production after CAVA II project implementation, and the impact of the project on increasing cassava production.

Data Analysis

Quantitative were used to compute the levels of women empowerment scores. The scores were then derived from the women's empowerment index. The scores were further categorized into low (0.0–0.5), medium (0.6–0.7), and high (0.8–1). This categorization was in line with the guidance of the United Nations Development Programme (UNDP) Human Development Index (HDI) (UNDP, 2018: 123: Alkire and Santos, 2010: 19) whereby the HDI scores also lies between the value of zero and one. Furthermore, Chi-square test was run to reveal if there were associations between socio-economic characteristics and level of women empowerment.

In addition, Content Analysis (CA) was done for qualitative data. The exercise of familiarization and organization of the data were followed by transcription. The process of developing themes was done repeatedly for each transcription then the researcher merged these sets together while reviewing the identified categories and themes. When discussing the results these findings were compared with information extrapolated from quantitative methods.

Results and Discussion

Levels of Women Empowerment

The study assessed the levels of women empowerment in the project area and the results as presented in Table 3 show that there is a difference in the levels of women empowerment in intra-household decision making power on production activities and income generated between women who participated in CAVA II project and those who did not. The results revealed that women who participated in the project were classified as high level of empowerment compared to their counterparts. The noted differences might have been attributed by the effects of CAVA II project intervention activities in cassava value chain development which in turn influence women empowerment.

Table 3: Extent of women empowerment in intra-household decision between CAVA II project participants and non-participants (n = 246)

Variable level of empowerment	Participants %	Non-participants %
Low	16.9	83.1
Medium	48.6	51.4
High	67.4	32.6
Total	**100**	**100**

In addition, women who participated in the project reported that they were empowered to make independent decisions on production matters because of the improved methods of cultivating cassava which were introduced by CAVA II project. One of the improved methods

of cultivating cassava introduced by CAVA II project was proper land preparations. That is before the project, women were partially clearing the farm. However after the project women were taught to clear all the bushes and removing all the stumps using hand hoes, rakes and tractors as part of proper land preparations activities. In addition, when preparing the terraces women were taught to observe measurements of one centimetre from one terrace to the other and apply manure at the same time. Also, when planting cassava sticks, one stick should be one centimetre away from the other stick. These methods increased cassava yields and allowed women to have enough yields for commercial and food purposes. The income generated from selling cassava was used to buy or rent farms. The land bought or rent by women themselves allowed them to make independent decisions on what type of crops to plant and area under production. During FGD one woman said that:

"I couldn't produce as much as I am now, because my husband was the one controlling the land usage. However, after I cultivated cassava in my own plot I was able to sell them and buy land and rent some. Now as I can buy or rent farms, I can make decisions on what crop to cultivate apart from cassava. For instance last season I was able to cultivate cassava, maize, cotton and sweet potato in different plots" (Women FGD 23/04/2020 in Guta village).

Furthermore, during FGD another woman said that:

"It is not easy to conduct any production activity if you are not financially independent. This is because our husbands were the ones providing us with resources like land then it was them making all decisions concerning production matters". (Women FGD on 15/06/2020 in Miseke village).

The same finding was reported by Fletschner and Kenny (2011) that interventions that enhance women's direct access to and control financial resources were imperative as they improved women's positions against their husbands, strengthening their role as decision-makers, deciding which crop to grow and enhancing their ability to influence how their households allocate resources. Additionally, this finding was as well supported by the finding of George and Themachan (2018) who argued that if women have savings, they can make their decisions and the result is to be economically empowered. Furthermore, Jeckoniah et al. (2012) reported that to women, the important indicator that they are empowered was for them to be in a position to participate in the household decision and to have influence at the household and community in general.

On the other hand, women reported to be empowered to make decisions on which inputs to be used during production. This may be due to the fact that the trainings from the project enlighten them on improved inputs like improved cassava sticks for plantation and use of fertilizers. Additionally, as women were generating income, they were able to purchase improved inputs like fertilizers. During FGD women agreed that agricultural trainings have allowed them to be aware of the improved inputs to be used when cultivating cassava. The improved inputs have increased the yields and the increased yields allowed them to sell and get enough income to buy more improved inputs.

However, these findings were contradicting those of Msamha *et al.* (2017) who argued that at the household level women in Kigoma who participated in cassava value chain were not empowered in making decisions on the inputs to use in production activities.

Generally, during focus group discussions women agreed that:

"Before the project they were not able to decide on any production matter because they were not financially independent. Their husbands were the ones making decisions as they were resources providers. However, CAVA II project provided them with improved methods of cultivating cassava such that the yields increased enough for home consumption and for business purposes. The income generated from selling cassava gave them freedom to make decisions on production matters" (Women FGD 23/04/2020 in Guta village).

Additionally, women revealed that if the Government of Tanzania (GoT) wants to eliminate all kinds of gender based violence and reduce poverty among poor and uneducated women and girls in rural areas, then women should be empowered to have independent

sources of income. The independent sources of income will empower them to make independent financial decisions. Furthermore, it was reported that women who participated in the project experienced increased cassava yield due to the training on improved methods of cultivating cassava they received. The increased yields were enough for consumption and sale. The income accrued from selling cassava yields allowed them to have independent source of income and thereafter empowered them to make decisions on how the income should be utilized. These findings concur those of Masamha et al. (2017 and Jeckoniah *et al.* (2015) who claim that the income of women in Tanzania increased as the results of participating in the cassava and onion value chain interventions.

The findings also show that women who participated in the project experienced having more income than those who did not. This allows them to provide their family with basic needs. This is due to the fact that the income gained from the production supported by the project has empowered them to make decisions in their households. During FDG women agreed that:

"For women to make independent financial decision in the household was very hard since they did not have independent source of income. Therefore, the training on improved methods has led to the increased cassava yields far enough for home consumption and for business purposes. The incomes generated from selling cassava allow them to make independent financial decisions" (Women FGD on 23/04/2020 in Guta village).

Furthermore, women during FGD agreed that:

"The increased income enabled them to provide basic needs to their families and hence involved in financial decisions at the household and community level. (Women FGD on 15/05/2020 in Nyamasanda village).

These findings concur with those of Roy *et al.* (2017) who claim that the ability of women to make decisions in the household depends on the contribution of women in the family income.

These findings imply that financial independence is an important indicator of women empowerment. This is because financial independence allows women to make independent choices and decisions on different production matters. Similar findings were reported by Fletschner and Kenny (2011) that interventions that enhance women's direct access to and control over financial resources are imperative as they will improve women's position against their husbands, strengthening their role as decision-makers, decide on production matters and enhancing their ability to influence how their households allocate resources. The same findings were reported by Fisher and Carr (2015) that women who are constrained by lack of financial resources for purchasing inputs like fertilizer and others cannot influence their households in arming decision processes. Also, these findings denote that agricultural trainings are very crucial as they equip women smallholder farmers with new and updated agricultural practices. These findings are in line with those of Tambi (2019) who argues that farm training is equipping farmers with different methods and techniques of agricultural production. These trainings create awareness, expertise, introduce new techniques of production, effective use of inputs, better management of cropping system and thus increased agricultural production.

Furthermore, this study suggested that women's authority to make independent financial decisions is an important indicator that rural women farmers were empowered. The authority is gained when they are engaged in income generating activities that allow them to generate independent income; this income allows women to provide their families with basic needs like food, cloth and shelter. This in turn allows family members to respect women's decisions on financial matters. Including the decisions on how the remaining money should be used for the wellbeing of members of the family. These findings do conform with those of Bernasek and Bajtelsmit (2017) that women are more likely to have an influence on financial decisions when they contribute an income share to the household. Additionally, these findings supports those of Krishnan *et al.* (2017) that levels of income of women who own income generated activities have positive impacts on the decision making authority of women

and has contributed significantly to women empowerment.

Socio-economic status and women empowerment

The study assesses the relationship between socio-economic status and women empowerment. The results from cross tabulation as shown in table 4 revealed that there is a significant association between levels of women empowerment and socio-economic status. Variables like age, l cassava acreage and economic activities had a significant association with level of women empowerment (P<0.005). However, the exception is for marital status which showed no significant association.

women empowerment. Women aged between 36-55 years were more empowered compared to women aged between 15-35 years. This may be because women with aged between 36-55 years were considered more matured and could make decisions even if the household head is a male. Compared to women aged 15-35 years who could not make decision as they were married when young. Women who were married at a young age in patriarch system cannot make productive decisions. The same was reported by Tareque *et al.* (2007) that generally, marriage at an early age can be a barrier in women empowerment while marriage at a mature age was a strong determinant of women empowerment.

Moreover, this paper revealed that

Table 4: Socio-economic status and women empowerment

Socio-economic characteristics	Level of empowerment			χ^2	P
	Low	Medium	High		
Area under cassava production	Less than one acres	1-5 acres	More than one five acres	13.86	0.01*
Age	15-35	76 and above	36-55	12.87	0.05*
Economic Activities	Live stocking	Petty trader	Farming and wage labor	20.31	0.03*
Marital status	Married	Divorced	Widow	14.96	0.34

**Significant at 5%*

This study indicated that women with more than 5 acres planted with cassava were classified in high level of women empowerment because of the cassava value chain intervention compared to women with less than one acre who were categorized in low empowerment level. Women with more than five acres due to the agricultural training were able to produce more cassava yield. More yield means more income, also their families were ensured of food security at all time. This in turn allowed women's decisions to be respected at household and community levels. This result agreed with those of Diiro *et al.* (2018) that an increase in productivity per acre influenced women empowerment in Kenya, and that, increased yields may enhance women's share of farm income, their contribution to household food security, or their status within the community. Additionally, it was found that the age of women also has a significant relationship with level of women who were farmers and employed were categorized in high level of women empowerment. That is, women who were employed benefited more from agricultural training because they had access and control over financial resources and they had more power to make decisions on production matters in their households. This allowed them to purchase huge land for cultivating cassava and also use improved inputs introduced by the project. The same was reported by Dietz *et al.* (2018) that even when salaried women participate in off-farm economic activities even at lower rates than men, they (women) have more autonomy in decision making over tasks and income generated from those activities.

Conclusion and Recommendation

Conclusion

This paper tried to assess the contributions of CAVA II project to women empowerment in

Mara Region, Tanzania. The findings show that women were able to increase cassava yields due to the exposure to new, updated, and improved cassava cultivation methods, which allowed them to start a business of selling cassava flour and bits made from cassava flour. From these experiences, women's empowerment is exemplified by their ability to make independent financial decisions after being exposed to project interventions. In addition, women acquired authority when they are engaged in revenue activities that allow them to generate independent revenue. This revenue enables them to meet the basic needs of their family, such as food, clothes, and shelter. As a result, household members are more likely to appreciate women's financial decisions. In addition, the study found that women with more than 5 acres planted with cassava are characterized as having a high level of women empowerment since they are able to produce more cassava and generate more income as a result of the cassava value chain intervention. On the contrary, women who have less than one acre of land and were unable to generate a higher cassava yield resulting in lower income. Furthermore, it was observed that women between the ages of 36 and 55 are more likely than women between the ages of 15 and 35 to benefit from the value chain intervention and to be more empowered. The fundamental reason is that, even if the household's leader is a male, women between the ages of 36 and 55 are considered competent and capable of making independent decisions without much influence from their husbands.

Recommendations

Based on the key findings from the study, it can be recommended that:

i) Government of Tanzania, NGOs, and Development Partners should design their intervention programs whose approaches should embrace women empowerment in order to ensure that poor women who are cultivating cassava also gain opportunity to participate in these initiatives;
ii) Secondly, such programs should make sure that agricultural trainings are provided to women smallholder farmers so as they can participate fully in agricultural activities compared to men who are shifting to off-farm activities; and
iii) The value chain intervention by GoT, NGOs and Development Partners should increase their efforts to address unfavourable gender norms that reduce women participation in agricultural production which in turn limit them from benefiting in such programmes in terms of participating in decision making and in using household production proceeds.

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