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Is The Participation of Women Smallholder Farmers in a Food Production Program The Panacea to Household Food Security?

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Abstract

The quest to ensure food security at the household level in rural Africa continues to attract attention through robust research under the ambit of sustainable development goals. With the increasing subdivision of agricultural land, the smallholder farmers, many of whom are women, are now at the centre of the food production ecosystem. Thus, women's participation aimed at meeting family food needs can no longer be ignored. In response to this, this study set out to examine a specific strategy of prioritizing women household heads (WHHs) in the Bungoma County Farm Input Support Program (FISP). The study adopted a descriptive design guided by a theoretical perspective premised on a participatory framework. Data was obtained from 464 respondents including 450 beneficiaries whose responses gathered quantitative data while 8 key informants and 6 Focus Group Discussion (FGD) responses gathered qualitative data. Systematic random sampling was used to select respondents, while purposive sampling was used to identify FGD members and key informants. The data were obtained using an interview schedule, FGD and Key Informant Interview (KII). Quantitative data was analysed using descriptive and inferential statistics while qualitative data, by content analysis. The findings indicate that women's participation in the program has a positive impact on food production at the household level and that middle-aged women tend to be more productive. Furthermore, women beneficiaries used their involvement in the program to improve their social relationships more than men did. The study concludes that women's participation in an agriculture program increases the yield per household, thereby enhancing food security. The study recommends an increase in the number of women among the beneficiaries and, to provide psychosocial support through capacity building.

Key words: *Food Production, Food Security, Social Relations, Women Smallholder Farmers.*

1.0 Introduction

The Bungoma County Farm Input Support Program (FISP) is a community food security and empowerment program aiming to improve food production and build individual capacity in vulnerable households. The program was conceived and implemented by the county government

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under the devolution framework as espoused in Kenya's Constitution (GOK, 2010). Elements within the Constitution support the principles of FISP, namely, the use of participatory approaches in development and inclusivity, specifically targeting women and other vulnerable groups. Further, to ensure a grassroots reach and impact, the FISP is implemented at the ward level which is considered the most basic unit of electoral administration of the county government. This is because citizens who are residents in the ward live as one community and encounter similar challenges, including inadequate food production and consumption which affects food security. Thus, it is a pro-poor hunger safety net program through which resource-poor farmers are provided with fertilizers and certified seed subsidies. Additionally, it seeks to address the problem of food security and poverty by improving access to affordable key productive inputs for smallholder farmers, particularly the resource-poor ones, who in most cases are women (Singh, 2014; Shetty, 2015).

The policy framework for this program is designed in tandem with article 43(c) of Kenya's Constitution (GOK, 2010) stating that every person has the right to be free from hunger and to have food of acceptable quality. Similarly, it is designed to interface with the County Integrated Development Plan (CIDP) (GOK, 2018) of Bungoma County. The subsidy component is a one-off support envisaging a benefit to farmers in terms of accessing their own inputs after the crop cycle is complete. Farmers are then expected to graduate to the next category of self-supporting farmers, participate in commercial agriculture production, share good practices with their neighbours and ultimately contribute to food security within their communities.

2.0 Methodology

Most of the world's agricultural production takes place on small farms. Currently, 90% of the 570 million farms globally are small (less than two hectares) and being cultivated by 1.5 billion of the world's poor. In Asia and Sub-Saharan Africa (SSA) where the problem of hunger and poverty is most severe, 80% of the food supply comes from smallholders. Thus, assuring the viability of smallholders in food production in any country is crucial in meeting their food security agenda (FAO, 2023; Tadesse & Greene, 2020). In Vietnam there are success stories in which smallholder farmers are the backbone of a revolution in agriculture, giving hope to developing countries by indicating the need to invest in smallholders. When supported, smallholder farmers, especially women, build their capacities for food production (Onyalo, 2019; Salami, Kamari & Brixiera, 2012). As such, in Vietnam, it took less than three decades for the country to begin exporting rice. Yet previously, it had been a net importer of the commodity. Similarly, in Malawi from 2006 to 2007 the investment in smallholders increased the amount of maize produced nationally. The Malawi program had targeted two million smallholder farm households who were supported to access seeds and fertilizers at a subsidized price. From the above cases, it can be observed that the development of smallholder agriculture is central to the structural transformation process in developing countries (FAO, 2023; Carlos, 2017). Growth in agricultural productivity at the grassroots can lead to surplus creation, leading to smallholder farmers participating in market supply. This, in itself, raises household-level income and has other welfare gains. These additional welfare gains congregate around women through agriculture as a practice which is central to their livelihoods, especially in Africa (Shetty, 2015; Singh, 2014). Any stress to an agricultural system such as policies, human conflict, or climate change, makes women exposed to food scarcity and will reduce their contribution to the world's agricultural output (FAO, 2023; Andrews, 2021 and Nyanuga & Mbugua, 2016).

As argued by Nyondo et al (2023) and Mwei (2016), participation in agriculture programs is a fundamental approach to empowering populations so that they, in time, become capable of meeting their own food needs as well as generating income from surplus produce. Currently, smallholder farmers are no longer viewed as recipients of development programs. Instead, they have become significant stakeholders and relevant participants in implementing and managing agriculture programs. A notable interest in the uptake of farming programs has been shown by several scholars and discussed within sociological paradigms focused on women as a subject, their

advantage of supporting nutrition, including their cultural statuses, ultimately depicting women as having agency and interest in the improvement of their visibility in private and public spaces and decision-making capabilities (Anangwe, 2015; Croppenstedt *et al*, 2013). Subsequently, supporting smallholder farmers in food security programs is a major strategy in community development globally. Considering that the participation of women in food production activities has traditionally been limited to land preparation activities such as hoeing, harvesting, transportation of the produce from the farms, and threshing, it is of great value to encounter a shift in women's engagement in more lucrative farming activities (Desalegn & Mideksa, 2020; Mbwana et al, 2019). Additionally, women tend to support water and soil conservation, domestication of animals and afforestation when given more value addition activities requiring decision-making (FAO, 2023; World Bank, 2020). Even if women's roles in agriculture vary widely by age, social relation, race/ethnicity, religion and region, their rate of participation in (Sub-Saharan Africa) SSA is the highest in the world. Similarly, in support of government policies such as Kenya's Vision 2030 and the Big Four Agenda, it is imperative to engage smallholder women farmers in any agricultural program. However, engaging women farmers in agricultural program implementation can be a challenge due to the myriad of barriers they face by virtue of their gender and social status. As such women participants must be patient, focused and energetic (Leddy et al, 2020; Pék, Fertő & Alobid, 2019).

In academic discourse, food security and agricultural activities can be categorized by gender to enable analysis of women's dynamic roles along the agriculture chain and from 'farm to fork'. This is because their key functions in production, processing and food marketing cannot be underscored (Leddy et al 2020; Asiedu et al, 2013). On the home front African women are responsible for nutrition and play decisive roles in family dietary diversity. Further, they are knowledgeable in vegetative propagation and seed selection which is important in family food security (Anangwe, 2015). Additionally, women are involved in animal domestication and plant production (Westholm and Madelene, 2019). According to Nyangara and Ogutu (2021), women comprise 40% of the total agricultural labour force across the globe, in SSA women make 50% in the food production chain.

The CIDP of Bungoma County (GOK, 2018), identifies higher gender gaps that disadvantage women in the access and control of resources within the county agricultural sector. Observations have been made in land, labour, information and technology, credit and infrastructure as used in the production of food. It is argued that the main cause is institutional and norm-based constraints that women in the western Kenya communities face where patriarchy is practised. Perhaps most debilitating and directly related to agriculture is that women do not own land (GOK, 2018). Agreeing, Adepoju et al (2020) and Farid et al (2009) observe that the underperformance of the agriculture sector in Africa is in part due to the difference observed in access to resources by women who are critical in the production and management of household food. Agreeing further, Amwata (2020) and Onyalo (2019) affirm that fewer women than men are involved in the profitable aspect of agriculture, despite providing more labour to the sector. Therefore, removing gender-based discrimination in social structures and processes, as well as in legal frameworks, and replacing these with gender-sensitive programs and policies that give women a greater voice in decision-making processes is a necessary step in mainstreaming food security.

In the recent past food security has posed a serious challenge in Kenya and in many countries in Africa. Food security exists when,

> "All the people at all times have physical, social and economic access to sufficient, safe and nutritious food that meets their dieters needs and food preferences for an active and healthy life" (Mungai et al, 2020; World Bank, 2020).

As per the above definition, World Bank (2009) argues that women's role in the three main food security components: production, distribution and utilization is pivotal. According to a Food Security Information Network Report in relation to the global food crisis (FSIN, 2017), the international food shortage rose in 2016 to 18,000,000 people from 8,000,000 people in 2015. The report posits that unless governments introduce friendly policies towards smallholder farmers to encourage food production, it foresees more people around the globe staring at food shortages. At the Conference of the Parties (COP22) meeting held in Egypt (Agri-links, 2022), the participants related the global climate crisis as also being a food security crisis. The Conference observed that in the last 60 years climate change has reduced agricultural productivity growth by an average of 21% and up to 40% in some regions, with the impact predicted to accelerate in the coming decades. Because of this, agriculture and food systems are gaining increasing attention in the international climate settings, and it is planned to be a theme in the anticipated COP27 since policymakers are recognizing the role smallholder farmers can play in both mitigating and adapting to climate crises as they meet their food needs. In relation to Kenyan agriculture, Amwata (2020) observes that for some time, Kenya's goal has been self-sufficiency in food supply, but this goal has remained unmet. As emphasized through various government documents, food and nutrition security are major issues of concern in Kenya as reflected in Vision 2030, the Big Four Agenda, the sustainable development goals (SDG) and the Agriculture Sector Development Goals (ASDG). The Bungoma County Integrated Development Plan (CIDP) 2018-2022 (GOK, 2018), shows that the county has supported projects in the departments of livestock, agriculture, and fisheries intending to improve rural livelihood and establish food security among populations.

3.0 Problem Statement

In most African families, besides their other domestic chores, women are known to carry the burden of working long hours on farms to meet family food needs. However, the asymmetries in accessing and owning production assets such as credit, knowledge, farm inputs and land constrain women of all ages and status in the community and reduce their contribution to the production of food overall (Kelkar, 2014; Kameri-Mbote, 2013). The CIDP of Bungoma County (GOK, 2018), reveals that 70 percent of labour in the agriculture sector is provided by women, yet they have less than 35 percent of land ownership in the county. This imbalance in land use and accessibility not only heightens women's vulnerability in their households but also reduces their direct contributions to the overall food production. Whereas men play a crucial role in the production of food, it is notable that they face fewer constraints as compared to women (Nyangara & Ogutu, 2021). This is because men are more likely to access farm resources such as land, engage in extension services and credit, and in case of crop failure, they can easily leave their farms and families to search for employment to reduce deficits. Women do not have this alternative. A large amount of literature shows that many countries in Africa are observing an increase of female participants in the agricultural labour force, which can be associated with external exposure such as media, education, and migration.

Globally, it is smallholder farmers who are most highly involved in food production. Yet despite their high involvement, in the lower income countries, where more women make up smallholder farmers, they fare dismally due to the rapid growth of populations and therefore, food remains in high demand. Unfortunately, very rarely do women get encouraged towards farming activity for the economic development of the community as such societal transformation appears very slow and youthful populations seem to be shunning the activity because support for women smallholder farmers seems scarce. In this study, the implementation and success of FISP in Bungoma is premised on the reduction of stumbling blocks to women's empowerment. One tangible way to facilitate women is by providing structural and financial support to women in vulnerable households without emphasizing prerequisites such as land ownership, accessibility, or credit facilities. Thus, enabling women-headed households can be a game-changer in improving family food production. Hence, there is a need to examine the CIDP program approach of prioritizing

women heads of households to find out whether food security can be achieved significantly with several additional intended outcomes.

4.0 Methodology

The study was carried out in Bungoma County, Kenya in the central sub-county region which was purposively selected. The study used an ex-post group design. In this case, the study focused on both men and women who had been involved in food production through a stimulated program supported by the county government herein referred to as FISP. The design incorporated both quantitative and qualitative methods to collect data from farmers, key informants and FGDs. The mixed method was preferred because of its advantage of providing a wider scope for analysis. The interview schedule was administered to key informants while the FGDs were useful in gathering and exploring in-depth social insights (Frankfort-Nachmias et al, 2019)

4.1 Sampling

The study adopted a probability sampling technique giving every member of the population an equal chance to participate in the study. A representative sample was sought. Purposive sampling was used to select one out of nine Key Informants (KI) and FGD while systematic random sampling was preferred in selecting two administrative wards. Systematic random sampling was used to select beneficiary farmers for the study. All key informants and focus group discussion respondents were selected through purposive sampling. In total, the study sampled 450 beneficiaries as primary data respondents, 8 key informants and 10 FGD respondents (five per group), thus making a total of 468 respondents in the study ($2n = Z^2pq/d^2$ where n is the sample size, z is the standard confidence level, p is the population size, q=1-p and d is level of statistical significance)

5.0 Results Presentation and Discussion

The gender representation among beneficiaries is depicted in Table 1, showing that although respondents were picked randomly for interviews, 58.9% were female and 41.1% were male.

Table 1: Gender Distribution of Beneficiaries

		Frequency	Percent
Valid	Male	185	41.1
	Female	265	58.9
	Total	**450**	**100.0**

Source 1: Field Data (2023)

The interviews from the KIs and FGDs revealed the study program targets more women than men, showing concern for food needs and food production. The following are some of the responses sampled.

The response of the Ward Administrator (WA1) who oversees the program at the ward level, was:

> "*…on our lists we have more women than men because our men prefer sending women for public participation meetings, we then end capturing their names as beneficiaries since you can't be a beneficiary if you are not in the Baraza (public participation forum) for identification*".

On finding out why men sent their wives for the public participation meetings, a farmer in one FGD responded,

> "*Men in our community fear being seen in public taking free farm inputs…. They will be laughed at by other men. They face public ridicule in social places...*"

Another Ward Administrator (WA2) added.

> *"…Some men are ashamed to pick the supply because if they are widowers, they most likely have abandoned their late wife's family and are married to another lady, so they wouldn't want to be seen as widowers and yet the program design Favors widows and widowers. "… in case they enrol and are given the support they will most likely want to give to their newest family and that may cause conflict between his new family and the latter's children…"*

The study considered gender differences in food production among households before and after joining the program. Table 2 shows that most families had an increase of six to nine bags of maize in the season they were on the program. Whereas this observation was obtained, women (67.5%) had the highest percentage when compared to men (49.2%). The concentration of WHH in this bracket as compared to the male-headed households (MHHs) is an indicator that focusing on improving food production and utilizing all the advantages of the program, including extension services bears fruit. Men have higher productivity in the brackets of 10-13 bags and >13 bags, which can be explained in terms of a gendered advantage. Men traditionally can spend more time on the farm while women have to divide their time on the farm with housekeeping and caring chores.

Table 1: Showing Increase in Food Production by Gender

Increase in the amount (bags of 90kg)	Female	Percent	Male	Percent
<2	5	1.9	3	1.6
2-5	64	24.1	29	15.6
6-9	179	67.5	91	49.2
10-13	16	6.1	51	27.6
>13	1	0.4	11	6.0
Total	**265**	**100.0**	**185**	**100.0**

Source 2: Field Data (2023)

The study went further into gendered differences in food production. Outcomes are as indicated in Table 3 and Table 4.

Table 2: Showing Correlation Coefficient Test of Gender by Food Production

Correlation test	Value	Standard Error	Approximate t-value	P-value
Pearson's (R)	-281	.044	-6.202	.000
Spearman (Rho)	-275	.046	-6.062	.000
N Value of Cases	**450**			

Based on Pearson's (R) and Spearman (Rho) correlation coefficients, the study used cross-tabulation to indicate if there is a significant relationship between gender and food production in the program. The null hypothesis was that there was no relationship between gender and food production. With df of 2 and P value as greater than 005 the R value was -281 and the Rho value was -275 as revealed in Table 3 above. The P value for both correlations being less than .005 all point to the evidence of a significant relationship between gender and food production in the FISP program. Hence rejecting the null hypothesis.

Table 3: Showing Mann Whitney U Test Relationship of Food Production and Gender

Gender	N	Mean Rank	Sum of Ranks	Mann Whitney U
Male	185	263.11	48674.50	17555.500
Female	265	199.25	52800.50	
Total		**450**		**P-value =.000**

Based on Mann-Whitney U testing from Table 4, the P-value is .000 which is less than 0.05, thus, rejecting the null hypothesis again. We, therefore, conclude that there is a significant difference in food production when men and women are considered. Based on the above sum of ranks, women (52800.5) are producing more compared to men (48674.5). Hence giving a correlation value U of 17555.500. This shows that the women in the program have a higher capacity to produce more food when participating in the program than men.

Data from beneficiary interviews revealed that more women are participating in this program than men. The reason for this is women's receptiveness to new ideas:

> *"… during the popularization of this program done by village elders and chief's barazas, women are patient, follow meetings to the end than men…."*

The findings revealed that indeed more women are participating in the program than men at 58.9 percent. Thus, more women are being exposed to more opportunities in food production. Similarly, food produced by women per household is more common among women-headed households when compared to their male counterparts. This observation concurs with the findings by Nyanuga & Mbugua (2016) in a study conducted in the Kiambaa constituency of Kiambu County where they observed that women were preferred in a food security program and therefore, women need to be involved in the program's success. In fact, other findings by Khan & Bibi (2011) concur by arguing that if women are left out of projects, then the chances of a program succeeding decrease. The argument is that most projects worsen in performance scores when there is gender imbalance and subsequently women become victims of isolation. Shore (2005) and Amwata (2020) postulate that the participation of women affects program strategy, corporate culture, group commitment and program culture positively, thus driving the program to success.

The study also sought to evaluate the effect of age. The purpose was to relate member characteristics necessary for successful program implementation. Findings revealed that respondents who were household heads were 31 to 60 years old with the modal age bracket as 41-50 years at 33.8%, followed by 51-60years at 28.0% and 31-40 years at 20.7%, all totalling 82.5% indicated in Table 5. The mean age of respondents based on these statistics was 48 years. This implied that the respondents were mature and able to take instructions and responsible decision-makers. Given the age range, this program correctly meets its targets and meets the needs of the beneficiaries.

Table 4: Age of Respondents

Age brackets	Frequency	Percent
21-30 Years	7	1.8
31-40 Years	41	20.7
41-50 Years	96	33.8
51-60 Years	71	28.0
Above 60 Years	40	15.8
Total	**265**	**100.0**

Source 3: Field Data (2023)

The study measured if there is an association between food production and women's age as shown in Tables 6 and 7.

Table 5: Correlation Coefficient Tests Showing Relations Between Women's age and Food Production

Correlation Test	Value	Standard error	Approximate t-value	Approximate significance
Pearson's R	.775	.023	19.876	.000
Spearman Rho	.757	.025	18.812	.000
N of valid cases	**265**			

As per the correlation coefficients tests in Table 6, p=.000 which is lower than p=.05 indicates a relationship between age and food production. The R value of .775 and Rho value of .757 support that there is a strong relationship between age of the female beneficiaries and food production.

	Value	Df	Significance level
Pearson Chi-square	451.649	16	.000
Likelihood ratio	286.520	16	.000
Linear-by-linear association	58.436	1	.000
N of Valid cases	**265**		

The Chi-square test in Table 7 revealed that there is an association between the age of female respondents and the production of food in the program. First with a P value of .000, there is a relationship between the variables and with a chi-square value of 451.649 that food production is associated with the age of a participant. The linear-by-linear association of 58.436 shows that as one's age increases, there is a greater likelihood of producing more from the cultivated land under the program (likelihood ratio 286.520). Based on the above, program planners can be advised to consider age as a factor in the recruitment of women beneficiaries.

When planning agricultural programs, certain parameters need to be considered, among them marital status, age, and household size. FAO (2023); World Bank (2020) and Ribot et al (2019) posit that it is important to understand the unique needs and challenges of women. They often face discrimination due to their marital status, limited access to resources, and lack of control over land and assets by age. Widows with married sons, share ancestral land without the sons considering their mothers as equal beneficiaries.

In all, this program was designed to address the aforementioned challenges and directly support women to achieve their farm goals. The program is cognizant that social and cultural factors influence women's participation in farming activities. In many African communities, women do not have the same opportunities as men to access education, training, and resources. In this program, these factors were considered during recruitment to support women to overcome the barriers that they may face. Similarly, even though we live in the 21st century, women still tend to have limited access to information and technologies, which affects their ability to make informed decisions about their farming activities (Ribot et al, 2019; Nyanuga & Mbugua, 2016).

As argued by Andrews (2021) and Cadzow and Binns (2016), there are advantages to having women in a food support program since they include increased diversity, better representation, improved efficiency, women empowerment, and increased impact. Having more women involved in a farm input support program brings diversity into perspective, experiences, and skills. It led to more innovative solutions and better decision-making. Women are often underrepresented in the agriculture sector and having more women participating in an FISP helps to address the imbalances.

Studies have shown that women farmers often have higher rates of adoption of new technologies and practices than their male counterparts. Embracing good practices from the West could lead to improved efficiency and productivity on farms. On empowerment, FAO (2023); Amwata (2020) and Njobe and Kaaria (2015) posit that providing women with opportunities to participate in FISP helps to empower them and improve their socioeconomic status.

This leads to greater gender equality and social development in farming communities. In relation to increased impact, Njobe and Kaaria (2015) and Anangwe, 2015 observe that engaging more women in agriculture support programs increases program impact. This is because women often play a critical role in food production and household nutrition and supporting them will have a multiplier effect on their families and communities. Tadesse and Greene (2020) and FAO (2020), point out that women are often the primary caretakers of natural resources such as land, water, and forests, therefore, providing them with access to FISP can help them adopt sustainable agricultural practices, leading to environmental conservation and preservation. Notably, as women are often excluded from formal economic opportunities, providing them with access to farm input support programs can increase their income and contribute to economic development in their communities (Andrews, 2021).

The study examined how social relations serve both men and women in the program**.** Did program activities assist members in improving their social relations? The study measured this variable using the ability of beneficiaries to seek assistance from other beneficiaries and extension staff. As revealed in Figure 1, 37.0% of women beneficiaries requested assistance compared to 19.0% of men. From the societal perspective, women are perceived as weak, needing to be supported for the accomplishment of major tasks, giving them a head start in an informal forum. In this study seeking assistance or accepting help was based on one's association with their neighbourhood. Thus, improving their social relation and increasing their social capital increased their chances of assistance (Tadesse & Greene, 2020; Ribot *et al*, 2019). Unlike women, men resist requesting assistance which affects their ability to develop a better social relation as revealed in Figure 1.

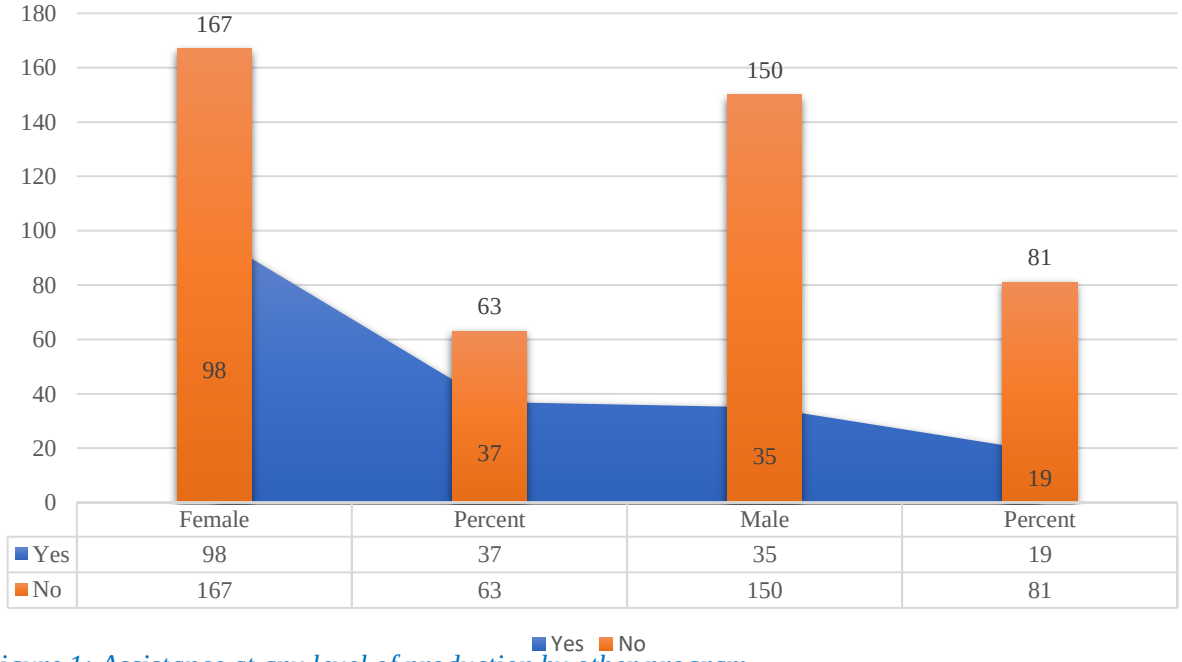

Figure 1: Assistance at any level of production by other program

The hypothesis in this section was that there is no relationship between being on the program as male or female and one's social relations. The study assumed asking for assistance is a way of building social capital and as a result improving self-social relations.

As revealed in Table 9, the P-value of .000 is below .05 value, implying that there is a significant relationship leading to the rejection of the null hypothesis. Using the test statistics in the table, there is a strong association between being on the program and developing social relations for both genders as revealed in the Mann-Whitney test =20085.00, Wilcoxon test=55330.00 and Z test= -4.127.

Table 6: Test Statistics

Test	Assistance
Mann-Whitney U	20085.000
Wilcoxon	55330.000
Z	-4.127
P-value	.000

From the above findings, the Mann-Whitney and Wilcoxon tests affirm that women play a significant role in shaping social relationships when active in FISPs. FAO (2023) & Andrews (2021) view these programs as being designed to provide women farmers with the necessary inputs such as seeds, fertilizers, and pesticides to enhance agricultural productivity and improve food security. Additionally, women's involvement in these programs has a significant impact on social relationships, both within their households and in their communities. Firstly, women's involvement in FISP improves their social status within their households. Women who participate in these programs are often given more decision-making power regarding crop management and household finances, which leads to greater respect and recognition from their male counterparts. This also leads to improved communication and collaboration within the household, resulting in better family relationships. Since women are often the primary caregivers in their households, they are more likely to participate in and benefit from social networks formed through agricultural programs. Nyanuga and Mbugua (2016) & Ibnouf (2009) conclude that such networks may assist young mothers' access to pool babysitting that freeing their time for farming activities. Unlike men, women are often more willing to share knowledge and resources, which can lead to increased productivity and profitability. Equally, Andrews (2021) & Gomez et al (2020) identify women's participation as key to challenging gender norms and promoting gender equality within households and communities.

6.0 Conclusion

The increase in women headed households has necessitated the need for women to be targeted in household food security programs. It has been proposed that the involvement of more women in a farm input support program would be the solution to household food security. Based on the discussions, women's ability to multitask and concentrate on their goals gives them an advantage in carrying out their house chores while at the same time putting maximum effort into farming activities. Since women are more patient than men in following program procedures, this attribute works to their advantage. The study concludes that middle-aged women are more devoted to agricultural practice. The study concludes that women's caring ability advantages them towards creating good relationships with stakeholders and neighbours in the agriculture sector and in boosting the farm produce. More involvement with extension staff and neighbours adds to women's capacity.

Lastly, whereas the agricultural food production programs have traditionally been dominated by men, the decreasing size of land for household food production is pointing to a paradigm shift where more women are now involved as smallholders in food production. Women are most affected and distracted when families suffer from a lack of sufficient food for the family thus, they give household food needs a priority and are more likely to produce and preserve the crop for household use.

7.0 Recommendations

Whereas this program provides women beneficiaries with certified seeds and fertilizers, there is a need for access to additional resources such as pesticides and credit. Providing women with these resources will help them improve their farm management and hence boost productivity. Training is recommended since many women in SSA are illiterate and use wasteful traditional farming methods. Training in modern farming techniques helps in improving yields and the woman's self-

esteem. Whereas training is envisioned to take place during the public participation day of beneficiaries' selection, this aspect is not emphasized. Therefore, the study recommends the program schedule another day for training on best practices, new technologies and market trends to help women farmers improve their productivity. Also, partnering with local organizations, government agencies and other stakeholders through capacity building can help to increase the effectiveness of the program and ensure that women farmers receive the support they need. It is important to encourage women to form groups and work together for mutual benefits. Groups enable women to overcome low self-esteem, poor social relations, and low capability. Lastly, involving more women in decision-making at committee levels is good for the program's sustainability and efficiency. Women's perspectives and experiences can bring valuable insights into the programs. Involving women in decision-making processes, therefore, ensures that their needs and priorities are considered.

References

Adepoju, A. A., Awoyemi, T. O. and Aladejebi, O. F. (2020). *Factors Influencing Participation in Agricultural Extension Programs among Smallholder Farmers in Nigeria*.

Agrilinks, (2022). *What Next After the Implementation of COP? Categorizing, Action as the Intersection of Climate Change, Agriculture and Food Systems*. Feed the Future Magazine, December 2022, 14th Edition.

Amwata, D. A. (2020). *Situational Analysis of the Agriculture Sector in Kenya*. Ministry of Agriculture, Livestock and Fisheries. Nairobi, Kenya.

Anangwe, K.A. (2015). *Women's Status, State Contexts and Child Under-Nutrition in Low and Middle Income Countries*. [Doctoral Dissertation, Texas Women's University] Pro-Quest Dissertation and Theses Global.

Andrews, M. (2021). *The Farmer-Input Subsidy Program (FISP) Does not Service the Poor*. Development. 64, 288–291. https://doi.org/10.1057/s41301-021-00317. Accessed on 28th June 2023

Asiedu, E., Kalonda-Kanyama, I., Ndikumana, L., & Nti-Addae, A. (2013). *Access to Credit by Firms in Sub-Saharan Africa: How Relevant is Gender?* The American Economic Review, *103*(3), 293–297.http://www.jstor.org/stable/23469746

Cadzow, H. and Binns, T. (2016). *Are Groups a Good Thing? Evaluating Group Association Among Vegetable Farmers in Freetown, Sierra Leone Development in Practice.* 22:406-419, https://doi.org/10.1080/09614524.2016.1159662

Carlos, L. O. (2017). *Smallholder Farmers and Rural Development: Recognizing the Diversity of Smallholder Farmers in Latin America; A New Era in Rural Development*. ELLA Area. World Bank.

Croppenstedt, A., Goldstein, M., & Rosas, N. (2013). Gender and Agriculture: Inefficiencies, Segregation, and Low Productivity Traps. *The World Bank Research Observer*, *28*(1), 79–109. http://www.jstor.org/stable/24582373

Desalegn, Y. W and Mideksa. F. J. (2020). *Innovating Social Connectedness for Agricultural Innovation in Eastern Ethiopia.* Cogent Food and Agriculture, 6:1 1809943. https://doi.org/10.1080/23311932.2020.18099431. Accessed on 28/06/2022.

Edward, S. (1997). *Evaluative Research*. New York: Free Press

Farid, K.S., Mozumdar, L., Kabir M. S., and Goswani U. K. (2009). *Nature and Extent of Rural Women's Participation in Agricultural and Non-Agricultural Activities*. Agriculture Science Digest. 29(4), 254-259.

Food and Agricultural Organization (2023). *The Status of Women in Agri-food Systems*. Rome. https://doi.org/10.4060/cc5343en. Accessed on 28th June 2023

Food and Agricultural Organization (2020). *FAO Policy on Gender Equality 2030*. Rome, Italy: FAO. www.fao.org/3/cb1583en/cb1583en.pdf. Accessed on 11th Jan 2021.

Food Security Information Network (2017). *Global Food Situation: Join the Conversation*. https://thecommonwealth.org/media/event/commonwealth-class-debate-global-food-security-how-can-we-feed-growing-population. Accessed on 2nd September 2021.

Frankfort-Nachmias, C., Leon-Guerrero, A., & Davis, G. (2019). *Social Statistics for a Diverse Society*. Sage Publications.

Gomez. Y., Paloma, S., Riesgo, L., & Louhichi, K. (2020). *The Role of Smallholder Farms in Food and Nutrition Security* (p. 251). Springer Nature

Government of Kenya (2018). *County Integrated Development Plan 2018-2022- Bungoma County*. Government Printers.

Government of Kenya (2010). *The Constitution of Kenya*. Government Printers. Nairobi.

Ibnouf, F. O. (2009). The Role of Women in Providing and Improving Household Food Security in Sudan. Implications of Reducing Hunger and Malnutrition. *Journal of International Women's Studies. 10:*144-167

Kameri-Mbote, P. (2013). *Preface: Securing the Land and Resource Rights of Pastoral Peoples in East Africa.* Nomadic Peoples, 17(1), 1-4. http://www.jstor.org/stable/43123918

Kelkar, G. (2014). *The Fog of Entitlement: Women's Inheritance and Land Rights*. Economic and Political Weekly, 49(33), 51–58. http://www.jstor.org/stable/24480454

Khan, A. R., & Bibi, Z. (2011). *Women's Socio-Economic Empowerment Through Participatory Approach: A Critical Assessment*. Pakistan Economic and Social Review, 49(1), 133–148. http://www.jstor.org/stable/41762427

Leddy, A., Whittle, H. J, Shieh, J., Ramirez, C., Ofofokuu, I., and Wenser, S. D. (2020). *Exploring the Role of Social Capital in Managing Food Insecurity Among Older Women in United States*. Social Sciences and Medicine. https://doi.org10.1016/j.socsmed.2020.113492. Accessed on 06/09/2023.

Mbwana, E. S., Lee, R. C. and Kimaro, J. A. (2019). *Determinants of Participation in Agricultural and Food Security Programs: Evidence from Tanzania*

Mungai, L. M., Messina, J. P., and Snapp, S. (2020). *Spatial Pattern of Agricultural Productivity Trends in Malawi.* Sustainability, 12(4), 1313.

Mwei, O. J. (2016). *Factors Influencing Youth Participation in the Implementation of Community Development Projects. A Case of Konoin Sub-County, Bomet County*. M.A. Thesis. University of Nairobi Press.

Njobe, P. and Kaaria F. (2015). *Women and Agriculture. The Untapped Opportunity in the Ware of Transformation.* FAO, Rome

Nyangara, C. O. and Ogutu, S. O (2021). *Factors Influencing Participation in Food Security Programs among Rural Households in Uganda*

Nyanuga, G. O and Mbugua, J. (2016). *Factors Influencing Women Participation in Food Security Projects in Kenya. A Case of Kiambaa Constituency in Kiambu County, Kenya*

Nyondo, C. J., Nyirenda, Z. B., Munthali, B. D., & Puerto, S. (2023). *Measuring the Heterogeneous Effects of Input Subsidies on Household Outcomes: Evidence from Malawi*

Onyalo, P. O. (2019). *Women and Agriculture in Rural Kenya: Role in Agricultural Production.* International Journal of Humanities and Social Science, 4(4), 1-10.

Pék, É., Fertő, I., & Alobid, M. (2019). *Evaluating the Effect of Farmers' Participation in Irrigation Management on Farm Productivity and Profitability in the Mubuku Irrigation Scheme, Uganda. Water*, *11*(11), 2413.

Ribot, M.A., Peluso D.W & Barry, B.T. (2019). *Factors Influencing Participation in Agricultural and Food Security Programs:* A Systematic Review

Salami, A., Kamara, A. B., and Brixiova, Z. (2012). *Smallholder Agriculture in East Africa: Trends, Constraints, and Opportunities*. Tunis: African Development Bank.

Schmid D. P and Adams J.K (2008). *The Project Implementation Profile. New Tool for Project Managers.* Project Management Journal 17(4).

Shetty, P. (2015). *From Food Security to Food and Nutrition Security: Role of Agriculture and Farming Systems for Nutrition*. Current Science, 109(3), 456–461. http://www.jstor.org/stable/24906100

Shore, B (2005). *Failure Rates in Global IS Projects and the Leadership Challenge*. Journal of Global Information Technology Management, 8/3.

Singh, J. (2014). Role of Women in Agricultural Sector. *The Indian Journal of Political Science, 75*(2), 411–420. http://www.jstor.org/stable/24701148

Tadesse M. M. and W. H. Greene (2020). *Determinants of Participation in Agricultural Programs among Smallholder Farmers in Ethiopia*. Journal of Agriculture Extension. Vol 4 27-43.

Westholm, L. and Madelene, O. (2019). *Food Production and Gender Relation in Multifunctional Landscape:* Literature Review. https://doi.org/10.1007/s10457-019-00397-1

World Bank (2020). *World Bank Announces Planned Actions for Global Food Crises Response*.

World Bank, Washington DC. https://www.worldbank.org/en/news/press-release/2022/05/88/world-bank-announces-planned-actions-for-global-food-crises-response.

World Bank (2009). *Gender in Agriculture Sourcebook*. The World Bank, Food and Agriculture Organization and International Fund for Agricultural Development. Washington DC.