

Strategies for enhancing the role of women in household food security in Busia County, Kenya

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ABSTRACT

Globally, women's contributions to household food security are still a challenge. Enhancing food security requires putting in place strategies that can help in the enhancement of household food security by including women in such initiatives. The study evaluated strategies for enhancing household food security in Busia County, Kenya. The study used descriptive survey and evaluative research designs, employing quantitative surveys and qualitative interviews. Sampling strategies used included multi-stage, quota, purposive, and simple random. The sample size for the study was 384 household heads. Data was collected using questionnaires, FGD guides, and KII guides. Data was analyzed using the Statistical Package for Social Sciences software, and qualitative data was transcribed and entered into NVivo software for analysis. The findings of the study revealed that women play a critical role in household food security, yet their contributions often remain undervalued and constrained. Additionally, women faced significant barriers, particularly limited access to land, credit, and decision-making power. While they contribute substantially to household food production and consumption, their roles are often marginalized. The study concluded that the greatest challenge women faced in food security was inadequate collateral to access credit and not owning land for production. The study recommended the need to establish or strengthen institutional structures/systems that will deliberately include women in intervention since related challenges are multi-dimensional.

Keywords: Food Security, Food Security Policies, Gender Equity, Rural Development, Strategies, Women's Empowerment

I. INTRODUCTION

The State of Food Security and Nutrition in the World 2023 indicates that between 713 and 757 million people were undernourished in 2023, (World Bank, 2024). As the world continue to face challenges on food security yet the World Food Summit in 1996 pledged to achieve food security for all and to cut the number of undernourished people in half by the year 2015 (FAO, 1996). In Kenya over 5.4 million people faced acute food insecurity between March and June 2023 (Integrated Phase Classification [IPC], 2023). In Busia County 54% of households face food insufficiency and child malnutrition Ochieng *et al.* (2024) Women play a critical role, to ensure there is household food security. They produce, purchase, preserve, handle, prepare and serve food to families and community institutions. Despite efforts to improve the situation of women, they still carry the brunt of worsening food insecurity situation at community and household levels in rural areas (FAO, 2022; Njuki & Njuki, 2019).

Food security exists when all people have continuous physical and economic access to sufficient, safe, and nutritious food to suit their dietary needs and food preferences for an active and healthy life (FAO, 1996), which was reaffirmed by FAO in the 2023 State of Food Security and Nutrition in the World report (FAO, 2023). The four pillars of food security are availability, access, utilization and stability, according to (FAO, 2023). In previous decades, Africa's food situation has been deficient. According to statistics from 2010, there were more hungry individuals in Africa (33%) than in Asia (16%), and the average daily calorie intake was 1,950 Kcal, which is less than the 2,100 Kcal minimum required by the WHO for survival and the 2,250 Kcal necessary for a healthy life (FAO, 2010).

Women form over half the population approximately 24,417,639 of the totals of over 47.6 million people (KNBS, 2019). Women constitute about 75 % of Kenya's agricultural labor force, though women face challenges of limited access to resources like land, credit facilities, agricultural technologies, extension services, marketing facilities institutionalization and gender inequalities rooted in society attitudes which undermine their productivity (Kimani-Murage, *et al.*, 2011).

Regarding the challenges of food security, Kenya is a signatory to the United Nations (UN), the World Food Summit (WFS) of 1996, and the Sustainable Development Goals (SDG) 1, 2, 3, 12, and 17 (UN, 2017). In its continued attempts to attain food security, Kenya has ratified a number of regional agreements, such as the

Comprehensive Africa Agricultural Development Program (CAADP) of the New Partnership for African Development (NEPAD) of 2002 (FAO, 2003).

Initiatives aimed at enhancing access to food and promoting food security have benefited greatly from the contributions of women. Developing initiatives that meet the needs of women in society continues to receive little attention. Understanding the responsibilities women play in food security and involving them in activities to develop food security is crucial for ensuring food security in households (Chinery, 2011). There isn't much information available on household food security in Busia County. Therefore, a study on women's contribution to household food security in Busia County was required as a result of the previously described observations.

1.1 Statement of the Problem

In Busia County 54% of households face food insufficiency and child malnutrition Ochieng *et.al* (2024). Food insecurity remains to be a challenge in Busia County as in many other parts of Kenya, affecting vulnerable groups including women and children in the communities (Kimani-Murage, *et al.*, 2011). Despite their significant contributions to food production and household food security, women in Busia County, Kenya, face persistent and multifaceted challenges that hinder their full potential to address food insecurity. The challenges include; limited recognition of their efforts, restricted access to essential productive resources such as to financial credit, land ownership, market for produce, better infrastructure and Gender inequalities. These challenges impact negatively on women's effort to contribute to household food security in Busia County.

More research has been done on enhancing the status of women and food security in Busia County. There is minimal research that has been done on food security at the family level in Busia County. Otieno & Oduor (2022) examined how women's access to land affects food security in Busia County. The study concluded that women's access to land is a critical factor in achieving food security. Onyango & Otieno (2021) explored on the role of women's farmers' groups in food security in Busia County, it was found that women's farmers' groups provide women with access to information, resources, and training. These studies showed that despite the challenges women face, they play a key role to food security through production, processes and provision of food. Women's contributions to household food security, governance, and policymaking, in particular, are still not fully acknowledged. Therefore, the present study will look at the strategies for enhancing household food security in Busia County, Kenya.

1.2 Research Objective

The objective of this study was to evaluate strategies for enhancing household food security in Busia County, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Review

The study was anchored on a theoretical framework that was guided by the Entitlement theory

2.1.1 Entitlement Theory

For this study, the Entitlement theory is the best fit since it takes into account both food access and household entitlement (Sen, 1981). "Entitlement" describes the range of ways that households obtain food, including through domestic production and other revenue-generating ventures like labor sales and trading (Devereux, 1986). Different members of each household may engage in some of these activities, or the same individual may pursue them all. Furthermore, the entitlement of the household will be increased by transfers from sources outside of it, such as the government or friends and family (FAO, 2003).

Nowadays, a lot of research is done on topics pertaining to food security and nutrition using the concept of household entitlement to food, which was developed from the work of Amartya Sen. Sen first created the entitlement theory in 1981, superseding previous views that emphasized the lack of food availability as a source of food insecurity. Sen's strategy, on the other hand, is more concerned with household access to food, or "Entitlements." According to Sen (1981), entitlement relations use specific norms of legitimacy to link one set of ownerships to another.

Sen classified entitlement relationships into four categories. Rights based on production, according to which people are entitled to the products of their labor. People who are entitled to what they can obtain by selling or battering physical assets (including animals and cash crops) are said to have trade base entitlements. The main issue is how trade liberalization affects food availability, food access, and food supply stability, all of which have an impact on food consumption (FAO, 2003). Rights based on labor, which state that individuals have a right to the goods and services that can be acquired by selling their labor power. Transfer-based entitlements, which state that a person has a right to whatever that is legally transferred to them, whether it is official (from the government) or informal (from friends and relatives).

Given the availability of food, entitlement might be defined as the household's ability to communicate its true need for food. Demand should become consumption of food produced for family consumption and bought with cash or transfers from governments and organizations that work to improve household food security. These entities act as a middleman between potential and reality. In order to rebuild their productive foundation, impoverished households—particularly those whose resource bases were impacted by natural disasters—may require access to additional resources. Other households will look for ways to generate entitlement to food through trade or direct employment, based on their location and specific skills. Food security is dependent on the growth of income-generating activities, such as small-scale jobs and self-employment in the rural unofficial sector. Due to some of its inherent flaws, the theory has drawn criticism for downplaying the connection between poverty and food insecurity as well as ignoring the structural factors that underlie food insecurity (Devereux, 1986).

2.2 Empirical Review

Global issues require coordinated responses, immediate reform of national policies, global governance of food security, and innovative solutions. The World Bank and the FAO presented strategies and actions in the 2009 International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), which included adjustments to science, technology, institutions, policies, and investment as well as capacity building (FAO, 2010). The international community uses a variety of tools and international structures to solve the issues (SDC, 2017). The Committee on World Food Security, which offers a forum for multi-stakeholder discussion and evidence-based policy norms and recommendations, the Human Rights Council, and the right to food instruments that were adopted by the FAO Council, are among the other protocols. The 10-year framework of Programs on Sustainable Consumption and Production Patterns (10YFP) and its Sustainable Food Systems Program, led by UNEP, are among the other protocols. In addition to the aforementioned, target 2 of Agenda 2030 for Sustainable Development aims to mitigate climate change, land use, land rights, and gender equality while also promoting sustainable agriculture, food security, and improved nutrition.

Food security initiatives in the late 1970s and early 1980s typically used food vouchers or emergency food aid to combat hunger (FAO, 1996). A move toward community development models that prioritized localizing food systems and fostering agriculture in order to solve issues with public health, cultural preferences, economic inequality, and the environment occurred in the late 1990s and early 2000s. (FAO, 2010). Notwithstanding the fact that food availability for direct human consumption increased by 19% between 1960 and 1994–1996 to 2 720 kcal/day against the minimum daily energy requirement of 2 200 kcal/day, availability is still very uneven, which has sparked recent initiatives aimed at improving the food security situation of the poor, most notably by the World Food Summit (WFS) (FAO, 2003).

Those who are food insecure regularly do not produce enough food for themselves nor have enough money to buy food. One of the strategic methods to feeding the world's population is to encourage developing nations with food deficits to increase the productivity and efficiency of their export industries and then utilize the ensuing foreign exchange revenues to purchase food. Global commerce expansion permits the production and export of goods, services, and produce, allowing nations to buy food from North and South American countries that have excess food. Effective national food security policies are needed in order for this food to reach the food-insecure in developing nations. According to (FAO, 2003), in order to guarantee food entitlements for the impoverished in both rural and urban areas, these policies must enable enough access to food through work and income generating. Certain nations can attain food security on a national scale by encouraging food production within their borders. The underdeveloped nations with food shortages may have to import food since they lack the necessary institutions, resources, and technology.

Organizations initiatives in collaboration with the government have created policies that are geared to improve food security. The Kenyan Constitution explicitly proclaims "Every person has the right: (c) to be free from hunger, and to have adequate food of acceptable quality." In Article 43(1)(c). Even though the steps to ensure food security are put in place the impact is still minimal. The county government is also devoted to deliver services by sustaining and improving the devolved policies that encourage food security. By dispersing subsidized fertilizer, offering improved crop seeds, and offering free up skilling training to farmers across the area. The national and county government also gives a lee way to benevolent organization and charities whose main goal is to eradicate poverty and world hunger (Owino, 2022).

Other organizations have also seen the gaps in food security and supported policies to curb hunger for example Kenya Climate Smart Agriculture Strategy 2017-2026 published is a policy founded on 3 pillars which include: Increasing food productivity; building resilience of farmers to bounce back in case of shocks; and mitigation.

Reorienting their development objectives to prioritize greater investment in agricultural areas is another tactic available to food deficit countries. In order to reduce food insecurity at the national, regional, and household levels, the food deficit countries must greatly boost their own food production and implement targeted policies (FAO, 2010).

Corporate interest in supporting food security interventions through women's empowerment as profitable solutions to food security has increased due to increased global awareness of the global food problem. It is envisaged that supporting women farmers will increase agricultural output, lessen hunger, spur economic growth, and help attain the development goals.

According to FAO estimates, women could raise agricultural yields on their farms by 20–30%, increase the amount of agricultural output produced in developing nations by 2.5–4%, and lower the number of hungry people in the world by 12–17% if they had equal access to productive resources as males (FAO, 2010). In order to improve women's rights and potential, strategies have included investments in women's capacities to guarantee more equitable access to resources and services like land, water, technology, innovation, credit, financial services, markets, and training. In a similar vein, assets, land, and inputs can help remove obstacles that prevent women farmers from increasing their output. Less than 2% of land is owned by women in developing nations, and they only receive 5% of agricultural extension services. Women receive only 10% of small farmer loans, and they are less likely than males to participate in food crop-related research and innovation (FAO, 2010).

Additional demand-side tactics are educational initiatives. According to research, families frequently traveled to far-off districts where healthy food was easily accessible in addition to having a good understanding of and appreciation for healthy meals (Alkon, 2013). These could include nutrition education, agricultural extension, and cookery classes where locals learn about the nutritional value of food and how to prepare it. Programs for education have the potential to improve food access and lessen the negative health effects of malnutrition. As stated in SDG 5, which aims to promote gender equality and empower women and girls, it is also crucial that efforts to improve food security include women's empowerment. Adopt SDG 16, which calls for representative, inclusive, responsive, and participatory decision-making at all levels.

Coping strategies are coping mechanisms that households employ to get by in the event of unforeseen losses in income (Ellis, 2000). The strategies that households employ vary in a number of ways. For example, both within and between households, they cover a wide range of economic, social, political, and behavioral responses to declining food security. Positive coping strategies include working off the farm, using savings from the past, and utilizing family networks for sharing. Negative coping strategies include drastically reducing food consumption, selling productive assets and personal belongings, cutting back on spending on essential services like health and education (female children are often the sacrificial lamb during times of scarcity), and irregular migration are some examples. Families and women in particular, have frequently turned to coping mechanisms in the face of food scarcity, such as letting the kids eat first, purchasing food on loan, eating only once a day, or stealing leftovers from social gatherings.

Families facing financial difficulties or inadequate food shock may turn to risk coping mechanisms include self-insurance through prudent savings and unofficial group-based risk distribution, as well as obtaining or obtaining food from other sources. During good years, households store up resources for use during bad years. Reducing the amount of food consumed, modifying its quality or quantity, or lowering the number of consumers can all affect food consumption. When income-generating techniques become stretched, consumption-soothing strategies tend to grow.

Finding solutions to assist rural women in their productive endeavors requires an understanding of poverty, the cycle of hunger, and survival techniques. 'Safety first' conduct is adopted by farming households, which includes coping mechanisms for external climate shocks. A prevalent initial tactic that has been noted is the decrease in food consumption or alteration of diet. Women may cut back on the number of meals they eat or switch to less expensive, less appetizing, and maybe less nutrient-dense foods (Maxwell & Caldwell, 2008).

The capacity to recognize vulnerable households is a prerequisite for ensuring sufficient food security. The entire spectrum of variables that put people at risk of experiencing food insecurity is referred to as vulnerability (FAO, 2003). An individual's, household's, or group's level of vulnerability is based on how much they are exposed to risk factors and how well they can handle or tolerate stressful events.

Vulnerable households typically fall into one of three categories: those that are vulnerable in any situation, such as when an adult's disability, illness, age, or other characteristic prevents them from providing an adequate livelihood for the household; those whose resource endowment is insufficient to generate a sufficient income from any source; and those whose resources and characteristics make them potentially vulnerable in the event of social and economic shocks, such as those who struggle to adjust to abrupt changes in economic activity brought on by economic policy. A significant increase in the consumer price of staple foods might be an example (FAO, 2003).

As a surrogate measure of the food access aspect of food security, the reduced coping strategy index (CSI) is used (Maxwell & Caldwell, 2008; Maxwell *et al.*, 2003). The five common coping mechanisms are as follows, with corresponding severity weightings: eating fewer expensive or less preferred foods (1.0); borrowing food or depending on friends and family for assistance (2.0); restricting portion sizes during mealtimes (1.0); limiting adult intake to allow small children to eat (3.0); and cutting down on the number of meals per day (1.0).

The CSI is generated by asking a straightforward question: "In the last seven days, how many days has your household had to adopt a particular food-based coping strategy if there have been times when you did not have enough

food or enough money to buy food?" We assign a score to each coping method for every household. The score is calculated as follows: (coping strategy frequency) \times (severity weight). Each household's composite score is calculated by adding the results for each coping method. Greater severity of food insecurity is indicated by higher index values.

III. METHODOLOGY

3.1 Research Design

Descriptive survey and assessment research designs were used in the study. Studies that attempt to characterize the traits of a specific person or group are known as descriptive research studies (Kothari, 2004). According to Kothari (2004), descriptive research can accurately define activities, ascertain the nature of prevailing circumstances, practices, and institutions, and describe the current status of phenomena.

3.2 Study Area

The research domain Situated in the most western part of Kenya, Busia County shares borders with the Republic of Uganda to the west, Bungoma to the north, Kakamega to the east, and Siaya to the south-east. Additionally, it is bordered by Lake Victoria to the south-west.

3.3 Study Population

The total population of Busia County is 893,681. There are 426,252 females, 467,401 males, and 28 intersex individuals. With an average household size of 4.5 people, the county has a population density of 527 people per square kilometer (KNBS, 2019). The Teso and Luhya tribes of Kenya, as well as tiny Luo populations, live in Busia. The Abakhayo, Marachi, Samia, and Abanyala communities are among the Luhya communities. This therefore forms the population social-economically involved in food security as producers, consumers or traders.

3.4 Target Population of the Study Area

The study's target demographic consists of women living in Busia County, specifically two sub counties, Teso South and Nambale as indicated in table 3.2. The survey also focused on men and women focus group discussions, county government officials from the Department of Agriculture, national government representatives and those from KALRO, and employees of civil society organizations in Busia County, Kenya. The primary sources of data for study population comprised women household heads of reproductive age (18-49 years) involved in agricultural and food security activities in Busia County.

3.5 Sample size Determination and Sampling Procedure

The study sampled females, males, County, and Civil society Representatives, and community leaders in Busia County and female house hold heads from Nambale and Teso South Sub-Counties.

3.5.1 Sampling of Household Respondents

The primary sample population was women household heads above 18 years in Nambale and Teso South Sub-Counties. This sample size was therefore calculated using the following formula (Higgins *et al*, 2001):

If the target population is larger than 10,000, then n = the intended sample size. Z is the standard normal deviation (i.e. 1.96) at the necessary 95% confidence level.

p is the percentage of the target population that is thought to possess the traits under study. As there is no statistical evidence to support the extent of the food security issue, the study will employ 0.5, or 50%.

$$n = \frac{Z^2 pq}{d^2}$$

$q = 1-p$.

d = the level of statistical significance set, which will be set at 5% or 0.05. Therefore, the sample size will be:

$$n = (1.96)^2(0.5)(0.5) / (0.05)^2 \\ = 384.16 = 384$$

The survey included a total of 384 primary women respondents. It was necessary to include four wards in order to achieve representativeness, which allowed for the generalizations for the entire population, this sample was deemed appropriate for statistical analysis. The sample size was chosen by a combination of different methods used in the sampling operation. According to Mugenda and Mugenda (2003), a higher sample size increases the researcher's confidence that the same outcomes would be attained if a different sample size of a comparable number was chosen.

Multi-stage, Quota, Purposive and Simple random sampling was employed in sampling the study area. The study area is divided into seven sub County administrative boundaries namely Teso South, Teso North, Nambale,

Matayos, Butula, Samia and Bunyala. Basing on the 30% rule by Mugenda and Mugenda (2003), the study sampled 2 sub counties out of the 7 sub counties which were Nambale and Teso South Sub Counties. Nambale sub-county has four wards namely; Nambale township, Bukhayo East, Bukhayo North and Bukhayo Central. Similarly, Teso South Sub County is divided into six wards, Amukura West, Amukura East, Amukura Central, Angorom, Chakol North and Chakol South. Nambale and Teso South sub-Counties were chosen because they are known for both large scale commercial crop farming and subsistence farming. The major crops grown include; sugarcane, maize, beans, cotton, and coffee. Farmers also keep livestock for food security and selling (CIDP, 2018). Proportionate sampling technique was then used to sample 384 women from the 50% of the wards from each sub Counties sampled. Table 3.3 summarizes the sampling procedure.

Table 1*Proportionate Sampling of the Wards from the Sampled Wards*

S/N	Sub counties (Wards)	Total number of wards	Sample of wards
1	Nambale	4	2
2	Teso South	6	2
	Total	10	4

Table 2*Proportionate Allocation by Wards Sampled from the Two Sub Counties*

Sampled Wards	Total Number of Households (Nh)	Sample size $nh = \left(\frac{Nh}{N}\right)n$
Bukhayo East	5,219	146
Bukhayo Central	4,497	126
Amukura West	1,407	39
Amukura Central	537	15
Amukura East	2,064	58
Total	13724	384

In-depth interviews were conducted in person with 2 representatives from each organization including Department of Agriculture of the County of Busia, Kenya Agricultural and Livestock Research Organization (KALRO) and Non-Government Organizations totaling to Eight (8). These important informants were found using a mix of purposive and basic random sampling methods. Telephone appointments were made with respondents who were willing and able to speak with the interviewers regarding the role that women play in food security in Busia County.

A semi-structured interview framework was used to conduct the in-depth interviews. The participants gave their approval for the interviews to be recorded. Observing the participants' nonverbal cues, attitudes, and tones, notes were taken. Participants in the FGD were sampled using quota sampling. On the day of the interview's conclusion, a brief document summarizing the most important findings was created for each one. With the interviewees' permission, all verbatim transcriptions of the talks and interviews were done into English and checked for accuracy.

Table 3*Summary of Study Population Units, Sample Methods and Sample Size*

Population Units	Sample size	Sampling strategy
Households respondents	384	Multi stage & simple random sampling
Department of Agriculture (Crops Officer)	2	Purposive
Research institutions (KALRO)	2	Purposive
Non-Governmental Organizations (NGOs)	2	Purposive
Focus Group Discussions (8-12 people)	4	Quota

3.6 Data Collection Instruments

This study used both secondary and primary types of data. Secondary data was obtained through literature review such as documentary sources, while the primary data was collected from fieldwork. These data (documentary and field) were used to examine the role of women in food security provision in Busia County. In relation to Mugenda and Mugenda (2003), this study developed instruments that helped in gathering primary data. The study used questionnaires, interviews schedules, observation checklist and focus group discussion as follows.

3.7 Data Analysis and Presentation

The study had both quantitative and qualitative data. Quantitative Data was mainly collected using the household questionnaires. The questionnaire was coded and data entry undertaken in the Statistical Software for Social Sciences (SPSS) version 24. Analysis incorporated both descriptive and inferential analysis. It was envisaged that this study would yield data to allow for correlations and triangulations. Quantitative Data was presented Using bar charts, and pie charts to visually represent information, highlighting key trends and patterns to make the information engaging

Qualitative information was mainly collected from key informants and focus group discussions and the data was transcribed and entered into Nvivo software (30-day trial version) for analysis. The FGDs were analyzed by reading through the transcripts multiple times to gain a deep understanding of the data. Identify recurring themes or patterns in the data. Assign codes to specific sections of the text that relate to the identified themes and using Group related codes into broader themes Further divided into sub-themes for a more detailed analysis (Ochieng *et al.*, 2024). The researcher analyzed the frequency, intensity, and diversity of themes across different four FGDs, then developed a coding framework to guide the coding process and for consistency. The findings were further interpreted in the context of existing literature and theoretical framework. Identify Key Insights were highlighted the most significant findings and implications to validate by triangulating the findings with data from other sources, such as surveys or interviews. The analysis forms discussed findings and the implications of the findings for example on women’s involvement, strategies to improve food security, policies and future research.

IV. FINDINGS & DISCUSSION

4.1 Strategies for Improving Role of Women in Food Security in Busia County

The study sought to evaluate the strategies in enhancing role of women towards food security. Results in Figure 1 show that majority of the respondents rated improved access to markets 40% followed by 33%, 18%, 9% for equal opportunities in income generation activities, access to social protection programs, and enhanced access to means of production respectively in the study area.

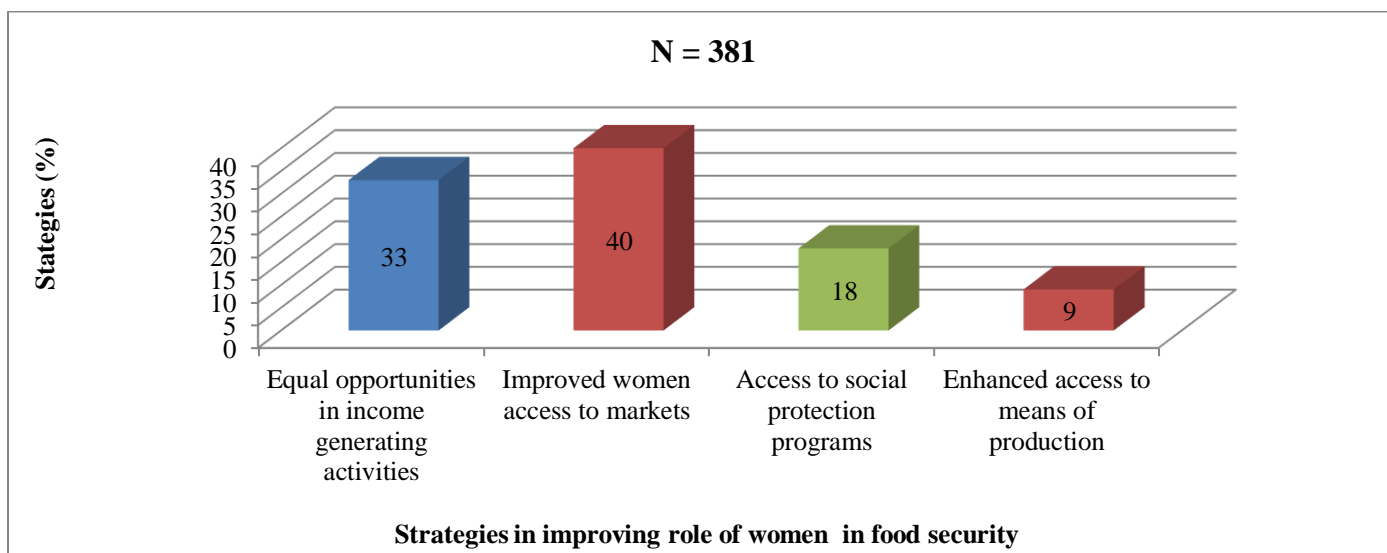


Figure 1
Strategies in Improving Role of Women in Food Security

Findings therefore reveal that in Busia county, however the initiatives and efforts by different stakeholders in improving the role of women in food security, still a good percentage of respondents do not benefit from the existing strategy of enhancing access to means of production such as access to land and financial access from the financial facilities and other sources. These findings also resonate with KII that revealed that among the strategies that exist to improve the role of women towards food security were in Busia county were founded on sector goals in providing equal opportunities for vulnerable groups like youth, women, PWDs and older persons to improve their livelihoods.

This study examines women’s access to factors of production focusing this factor was ranked as fourth important affecting food production and availability to household. Access to land and income diversification were mentioned as strategies of female-headed households in rural Kenya improve food security. The findings agreed with Ouma & Ochieng (2022) whose research sheds light on the factors that influence women's control over income, including their roles in agricultural production, off-farm activities, and decision-making as useful strategies to enhance

food security in Busia County.

Enhancing women's access to adequate nutrition and labor market outcomes through investments in priority sectors and through income generation and participation were some of the other strategies mentioned during the interviews. Other strategies included expanding gender-sensitive social-protection programs in light of the high rates of financial and multidimensional poverty, promoting women's economic empowerment and embracing integrated approaches to combat poverty, involving non-state actors through multi-sectorial interventions, and investing in basic services that are more easily accessible, affordable, and available to improve human capital development and lower the likelihood of intergenerational poverty.

4.2 Strengthening the Contribution of Women on Household Food Security

The study sought to find out the contribution of women on household food security. It was established that the Kenyan Constitution of 2010, gender policies, the Busia CIDP 2023–2027, the Kenya Climate Smart Agriculture Strategy 2017–2026 and national and county policies were tactics to strengthen food security.

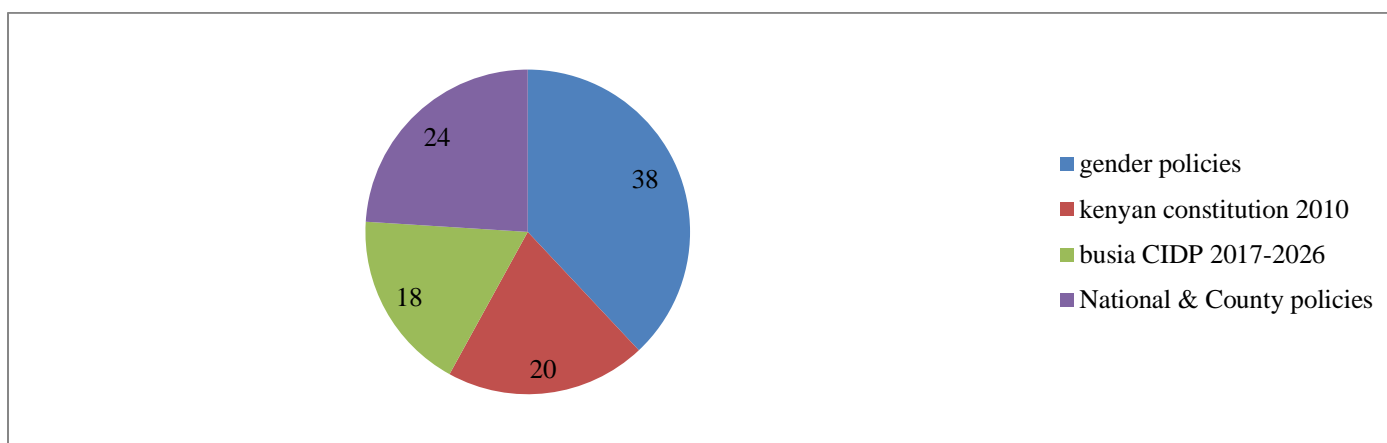


Figure 2
Strengthening the Contribution of Women on Household Food Security

Regarding tactics to strengthen the contribution of women to improving household food security, the study found that various policy frameworks, including the Kenyan Constitution of 2010, gender policies, the Busia CIDP 2023–2027, the Kenya Climate Smart Agriculture Strategy 2017–2026, and other national and county policies, served as a guide for county activities. In light of the fact that many developing countries are experiencing economic crises, food insecurity, HIV/AIDS, environmental degradation, and rising rates of urbanization, empowering women farmers is essential to bringing rural populations out of poverty. A summary of some of the enabling policies is provided in the Table on Policies for Women's Involvement in Food Security.

Reliably, other KII also related these strategies in fostering women role towards food security to the Kenya Climate Smart Agriculture Strategy 2017-2026. The policy has 3 pillars which include: Increasing food productivity; building resilience of farmers to bounce back in case of shocks; and mitigation. It was also reported that the county had embraced and further aligns its operations to the big 4 agenda 2018-2022 on food and nutrition security. It is a broad-spectrum ecosystem, biodiversity and food security policies, and mass education ensuring diversification and preservation of existing foods. According to one key informant, the county had a biodiversity policy where the communities and farmers are encouraged to plant drought tolerant crops which are nutritious and can do well in Busia. The crops being promoted included include Sorghum, millet, and certain herbs. Farmers were also being encouraged to do bulking where other farmers can get seedlings from them.

To improve food security, the county has given prominence to cereals production with a lot of support is going towards rice production in terms of improving infrastructure through provision of inputs like fertilizers, seeds, mechanization, and provision of milling equipment. A strategy for enhancing food security in the county is the demand driven agricultural services. This policy may not be helping the community and more so the women, since many rural women will not go to the extension workers to seek for services. The farmers are generally reluctant to visit the government offices demanding for specific services. It is thought that the extension workers who should visit or look for the farmers.

The county equally promotes the policy where it is expected to be food secure, and any surplus production is sold (*chakula mezani na pesa mfukoni*). The county gives some inputs like fertilizers and seeds to farmers. This support was termed as handout project by a key informant who declared that this initiative is not sustainable. Farmers don't take it seriously and it creates dependency syndrome. Findings further cited that the county offers credit

facilities to farmers at low interest rates through the agricultural development fund following enactment of an act of Busia County.

Through various projects, the county has initiated on farm research, on the basis that farmers have knowledge which is normally neglected or not taken seriously by the leaders. The county leadership believes that if this knowledge is enhanced, it will yield more fruits. Thus, on farm trials have been initiated. The farmers set demonstration sites and can invite neighbors and are able to observe differences between trials. The county has the International Crops Research Institute for the Semi-Arid Tropics (ICRIST) to help with the trials. We linked ICRIST with farmers and farmers are able to set the trials on their own. They set several in the county. Farmers thus learned from their own research rather than introducing new /external research. Other initiatives undertaken in Busia County to empower women in food security include: Women's Groups and Cooperatives with the objective to provide a platform for women to share knowledge, access resources, and collectively address challenges. These groups empower women by providing them with a voice, access to credit, training, and market linkages (Ochieng *et al.*, 2024). Enhanced Agricultural Extension Services aimed at improving technical support and training to women farmers on modern agricultural practices, pest and disease control, and climate-smart agriculture hence improved productivity and resilience to climate change (Ministry of Agriculture, Livestock, Fisheries and Cooperatives, 2023). The Central Bank of Kenya has facilitated access to credit and financial services for women farmers encouraging women to invest in their farms, purchase inputs, and expand their businesses (Republic of Kenya [ROK], 2023). World Vision International has introduced Community-Based Initiatives to empower communities to take ownership of their development and implement sustainable food security strategies to foster social cohesion, strengthen community resilience, and promote women's leadership (World Vision International, 2023).

It was reported that the county has encouraged post-harvest reduction of losses through the use of hematic bags which reduce storage losses. The grains are stored chemical free thus safe for use. I have worked on conservation agriculture where I encouraged minimum tillage which reduces soil erosion which ultimately improves soil fertility. It further emerged that the county through the nutrition department provides information to the households on how they can improve food security at the household levels. The department of health and sanitation promotes kitchen gardens which help in fostering food security at the household level. This is done through encouraging the kitchen gardens where women can be able to control unlike the main farms where the men have more control. The teachers in primary schools are also sensitized who cascade the information to the children who then sensitize their parents to have kitchen gardens.

This is consistent with studies showing that families not only appreciated and knew about healthful foods, but also frequently traveled to far-off neighborhoods where such items were easily accessible (Alkon, 2013). These could include nutrition education, agricultural extension, and cookery classes where locals learn about the nutritional value of food and how to prepare it. Programs for education have the potential to improve food access and lessen the negative health effects of malnutrition. Despite being an initiative that strengthens the position of women in the food production industry, the size of the kitchen gardens is typically quite small, therefore it does not promote large-scale production.

When asked whether the policies being implemented by the county recognize the role of women, it was reported that there is no specific policy highlighting women issues per se, although most of the World Bank projects (the Kenya Smart Agriculture Policy) requires women and the youth to be involved in projects. During focus group discussions, women were asked about existing strategies in place to enhance the role of women in household food security. Indeed, the women were not aware of any specific strategy that was being implemented either by the county government or the national government to enhance food security. When asked the best strategies that could be employed to help people cope with food insecurity, capacity building of farmers, planting early maturing crop varieties and crop diversification were predominantly cited by the women. Besides focus group discussion with men on existing strategies to enhance the role of women in household food security established that there were continuing efforts to practice conservation agriculture where the county encourages minimum tillage which reduces soil erosion which ultimately improves soil fertility thus increasing production for women led agricultural production.

4.3 Women's Role in Food Preparation and Storage

The study sought to establish the role of women in food preparation at the household level. When asked if they were the main individuals involved in food preparation, majority (87.9% n=335) of the respondents confirmed principal involvement in food preparation within their households signifying a major role played by the women not just in food production but processing and marketing as well. This finding is consistent with Daman's (2003) observation that, despite women's undeniably crucial roles in childbearing, family feeding, and income control, there are signs that their status in subsistence economies is becoming more precarious (Daman, 2003).

The study therefore sought to establish the role of women in decision making regarding food storage. More than half (54.4%, n=381) of the respondents revealed that decision making regarding food storage was done by

women. For 28.9% (n=381) of the respondents, decisions regarding food storage were done by the husband where as 16.8% (n=381) revealed that decisions regarding food storage was the role of both the husband and wife. Food storage is a critical pillar towards ensuring that a household is food secure. There are several ways to achieve food security besides only producing food. It is also crucial to reduce food waste by using suitable food storage solutions, which guarantee that the food is consumed outside of its place of production and lasts for a longer length of time. This is the point at which choosing the appropriate food storage options is crucial.

4.3.1 Duration of Food Storage

The respondents were asked how long they stored their food produced. The results were shown in Table 5.7.

Table 4

Duration of Food Storage

Don't Store			For 3 Months		For 6 Months		For 9 Months		For 12 Months	
	F	%	F	%	F	%	F	%	F	%
Vegetables	362	95.3	8	2.1	6	1.6	2	0.5	2	0.5
Maize	36	9.5	134	35.4	97	25.6	45	11.9	67	17.6
Beans	87	24.1	136	37.7	62	17.2	42	11.6	34	9.4
Cassava	119	34.2	106	30.5	56	16.1	18	5.2	49	14.1
Milk	326	97.9	4	1.2	2	0.6	0	0.0	1	0.3

Findings revealed that majority of women did not store the perishable agricultural products such as vegetables and milk as mentioned by 95.3% (n=381) and 97.9% (n=381) of the respondents respectively. Only maize (17.6%, n=381) and cassava (14.1%, n=381) was stored by respondents for a period of one year or more. Women are prominent economic actors in land related activities, with a major stake in crop husbandry, crop preservation, and processing and food preparation for both domestic consumption and sale. Indeed, food security depends not only on availability of sufficient food supply, but also on sustainability of access to food.

4.4 Women's Role in Food Preservation

Respondents were further asked about their preferred methods of food preservation. An overwhelming majority (92.4%, n=381) cited that they preserved food using methods such as sun drying, hematic bags, and gunny bags. 90.8% (n=381) of the women reported that preserved their produce by drying. About a third (33.1%, n=381) preferred hematic bags while 14.4% (n=381) opted for gunny bags.

Discussions with respondents during FGDs revealed the extent to which women's input affected food security. Across all the FGDs, there was a general consensus that women were at the forefront in ensuring household food security. Respondents cited that children mainly depend on their mothers for their daily food needs as men often left the homes in the morning hours to pursue other economic activities and came back evening or at times during the night. It was further evidenced that it is the women who go to farms, plant crops, harvest, and sell the produce to ensure that children are fed.

One discussant reported:

Children demand for food mostly from mothers. Men don't participate in farming. They avoid engagements in the farm. Men eat in hotels."

Another man commented:

"Men disappear early and provide very little foods for their households. It is the women ensure their kids eat, go to farms, plant crops, ensure availability, harvest and sell crops."

Women's involvement in on-farm and off-farm activities was noted. The on-farm activities performed by women reported included digging, planting, making furrows, sourcing for seeds, weeding and application of fertilizer, harvesting, and storage of produce.

4.5 Suggested Strategies on Household Food Security

When asked the best strategies that could be employed to help people cope with food insecurity. The results indicated that capacity building of farmers at 35%, planting early maturing crop varieties at 38% and crop diversification 27% were predominantly cited by the women.

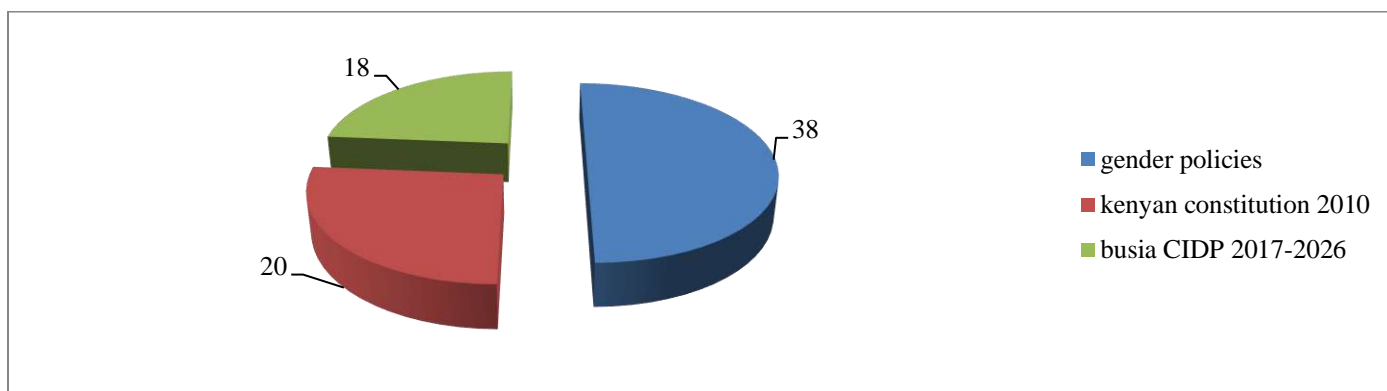


Figure 4
Strategies for Household Food Security

Some initiatives undertaken by the national government, Busia County government and other non-state actors to empower women in food security include initiating Women's Groups and Cooperatives movement with the objective to provide a platform for women to share knowledge, access resources, and collectively address challenges. These groups empower women by providing them with a voice, access to credit, training, and market linkages Ochieng *et al* (2024). Enhanced Agricultural Extension Services aimed at improving technical support and training to women farmers on modern agricultural practices, pest and disease control, and climate-smart agriculture hence improved productivity and resilience to climate change (ROK, 2023). The Central Bank of Kenya has facilitated access to credit and financial services for women farmers encouraging women to invest in their farms, purchase inputs, and expand their businesses (ROK, 2023). World Vision International has introduced Community-Based Initiatives to empower communities to take ownership of their development and implement sustainable food security strategies to foster social cohesion, strengthen community resilience, and promote women's leadership (World Vision International, 2023).

Findings reveal that in Busia County the initiatives and efforts by different stakeholders in improving the role of women in food security. A good number of respondents do not benefit from the existing strategy of enhancing access to means of production such as access to land and financial access from the financial facilities and other sources. These findings also resonate with KII that revealed that among the strategies that exist to improve the role of women towards food security were in Busia county were founded on sector goals in providing equal opportunities for vulnerable groups like youth, women, PWDs and older persons to improve their livelihoods.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

Women play a relatively important part in household food security although, when it comes to domestic farming operations, males continue to make the majority of the decisions. Without a doubt, women's incapacity to engage in and have an impact on important decisions pertaining to household livelihoods is likely to have a detrimental effect on their capacity to effectively provide food for the homes. The majority of women only have authority over their kitchen gardens and very little over the cultivation of income crops. The national and county governments' initiatives to strengthen the contribution of women to the enhancement of family food security in Busia County have not had the anticipated outcome. The main obstacles that women encounter in relation to land ownership and capital access, which play important roles in the equation for household food security, need to be aligned. These structural barriers, such as the agricultural sector's lack of control over land resources, keep women from utilizing their increasing authority as small-holding administrators. The three components of the strategy are: boosting food productivity; strengthening farmers' resilience to shocks; and mitigating the need for special policies that address leveraging women's role in ensuring food security.

5.2 Recommendations

The Study recommends that policies and programs should be designed to address women's specific needs and constraints. A gender-sensitive analysis of existing food security policies and programs can help identify gaps and biases that may hinder women's empowerment and food security. By understanding the impact of these policies on women in Busia County, it is possible to identify strategies to address the challenges they face and empower them to contribute to household food security.

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