ABSTRACT

Food insecurity is a recognized public policy concern for all countries in the world. Sub-Saharan Africa is the most affected, with an estimated 239 million people suffering from chronic hunger and malnutrition. Kenya Government has strived to achieve national, household and individual food security through various initiatives. Nonetheless, Bungoma County residents are still vulnerable to food insecurity. The objective of this study was to investigate the potential to address food insecurity. The study adopted a Cross –Cultural survey research design. The population of the study was 724,453, drawn from Bumula, Bungoma West, Mt. Elgon and Bungoma North sub counties. Multi-stage random sampling method was used to select a sample size of 400 households. Focus Group Discussions and Key informants were purposively selected using quota sampling. A total of 100 household heads in each sub county were interviewed. Data was collected using questionnaires, interview guides, focused group discussions and observation checklists. The instruments were pilot tested on 40 households in Kabuchai Sub County and an alpha coefficient of 0.702 obtained. Data were analysed using descriptive and inferential statistics (chi-square analysis, spearman rank order correlation and linear regression). The study revealed that Households in Bungoma County had the potential to address food insecurity in terms of assets, credit facilities and human skills. The study recommended that household heads should be sensitized on the importance of assets they own, and how to re-organize their resources through capacity building on food production and utilization.

KEYWORDS: Food Security, Household, Gender, Education Level, Trainings Credit, Assets

INTRODUCTION

This study examined the contribution of household potential to improving food security in Bungoma County with specific focus on the following variables: gender and
education level of household heads; trainings attended; availability and access to credit, and types of assets owned by a household.

GENDER AND LEVEL OF EDUCATION

Among the households interviewed, (59%) households were headed by male while (41%) were female headed. The study established that more female than male attained primary education, while at secondary level, there were more male than female. At tertiary level the number of females exceeded male. The number of those with no formal schooling was same for both genders. Majority of the residents of the County had attained primary level of education. Pearson Chi-Square value ($\chi^2 = 6.775$) showed a significant ($P>0.05$) association between gender and level of education.

FGD reported that more men than women had attained secondary level of education in the County. Given that women form the majority of the active farming population; this would affect food production in the long run. This fact was also documented in the ministry of education reports (GoK, 2012), whereby many schools in rural areas, enrolled more girls in lower primary but the number reduces at upper primary level. This finding agrees with what came out in the FGD, where households send out their girls to be employed as house helps when there was food shortage. Another member of the FGD said that girls were on high demand for employment at that age than boys. It also emerged that people from lower side of the county (Bumula and Bungoma West) still hold on the retrogressive cultural belief of favouring a boy child for education than a girl child. A boy child was therefore given preference when it came to education as many girls got married off after primary level. Women were less empowered in education and this had a bearing on their contribution to developmental issues.

One Key informant pointed out that in the past, girls could marry and dowry paid, which could be used to cushion the family against food insecurity. However, today little attention is paid to pride price payment after such early marriages. In another FGD, the argument was different. They said that daughters were better at assisting their parents when in need compared to sons. In such a scenario, some parents preferred paying fees for girls than boys. They said girls were an immediate resource to the family but this was not the outcome of the research, instead more men had attained secondary level of education than women.
The analysis revealed that there was a statistical association between educational levels and food security (food supply) in the county as shown by the chi-square test ($\chi^2 = 6.778$). This implied educational levels indeed affected the food supply in the county. Household heads who had attained higher education level were better placed to invest in farming because they can purchase certified farm inputs. They could also understand the importance of balanced diets than those with no formal education.

**TRAININGS AND AVAILABILITY OF CREDIT**

On examining various types of trainings which a household head had attended, it was established that (58.2%) had attended training on crop/animal husbandry, (17.6%) on post-harvest management course, (14.7%) were trained on processing / value addition, (9.2%) were trained on marketing and (3%) had had no training in the previous one year.

FGD also revealed that most training was attended by more men than women. One member of the FGD argued that his wife would only start attending trainings after she finished babysitting. This was attributed to the multiple roles performed by women that could not allow them to leave homes to attend residential courses. Majority of the women were also semi-literate, as they had only attained primary education and this limited their power in articulating issues. Training empowers people with knowledge and skills in relevant field and therefore is able to plan their activities logically. It also emerged from the key informant that most farmers feared adopting new technologies as they had a limitation in knowledge due to lack of exposure to outside world.

One key informant felt that credit facilities were not readily available to small scale farmers and where they were available, conditions /requirements were not friendly to a peasant farmer. Few of the household heads interviewed had accessed credit in the last two years. Some of the reasons given were strict terms and conditions such as collaterals (title deeds) or a surety and guarantors who were not willing to guarantee each other. Many rural folks did not have title deeds. Household heads interviewed, expressed fear of their property being auctioned in case they failed to repay the loans, hence only a small number had accessed agricultural loans offered by Equity bank and agricultural Finance Corporation. This finding is similar to the study done by Wanjala (2012) in Kakamega County, whereby members of self-help groups feared taking loans.
ACCESS TO CREDIT FACILITY FOR FOOD PRODUCTION

The study sought to establish the sources of credit and its accessibility to households. Eight per cent (8.0%) of the respondents accessed credit from credit societies, (48.3%) from relatives and friends, (22.7%) from money lenders and (21.0%) from bank or micro-finance institutions. Pearson Chi-square value ($\chi^2 = 6.77$) showed a highly significant (P<0.01) variation in the source of income to the household and food production.

FGD pointed out that most households especially those who were aged, solely depended on their children for financial support to enable them purchase food. Key informants were of the opinion that some households were poor because of banks or micro-finance institution’s exploitation. The financial institutions charged very high interest rates on loans issued to farmers and this made many farmers refrain from requesting for loans.

There were very few households accessing credit from savings and credit societies because there were very few cooperative societies in the county. There is need for farmers to form cooperative societies for the farm produce and this will reduce household vulnerability to food insecurity. Pearson Chi-Square test ($\chi^2 = 26.73$) showed a highly significant association ($p < 0.05$) association between access to credit and food security (food supply) in the county. This implied that access to credit by households affected food supply in the household. This agreed with the assertions of key informants who said that credits empowered households to purchase foodstuffs and be food secure unlike those without credit sources.

HOUSEHOLD ASSETS AND DECISION MAKING IN THE HOUSEHOLDS

The household assets included housing structures (living houses, stores, sheds), household goods (furniture, radio, television), transport (vehicle, bicycles, motorbikes), agricultural equipment (threshers, chaff-cutters, ploughs), other household infrastructure (boreholes, etc.). Assets owned by households included land of which majority had two acres (Figure 1), livestock of which majority owned 1-5 animals, local poultry/chicken was owned by every household (Figure 6.6) and farm implements like jembes and ox-plough.

Pearson Chi-square tests of respectively showed a very highly significant association between land acreage under crops, number of livestock and chicken kept by households in the county.
Similarly, FGD listed the same assets and further ranked them in the order of importance as land, Livestock (cattle, goats, sheep, pigs and local poultry), houses, and bicycle and farm implements like ox-plough, jembes and pangas which every household owned. These assets were owned and controlled by a man and this was also indicated by decision to allocate land for crop production.

The FGD argued that a man was the head of family and hence was the main decision maker. Women had access to the family assets but had no control over them. This observation was similar to the survey done by National Agriculture and Livestock Extension Programme (NALEP, 2012), which revealed that the assets possessed by women had low income generation potential. Whereas, those owned by men were generally of high value and directly related to production. The disparity between men and women in access to and control over assets resulted in important productivity differentials. This belief made the female’s noble decision/suggestion concerning food production not to be honoured, hence food shortages in the household.

Similarly, it was also established that single female headed households were more food stable than married household head. One female key informant, who happened to be also single said that she herself was a father and mother as well, so food was her first priority. Single women were found to be more focused in their decisions, especially in relation to food

Figure 1: Land acreage owned by households in Bungoma County, Kenya Source: Author (2013).
because of the double role they had in the household. Many a time single females are not respected by the male domain, making females who head households to work extra hard to prove the males wrong.

The value of household assets was obtained by multiplying the number of assets owned by the household and the value they considered they would ask for in case they were to sell the item at the time of the survey. In addition to income, wealth considers the value of stocks, in this case livestock, household assets and savings which the household could fall back to, in case of shocks or catastrophe. Livestock income was obtained by multiplying all the numbers of all livestock of different species, ages and sex with their respective price in case the farmer were to sell them at the time of the survey and summed the value of all the categories.

**GENDER AND OWNERSHIP OF ASSETS**

Ownership of different types of household assets is one of the important factors for determining the wealth status of households in Kenya. The assets in households in the County were grouped into five broad categories given in Table1. The most highly value assets were housing structures for both male and female headed households, followed by household goods, transport, agricultural equipment and other infrastructure.

**TABLE 1: HOUSEHOLD ASSETS FOR HOUSEHOLDS IN BUNGOMA COUNTY, KENYA**

<table>
<thead>
<tr>
<th>Household Asset</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value per unit</td>
<td>Number of units</td>
</tr>
<tr>
<td>Housing Structures</td>
<td>330,359</td>
<td>372</td>
</tr>
<tr>
<td>Goods</td>
<td>21,191</td>
<td>358</td>
</tr>
<tr>
<td>Transport</td>
<td>31,673</td>
<td>196</td>
</tr>
<tr>
<td>Agricultural Equipment</td>
<td>14,647</td>
<td>175</td>
</tr>
<tr>
<td>Other Infrastructure</td>
<td>16,663</td>
<td>90</td>
</tr>
</tbody>
</table>

Source: Author (2013)
All the household assets were mainly owned by the male gender with only a small portion by the female in the same household. During FGD, one man said that a wife was the husband’s property, so ownership of assets by women should not arise. Pearson Chi-square test \( \chi^2 = 250.360 \) showed a highly significant association between household assets and food supply. Households with many assets had the capacity to purchase land or farm inputs for food production, hence will be food secure. One key informant pointed out that the ‘rich’ (those with many assets) engaged services of the poor (labour) in crop production. This contributed significantly to food security in terms of availability.

Key informants explained that limited control over benefits for women in male-headed households resulted in their reduced contribution during subsequent seasons. This behaviour undermined food production for that particular household. The decision to allocate crops to various plots on the farm was majorly done by the males, which at times crossly undermined household food security (Figure 2).

![Figure 2: Household decision maker for land allocation for various crops in Bungoma County, Kenya. Source: Author (2013)](image)

The adult male and female made major decisions for livestock production at (44%) and (37%) respectively. The youth made much less decisions in livestock production (Figure 3). It was noted that mainly religious households allowed female and youth to make decisions regarding family assets. Pearson Chi-square test \( \chi^2 = 250.360 \) showed that household head decision making on land allocation, crop processing, marketing of farm produce and using proceeds from the crop sales had a statistical significant association with food security in the county. This finding is similar to what Kenya Agricultural Research institute found in Bungoma county during household survey (KARI, 2013).
SUMMARY OF FINDINGS ON POTENTIAL OF HOUSEHOLDS IN BUNGOMA COUNTY

Bungoma County households were headed by more males than females. On the level of education, more had primary than tertiary level and few had no formal schooling. More males than females had attained secondary level of education. Household heads had trainings in crop/animal husbandry, postharvest management, value addition and marketing. Half households accessed credit for food production. The sources of credit were relatives and friends, money lenders, micro-finance institutions and societies. The assets that were common to most households were; household assets, land, livestock, poultry and Farm implements and they were all accessed by both gender but male were the final decision maker.

MATERIALS AND METHODS

STUDY AREA

This study was carried out in Bungoma County. Bungoma County government has put much emphasis on vulnerable members of the society in the allocation of its resources. Food insecurity tops the list of priority areas for intervention by the county government of Bungoma (GoK, 2013). Household baseline survey done by KARI, revealed that households in Bungoma county are food insecure (KARI, 2013). According to the survey, the county has a poverty index of (52.9%) compared with national average of (46%). Poverty and food
insecurity are interlinked; and it is for this reason that this research was carried out to examine factors that make households in Bungoma vulnerable to food insecurity. The County’s absolute poverty level is estimated at 52% with a total of 784,718 people living in poverty (KNBS, 2010). The rural poor account for (53% - approximately 715,033 people). These statistics, except the food poor, were above the national index which stood at (45.9%) (KNBS, 2007).

This study was done in four sub-counties of Bungoma County; they included Bumula, Bungoma West, Mt. Elgon and Bungoma North (Figure 4). The County is located on the Southern slopes of Mt. Elgon, which also forms the apex of the County (GOK, 2012). It boarders the Republic of Uganda to the North west, Trans-Nzoia County to the Northeast, Kakamega County to the East and South East, and Busia County to the West and South west. The County lies between latitude 0° 28' and latitude 1° 30' North of the equator, and longitude 34° 20' East and 35° 15' East of the Greenwich Meridian.

The County has 3,032.4 Km² of land out of which 2,880.7 Km² or (94.9 %) is arable. Given that land is finite, population density will rise to over 2,000 people per square kilometre making it untenable and uneconomical (GOK, 2013a). Rain fed agriculture is the mainstay of the local communities. Main food crops produced include maize, beans, finger millet, cassava, sweet potatoes, bananas, Irish potatoes and assorted vegetables. Cash crops include; Sugar cane, tobacco and coffee (MoA, 2012). In this area people also engaged in various livelihood options like fish farming, livestock farming, small scale trade and motor cycle /bicycle riding business by youths.

The food poverty index in Bungoma County stood at (42 %), due to over-dependence on rain-fed agriculture. With the on-going vagaries of climate change, weather patterns have become erratic and unpredictable, hence making planning for farming difficult as documented in the Bungoma County Integrated Development Plan (CIDP) of 2013-2017 (GOK, 2013a).
DESIGN AND DATA COLLECTION

This study utilized both primary data collected from the field and secondary data from archival sources.

PRIMARY DATA

Primary data was gathered using the following tools; structured questionnaires administered to household heads, Key informants’ interviewed, Focused Group Discussions (FGD) and observation checklists. Approximately 30 minutes was spent per interview session and 1-2 hours for each FGD session.

CONCLUSIONS

Households in Bungoma County have the potential to address food insecurity. Such potential include: education received at various levels, presence of various assets (land, livestock, farm implements and household assets), access to available credit and people have skills acquired through various trainings.

Generally, keeping food security and agriculture high on the development agenda, through comprehensive reforms, conducive environment for investment, supported by sustained social protection is crucial for achieving major reductions in poverty and undernourishment as well as vulnerability.
RECOMMENDATIONS

Based on the findings of the study, it was recommended that household heads should be sensitized on the importance of assets they own and how to re-organize their resources through capacity building on food production and utilization.

SUGGESTIONS FOR FURTHER RESEARCH

In the county, there were many stakeholders dealing with food security issues but independently. To curb this limitation, there is need for another study to be done to evaluate the role of stakeholders in the county’s food security and provide guidelines for stakeholder operations in the region.

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