

Factors Affecting Rural Women's Participation in Agriculture for Development in Gatundu South Sub-County, Kiambu County, Kenya

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Abstract

Agriculture for development is a complex and a challenging process. Rural women farmers play a vital role in food production and food security. Women take part actively in farming activities and in processing farm products, in addition to their domestic and reproductive responsibilities. This study sought to explore factors affecting the rural women's participation in agriculture and the constraints they face in agriculture for development in Gatundu Sub-County, Kiambu County. This study used a cross-sectional descriptive design, and used quantitative and qualitative methods to collect data. The study revealed that women in agriculture are engaged in both provision of labor for crop production and household production. The findings show that contribution of women to agriculture for development in the sub-county is immense. Most of the constraints experienced by women participating in agriculture for development revolve around gender roles and responsibilities and critical factors of production such as access to land, use of modern agricultural methods and agricultural extension services. This study concludes that lack of women empowerment in the sub-county has exacerbated constraints of participation of women in agriculture for development. The community should appreciate the important role women play in subsistence and cash crop farming. County and national governments should ensure gender mainstreaming in agricultural policies. Financial institutions should come up with credit facilities that are tailored for women who mostly do not have fixed assets as collateral.

Keywords: Women, Farming, Subsistence, Cash Crop, Agriculture, Development.

1. Introduction

Agriculture for development is a complex and a challenging process. Rural women farmers play a vital role in food production and food security. They account for 70% of agricultural workers, 80% of food producers, and 100% of those who process basic food stuffs and they undertake from 60% to 90% of the marketing (Dagmar, 2013). An understanding of women

farmers' role, its importance and their constraints is a prerequisite to devising policies to improve productivity and socio-economic development (Tamele, 2010).

Women do the majority of the agricultural labour yet their productivity is lower than that of male farmers. Nearly 70% of employed women in South Asia work in agriculture (FAO, 2011). Women in Sub-Saharan Africa have the highest average labour-force participation rates in the world at 65% (World Bank, 2012). The agricultural sector of Kenya employs over 70% of the population and plays a key role in the growth of the Kenyan economy. Approximately 80% of the country's population lives in rural areas and is therefore, directly or indirectly connected with farming (Dagmar, 2013). Women provide 75% of total agricultural labour. It is against this backdrop that the study considered it important to understand the factors affecting rural women's participation in agriculture for development in Gatundu South Sub-County, Kiambu County. This study sought to accomplish this goal by exploring the contribution of women in agriculture and the main constraints faced by women in agriculture for development in the Sub-County.

1.1 The Problem

Women constitute a large part of agricultural workers in much of the developing world, most of whom are forced to make do with less access to resources such as water, fertilizer and market outlets than men. Amina (2006) carried out a study on gender and agriculture in Siaya district where she described the significant and critical contribution made by rural women in Africa to the food security and economies of their countries through their work in the agricultural sector. The main concern of her study was to analyze, document the gender division of labor in agriculture, the male and female differentials in access to, and control of key productive resources, and the specific strategies that can be employed to develop gender-responsive agricultural policies. As evidenced by the reviewed literature, women play a great role in agriculture for development in the developing countries, as they constitute the largest workforce performing about 60% to 90% of farm work. As part of the process of understanding the participation, contribution and constraints faced by women in the agricultural sector, the study sought to assess the factors affecting rural women's participation in agriculture for development in Gatundu Sub-County, Kiambu County. The study was guided by the following research questions:

- i. What contributions do women make in their participation in agriculture for development in Gatundu Sub-County, Kiambu County?
- ii. What are the constraints faced by women participating in agriculture for development in Gatundu Sub-County?

2. Contribution of Women in Agriculture for Development

To understand contribution of women in agriculture for development, it is important to examine women and agriculture in Sub-Saharan Africa. Women and agriculture in Sub-Saharan Africa is predominantly characterized by a small-scale farming system. In this system, more than 50% of the agricultural activities are performed by women, producing about 60-70% of the food in the region (Gawaya, 2008). Women's access and control over productive resources is greatly constrained due to inequalities constructed by patriarchal norms. This is in spite of women providing most of the labour in agricultural production (Doss, 2009).

2.1 Household Food Production

Women play a critical role in food security in Africa. There are two basic variants of household food production systems in Sub-Saharan Africa. Women are responsible for production of all or most food crops. In this case, there are food plots that are considered women's plots. There are other cases where men and women jointly cultivate staple food crops in fields controlled by male household heads. In this type of household production,

male household heads control the output where the men are responsible for food production while women specialize in food processing (Koopman, 2013).

There is a rigid division of labour by gender in agriculture in many countries in Africa. This division of labour may be based on types of activities performed on the farm or types of crops grown by men and women (Doss, 2009). This is largely based on patriarchal norms that typically require women to care for the needs of the members of the household while men are involved in income generating activities for the household. Women are also expected to help fathers, and husbands in their fields, which increases their workload. Sometimes men will help women in clearing their plots to prepare the land (Mehra and Rojas, 2008).

In regions where women and men work on separate plots growing different crops, women are usually engaged in subsistence farming to provide food to fulfill the needs of members of the household first before they can sell the surplus. On the other hand, men are engaged in production of cash or export crops (Doss, 2009). This pattern is prevalent in several Sub-Saharan African countries like Tanzania, Uganda, Cameroon, Burkina Faso and Kenya. This distinction can be explained as a result of gender norms that assign women the responsibility of feeding the family and men with the responsibility of providing cash income (Pitcher, 2006).

Though women mainly grow food crops for household consumption, if there is any marketable surplus, they sell it in the market. However, women's primary responsibility is to feed the family and only after that can they engage in other income earning activities. The distinction between crops is sometimes not very clear especially in the case of maize which is a staple crop in several Sub-Saharan African countries as well as a cash crop (Doss, 2009). With the introduction of high yielding varieties of maize, now the distinction is that the high yielding varieties tend to be men's crops and local varieties are women's crops. This pattern has been observed in Malawi where local varieties of maize are a woman's crop while hybrid varieties are cash crops cultivated by men (Gladwin, 2012). The logic is that high yielding varieties provide large amounts of marketable surplus which allows men to provide cash income while women continue with varieties that provide enough for subsistence consumption.

2.2 Women's Labour in Cash Crop Production

Women's role has not been limited to food production. They are also required to process and prepare the food they grow, perform care work in the household and also help men in their cash crop production. Besides their roles in the planting, weeding and harvesting cash crops, women are also responsible for transporting and marketing the cash crops with male members of the household (Gawaya, 2008).

Traditionally, women were mainly responsible for hand digging, harvesting and transporting the crops while men were responsible for building the granary (Pala, 2013). However, gradually the distinction between men's and women's tasks has become quite blurred. There are very few tasks that are done exclusively by men. Women perform all the tasks on their plots from sowing, weeding to harvesting. They may get some assistance from men in clearing and preparing the land for cultivation.

Cash crop production has added the burden to women. They work more than before and yet when it comes to enjoying the benefits, the owner of the land who is the man is seen to be the prime beneficiary.

3. Constraints Faced by Women in Agricultural Development

There has been a growing recognition of women's role in agriculture and the impediments to their development. There are many constraints faced by women in agriculture. The major constraints are embedded in socio-cultural structures. These entail gender roles and responsibilities (Pala, 2013; Saito, 2014; Zuidberg, 2014), household headship (Maffioli et al.,

2007; Larson and Kanyangwa, 2010; Jha and Hojati, 2013), access to land (Koopman, 2013; Doss, 2009; Gaway, 2008; Milimo, 2011; and Karanja, 1991), use of modern agricultural methods (Boserup, 2010; Galdwin and McMillan, 2009; Mehra and Rojas, 2008; Galdwin, 2012; Odini, 2014; Alila and Atieno, 2006) and financing (Mehra and Rojas 2008). Control of agricultural output and income (Godfrey, 2010; Fischer and Qaim, 2012) as well as policy making in agriculture (Galdwin and McMillan, 2009; Alila and Atieno, 2006) that has not taken keen consideration to understanding the needs of women in agriculture are some of the major constraints.

Research shows that if women are given similar access to resources and inputs as men, they stand to achieve equal or higher yields as that of men (Alderman *et al.*, 2013). For example, if women in Kenya were to apply the same volume and quality of inputs as used by men, women's yields could increase by 10.5% (Moock, 2006). If men's average input levels were transferred to women maize farmers, yields would increase by 9% (Saito, 2014).

4. Materials and Methods

This study was carried out in Gatundu South Sub-County, one of the twelve sub-counties in Kiambu County, Kenya. The County has a population of 114,180 and the dominant community is the patriarchal Kikuyu community hence most of the land is owned by men. Over 80 per cent of this population is engaged directly and indirectly in agriculture which implies that agriculture remains the main economic activity in the area. Residents mostly rely on rain-fed agriculture. The sector is also the highest contributor to household incomes in the sub county at 72 per cent compared to other sectors. Declining gains in the coffee and tea sub-sectors have been frustrating sustainable economic growth in the sub-county. This is attributed to cash crop farming where gains have not trickled down to the farmers leading to increasing number of people living below the poverty line which stands at 31 per cent with a poverty gap ratio of 8 (Republic of Kenya, 2006). The agricultural crops and activities that women are engaged in include coffee, tea, bananas and vegetables. They also rear livestock such as cattle and goats (Kiambu County Government, 2015).

The study used a cross-sectional descriptive design, and used quantitative and qualitative methods to collect data. The target population for this study was women in small holder and large scale agriculture in Gatundu Sub-County, Kiambu County. The sample for this study was 96 women farmers randomly selected using the formula $n = Z^2pq / d^2$,

Where:

n = required sample size

p= 1-q (variance expected in the responses assumed to be 50:50 proportion rate).

Z = Z score value at 95% confidence level (standard value of 1.96)

q = Estimated responses.

d = Level of precision or margin of error at +-10% (standard value of 0.1).

$$n = \frac{Z^2 pq}{d^2} = \frac{1.96^2 (0.5 \times 0.5)}{0.05^2} = 96$$

To ensure representation, stratified random sampling was used to select study respondents. The sample was drawn from four wards in proportion to the population of women in each ward. The wards are Kiamwangi, Kiganjo, Ndarugo and Ngenda.

Table 1: Sampling Matrix

Ward	Population of women	Sample
Kiamwangi	10,631	17
Kiganjo	13,983	23

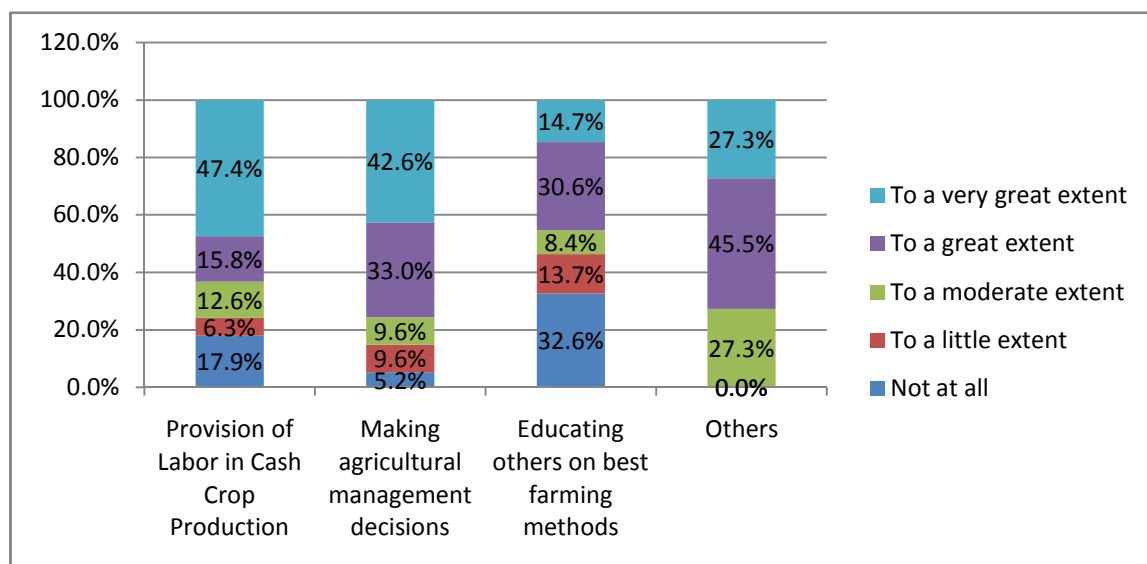
Ndarugo	10,625	17
Ngenda	23,826	39
Total	59,065	96

Quantitative data was collected using survey questionnaires that were administered to women engaged in agriculture in Gatundu South Sub-County. Qualitative data was collected through four focus group discussions and key informant interviews. This study had 7 key informants who comprised of three heads of women farmers' groups, agriculture extension officer in Gatundu South Sub-County, the County Executive in charge of agriculture in Kiambu County, a chief of one of the sub-locations and a representative from an NGO dealing with small-scale farmers in Kiambu County. Quantitative data was analyzed using descriptive statistics such as frequencies, and percentages. Qualitative data was analyzed along the study themes.

5. Results and Discussion

The data shows that to a very great extent (47.4%), respondents provided labor in cash crop production. They also made agricultural decisions to a very great extent (42.6%) and educated others on best farming methods to a great extent. The data shows that 45.5% of the respondents indicated that their contribution to a great extent is in other ways. These findings are congruent with key informants who observed that women are very active in agriculture. One of the informants observed that 'women are highly involved because they are the ones doing the majority of the work, planting, weeding and harvesting'. The role of women in subsistence farming is illustrated by Nancy, one of the women group leaders interviewed, who summarizes the situation in her statements that:

"because of culture, women do most of the work and men provide the leadership".

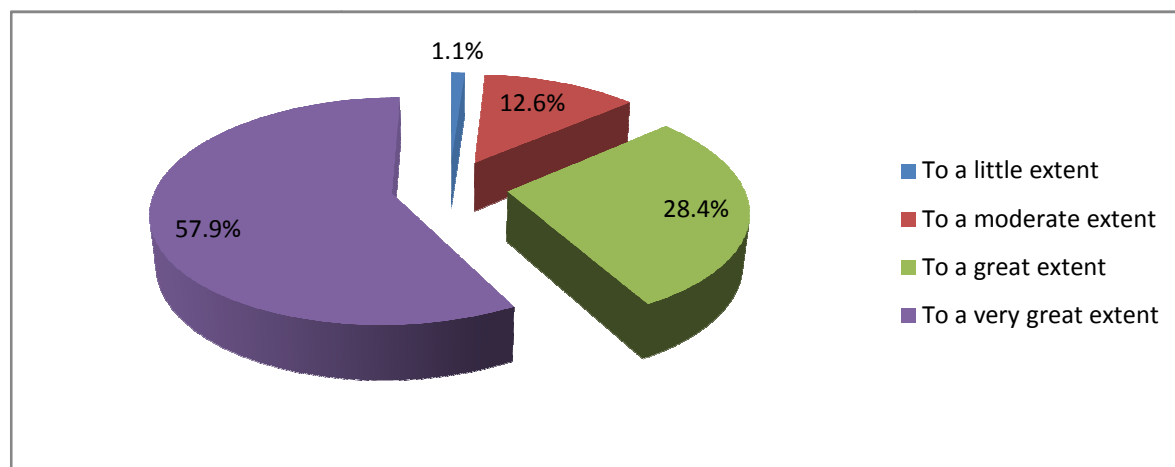


Source: Field Data, 2016

Figure 1: Contribution of the Participation of Women in Agriculture for Development

The data shows that majority of the respondents (57.9%) indicated that women in the sub-county have contributed to agriculture for development to a very great extent. The results also show that 28.4% of the respondents indicated that women have contributed to agriculture for development to a great extent while 12.6% indicated to a moderate extent. Only 1.1% of the respondents indicated that women have not at all contributed to agriculture for development.

The findings imply that contribution of women to agriculture for development in the sub-county is immense.



Source: Field Data, 2016

Figure 2: Extent to which Women have contributed to Agriculture for Development

The respondents were asked to indicate the extent to which they think women have contributed positively in agricultural development activities. The data shows that respondents to a very great extent (68.4%) contribute positively in agricultural development activities by providing labor in cash crop production. The data also shows that majority of the respondents (60%) contribute positively in agricultural development activities through household food production. These results imply that women in agriculture are engaged in both provision of labor for crop production and household production.

Table 2: Contribute Positively in Agricultural Development Activities

Extent	Provision of Labor in Cash Crop Production	Household food production
Not at all	5.3	0
To a little extent	3.2	5.3
To a moderate extent	9.5	8.4
To a great extent	13.7	26.3
To a very great extent	68.4	60.0
Total	100.0	100.0

Source: Field Data, 2016

These results in table above were corroborated by key informants and the FGD participants who indicated that subsistence outputs such as milk and bananas are shared between men and women by half. However, arrow roots are exclusively for women while avocado and nuts are for men. It is important to note that men have an interest in subsistence farm products that can fetch cash in the market while those that are largely consumed in the household such as arrow roots and bananas are exclusively for women.

Women also plant maize and beans that make their households food secure. This shows that women play a central role in subsistence food production in the sub-county. Key informants also indicated that tea picking is done by both men and women, while weeding in the tea estates is done by women only. However, coffee and tea belongs to men. Waithera, one of the

women leaders interviewed estimated that women account for 70% of labor in coffee and tea farms in the sub-county. In some cases, men and women discuss and share income but men get the lion's share. However, women are paid less than men for similar work. Waithera stated that for picking tea, women are paid Kshs. 250 per day while men are paid Kshs. 300 per day regardless of the quantity picked.

The results in table 2 imply that gendered roles and responsibilities are central in agriculture in the sub-county. Women are not financially empowered as men and this could explain men dominance in controlling agriculture and women providing most of the required labor. There is significant contribution of women in both subsistence and cash crop farming in the sub-county especially through labor provision. According to the focus group discussion (FGD) participants, women largely contribute labor and the men control and provide finances where need be. These findings agree with Doss (2009) who observed that there is a rigid division of labour by gender in agriculture in many countries in Africa which may be based on types of activities performed on the farm or types of crops grown by men and women. This division of labour by tasks was also observed by Gawaya (2008) who noted that traditionally, men cleared the forests, burnt the bush and climbed trees for collecting fruits. Women were also responsible for transporting and marketing the cash crops with male members of the household.

Respondents were asked to rate the extent to which constraints facing women has affected agriculture for development using a likert scale of 1-5. The data shows that majority of the respondents (61.1%) indicated that constraints facing women has affected agriculture for development to a very great extent. This implies that if these constraints are not addressed, they might significantly reduce or even cripple contribution of women in agriculture for development.

Table 3: Extent Constraints Facing Women affect Agriculture for Development

Extent	Frequency	Percent
Not at all	1	1.1
To a little extent	2	2.1
To a moderate extent	16	16.8
To a great extent	18	18.9
To a very great extent	58	61.1
Total	95	100.0

Source: Field Data, 2016

Respondents were asked to indicate in a scale of 1-5 the extent to which a number of constraints are experienced by women participating in agriculture for development in Gatundu South sub-county. The value of 1 in the likert scale meant 'not at all', 2 'to a little extent', 3 'to a moderate extent', 4 'to a great extent' and 5 'to a very great extent'. The data shows that 37.5% of the respondents indicated that to a very great extent, gender roles and responsibilities were constraints experienced by women participating in agriculture for development in the sub-county. In addition, 31.2% of the respondents indicated that household headship was to a great extent a constraint experienced by women participating in agriculture for development in the sub-county. Other constraints cited included access to land to a very great extent (35.5%), use of modern agricultural methods (29.0%) to a great and very great extent, agricultural extension services (27.1%) to a very great extent, finance and credit facilities (30.2%) to a great extent, control of agricultural output and income (30.8%) to a great extent and policy making in agriculture (45.6%) to a great extent. The results imply that most of the constraints experienced by women participating in agriculture for development revolve around gender roles and responsibilities, access to land, use of modern agricultural methods and agricultural extension services. These are critical factors of production.

The key informants were in agreement with these findings. They observed that the major constraints for women in agriculture include lack of alternative source of income, poor or lack of control of agricultural income, lack of education and alcoholism mainly by men jeopardizing family agricultural activities. Waithera noted that women are good managers but cultural norms do not allow them to lead. In addition, they do not have critical factors of production such as land or collateral as they are owned by men. Informants recommended that women should be empowered through the provision of educational resources, finances and improved and targeted training.

Most of the participants in the focus group discussion were content with their husbands controlling everything since they are the providers and these women indicated that they have not lacked their basic needs. They also indicated that the husbands regularly negotiate with them on how to spend income from cash crop income and they receive extension services thrice a year. Men make most of the decisions in regard to agricultural activities in a household. Household heads are the reference point when it comes to making choices and they happen to be men as dictated by culture. This admission by women on the control of resources could have emanated from their learned helplessness in which they would not wish to disrupt the status quo. The community being patriarchal, women have been controlled for long by men and land ownership has not changed hence undermining the women's own agency in the agricultural development.

Use of modern agricultural methods is improved through access to extension services and training. Men as opposed to women receive most of these services hence they are the ones who are more likely to use them than women. These findings agree with Boserup (2010) who observed declining use of modern agricultural methods among women as compared to men. Contrary, women provide most of the labor in the farms.

A suitable (on a high scale) finance and credit facilities are provided to those with fixed assets collateral. This is in agreement with findings in a study by Mehra and Rojas (2008) in Kenya, Zimbabwe, Malawi, Zambia and Sierra Leone which found that women received only 10% of the credit for smallholder farmers and 1% of total credit to agriculture.

Women do not have collateral (land title) to borrow and most of them do not have even the opportunity to make the decision whether to take credit or not. Agricultural output and income are largely controlled by men. Most of the agricultural land is owned and controlled by men. This is in agreement with Milimo (2011) that a limited claim to the land may prevent women from fully participating in agriculture for development. Women control small portions of land that is mainly used for subsistence production.

Cash crops are a reserve of men while food crops are controlled by women. Food crops are consumed in the household and the surplus is sold. This leaves the women with little income as what they control is sometimes not even enough to feed their families adequately. The discussion shows that policies and major decisions in agriculture are made by men from the household level to extension services being provided by the government. Contrary, women are key implementers of these policies and decisions made in agriculture as they provide most of the labor. The findings of this study agree with observations by Saito (2014) that rigid gender division of labour by crop and tasks may be a hindrance to contribution and participation by women in agriculture for development.

Table 4: Constraints of Participation of Women in Agriculture for Development

Constraints	Not at all	To a little extent	To a moderate extent	To a great extent	To a very great extent
Gender Roles and Responsibilities	5.2%	16.7%	12.5%	28.1%	37.5%
Household Headship	11.8%	14.0%	14.0%	31.2%	29.0%
Access to Land	16.1%	7.5%	15.1%	25.8%	35.5%
Use of Modern Agricultural Methods	15.1%	11.8%	15.1%	29.0%	29.0%
Agricultural Extension Services	25.0%	8.3%	15.6%	24.0%	27.1%
Finance and Credit Facilities	29.2%	6.3%	8.3%	30.2%	26.0%
Control of Agricultural Output and Income	19.8%	9.9%	18.7%	30.8%	20.9%
Policy Making in Agriculture	4.4%	4.4%	22.1%	45.6%	23.5%

Source: Field Data, 2016

6. Conclusions and Recommendations

This study has revealed that women's participation in agriculture in Gatundu South Sub-County is high. Women are very active in agricultural activities in the sub-county. The study established that cash crops such as tea and coffee are largely men's crops while food crops such as arrow roots and bananas are women's crops. Women provide almost all the required labor in both subsistence and cash crop production. However, their contribution is not commensurate with the income or output that they get. Compared to men who control agriculture in this sub-county, women get little or nothing beyond household consumption. In addition, women are paid less than men for similar work such as picking tea and coffee. The study concluded that the patriarchal system of the community in the sub-county could be responsible for the gendered roles and discrimination against women in agriculture.

The constraints of participation of women in agriculture for development in Gatundu South Sub-county are many. The study revealed that constraints facing women in agriculture are concentrated in gender roles and responsibilities and lack of critical factors of agricultural production such as access to land, finances, use of modern agricultural methods and access to agricultural extension services. These factors are largely available to men in the sub-county. Men own land, they have financial capacity to acquire tools and equipment needed to use modern agricultural methods and they can easily access agricultural extension services which are also offered by men. For women, lack of land ownership means that they cannot access credit to buy farm tools and equipment needed to use modern agricultural methods. Women rarely access agricultural extension services and training in agriculture as their husbands are the ones who access these services yet they rarely work in the farms. Most women have low level of education and are not empowered. This study concluded that lack of women empowerment in the sub-county has exacerbated constraints of participation of women in agriculture for development.

This study recommends that the community in the sub-county should recognize and appreciate the important role that women play in subsistence and cash crop farming. It also recommends that agricultural stakeholders in the sub-county should create awareness in the community on the need to avoid biasness against women when it comes to distribution of agricultural income and output. Regardless of gender, everyone should get agricultural income and output commensurate to their efforts or input. Individuals working in coffee and tea estates should be paid according to work done.

Kiambu County Government and the National Government should ensure that gender mainstreaming in agricultural policies is done. The two levels of government should increase the number of women agricultural extension officers and focus on all household members rather than focusing on the household headship. The National Government should intervene to empower women in the sub-county. This will eliminate some of the constraints facing women in agriculture. The government should ensure that women access education and training in agriculture as well as enabling access to alternative sources of capital such as agricultural credit. Financial institutions should come up with credit facilities that are tailored for women who mostly do not have fixed assets as collateral.

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