



Analysis of Food Security Status Among Farming Households in Kurfi Local Government Area of Katsina State, Nigeria

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ABSTRACT

The study analyzed food security status among rural farming households in Kurfi Local Government Area, of Katsina State. Using a two-stage sampling procedure, 100 farming households were selected for the study. Relevant data were collected from the selected households with the aid of structured questionnaire and analyzed using descriptive statistics, household food security index and binary logistics regression model. The findings show that most of the household heads are in their active age with an average age of 37.7 years, with most of them (75%) being males and majority (72%) of them are married with an average household size of 9 persons. The main occupation among the respondents is farming (44%) with an average years of farming experience of 11.70 years and most (81%) of them having formal education ranging between primary and tertiary education. The mean annual income of the household heads was ₦446,439.46. The Results equally showed that 58% of the households were food secure and 42% were food insecure. Results further revealed that the variables that significantly influenced household food security status in the study area include age ($p < 0.01$) and household size ($p < 0.001$). Buying less quality food to feed the family ranked top (68%) among the coping strategies used to ameliorate food insecurity. The study concluded that many households are still food insecure in the study area and recommends that government should subsidize agricultural inputs to encourage more food production in the area.

Keywords: Farming Households, Food Security, Food Security Index

INTRODUCTION

The challenge of effective food security has remained a critical issue for consideration by various government administrations in Nigeria (Osabohien et al., 2020) because, food security stands as an important factor for human survival (Titus & Adetokunbo, 2007; Dias et al., 2017). One of the most challenging issues in the world today is how to provide sufficient food to the billions of people around the globe. Food security is a complex, multifaceted concept usually influenced by culture, environment and geographical location. Food security, as defined by the United Nations' Committee on World Food Security, is a situation in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life (IFPRI, 2021). According to Ahmed et al., (2015), achieving food security is a major challenge among urban households in the light of minimal crop production practices and food items are purchased in the market at prevailing prices subject to available resources. The concept of "food security" started nearly four and a half-decade ago during the World Food Conference organized in 1974 by Food and Agricultural Organization (FAO) of the United Nations (Ahmad et al., 2021). In accordance to Food and Agricultural Organization (2019), more than 820 million people are undernourished globally. To achieve food security, food should be available, accessible, and properly utilized at all times.

Attainment of food security is a core problem confronting farming households; especially rural populations due to low productivity in staple crop production, seasonal variability in food supply as well as price fluctuations. The food security situation in Nigeria has been critical in recent times, with 17 million people estimated to be critically food insecure in 2022. However, in the 2023 Global Hunger Index, Nigeria ranks 109th out of the 125 countries with sufficient data to

calculate 2023 GHI scores. With a score of 28.3 in the 2023 Global Hunger Index (GHI), Nigeria has a level of hunger that is serious. Food security has four pillars: accessibility, availability, utilization and stability (Napoli et al., 2011). In the state of food insecurity, individuals and household do not get enough food to eat for a healthy and active life throughout the year (Amfo et al., 2021a). These could be due to lack of food availability, inadequate purchasing power or inappropriate utilization of food at by households (Amfo et al., 2021a). There are huge negative impacts of climate change and variability on the production of food crops (Amfo and Ali, 2020).

Katsina State as one of the northern states of the country is richly endowed with potentials for the development of agriculture to ensure safe, adequate and quality food production for the State, the State is still characterized with a large number of people who are food insecure and therefore vulnerable (Ibrahim et al., 2016). Katsina state has all it takes by natural potential to produce food that will enable her attain sufficient food supply (Ibrahim et al., 2016). This is not yet a reality due to some problems, one of which is the poor strategies employed in the attainment of food security. This was the impetus for conducting this research.

Nigeria been a developing country faces many crises among which shortage of food is causing starvation which affects mainly the lower socio-economic class of Nigerians. Recent activities of armed robbery, banditry, cattle rustling, kidnapping etc. coupled with adverse weather conditions are aggravating the food insecurity situation (Idris et al., 2020). This led to increase in the prices of food items making it difficult to many household heads to afford what they can adequately feed their family members. It is imperative to assess the existing level of food security in the research region, identify its related challenges and offer plausible recommendations that could close the gap in the literature in

order to ensure food security in the study area and her neighboring communities. The study also evaluated the state of food security in Kurfi, particularly in light of the current economic crisis in Nigeria, which is making it difficult for both urban and rural households to provide for their families. However, rural areas like Kurfi face growing populations and rising food demand, leading to severe food insecurity and poverty extremes. The aim of the study is to analyse food security among farming households in Kurfi Local Government Area of Katsina State. Specifically, described the socio-economic characteristics of the farming households in the study area; estimate the household food security status of the farming household in the study area; estimate the determinants of household food security among the farming households in the study area; identify the coping strategies used by the households in mitigating food insecurity in the area.

MATERIALS AND METHODS

This study was conducted in Kurfi Local Government Area of Katsina State Nigeria. Kurfi has an estimated projection growth rate of 215,275 people with an area of 586.1km², and a coordinates of 12.6686° N, 7.4841° E. The weather of the area is similar to those places in the north, it is hot during the dry season and wet during the rainy season. The rainy season starts from May and last until October. The rainfall is about 150mm. The dry season commences from the month of November until April each year. The cold season is from November to February and the hot season starts from March to May, the maximum temperature can reach up to 44°C. It is generally cold in the morning and hot in the afternoon, while the cold returns during the night. This weather condition is due to the fact that the climate of Northern Nigeria is Sahel Savanna. The soil of Kurfi is a mixture of sand and mud (sandy loam) which is suitable for cultivation of groundnuts, millet, sorghum and cotton. There is pastoral land for rearing of animals like cattle, goats and sheep. The people of Kurfi

Local Government are experienced farmers who grow sorghum, millet and beans, and they rear animals (Mudi A. Kurfi, 2017).

Sampling Procedures and Sample Size

A two-stage sampling procedure was used to select the sample. In the first stage, a purposive sampling was used to select four villages in Kurfi Local Government Area. The justification for using purposive sampling method stem from the fact that, the target respondents that could best answer the research questions are household that engage in farming activities, for they have indepth knowledge as to the status of food security in the area under study, owing to the fact that these villages are said to be largely populated with farming households and on the basis of safety for the researcher. As a result, Barkiya, Birchi, Kurfi and Rawayau villages were selected for the study. In the second stage RAOSOFT calculator was used to determine the estimated number of farming households to be administered which was one hundred and thirty-four (134) with 5% margin of error. However, resources including financial constraints, time constraints allowed the selection of only one hundred (100) farming households for the study and it was then distributed proportionately to the selected villages base on the research study using the techniques of simple random sampling because it gives equal chance to all the members of the population to participate in the study. The expression below was used to determine the number of respondents to be selected from each village.

$$N = (x/X) * n$$

Where;

N = Number of farming households to be selected per village
 x = Number of individual households or household of the individuals per village

X = Total number of food secured individuals in the selected villages

n = Sample size for the study (100)

Table 1: Sample Size Determination

| S/N | Villages | Estimated number of farming households | Number of farming household selected |
|-------|----------|--|--------------------------------------|
| 1 | Barkiya | 62 | 30 |
| 2 | Birchi | 49 | 24 |
| 3 | Kurfi | 57 | 28 |
| 4 | Rawayau | 37 | 18 |
| Total | | 205 | 100 |

The study used primary data collected through well-structured questionnaire using trained enumerators. The data were analyzed using descriptive statistics, the household food security index (FSI) and binary logistic regression model. Food security index was used to estimate the household food security status of the farming household in the study area. The study used the expenditure method of estimating food security adopted from Omonona et al. (2007) which was used to classify the respondents into food secure and food insecure households in a bid to establish the food security status of the farming households. The Food Security Index is given by:

$$F_i = \frac{\text{per capita food expenditure for the } i^{\text{th}} \text{ household}}{\text{mean per capita food expenditure for all households}}$$

Where F_i = food security index; When $F_i \geq 1$ = food secure i^{th} household; When $F_i < 1$ = food insecure i^{th} household.

A binary logit regression model as used by Omotesho ET. al., (2006) and Oyebanjo et. al., (2013). Was used to estimate the determinants of food security among the farming households in the study area so as to achieve objective (iii) of the study. The logistic model is specified explicitly as follows:

$$F_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \mu \tag{3}$$

Where: F_i = Household’s food security status (1, if household is food secure and 0, if household is food insecure); X_1 = Gender of household head (0=female and 1=male); X_2 = Age of household head (years); X_3 = Marital status of household head (0= single, 1= married, 2= widowed and 3= divorced); X_4 = Level of educational attainment of household head (0= never been to school, 1= informal education, 2= primary education, 3= secondary education and 4= tertiary education); X_5 = Household size (number of persons); X_6 = Farming experience (years); X_7 = Monthly household income (Naira) X_8 = Access to credit (0=had no access and 1=had access); X_9 = Access to extension services (0=had no access and 1=had access) $\beta_1 - \beta_9$ = Regression coefficients of the explanatory variables. α = Constant.

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Farming Households

The results in table 2a show that majority (57%) of the farmers were within the age range of 17-36 years. The minimum, maximum and mean ages of the respondents were 17, 76 and 37.7 years, respectively. This indicated that most of the

household heads were within their active age required for farming especially for those involved in large-scale farming for food production and consequently improve the food security status of the farming households. This is in line with the findings of Irohibe et. al., (2014) that majority of the farmers in rural communities are predominantly in their active age, hence can cultivate large size farms for increased food production and engage in off-farm jobs so as to increase household income. Also, the table present results showing the gender distribution of the household heads in the study area. The result shows that the heads of the households in the area are male dominated with about 75% of the household heads being males while 25% of the households were female-headed. The result agrees with the findings of Sadiq (2012)

who inferred that most farmers are males, but females were also found to be actively engaged in farming on a lesser proportion. The part linear nature of African societies gave men more access to properties and assets than women, hence male-headed households are more likely to be engaged in farming and food secure than female-headed households (Agboola et al., 2014). Majority (68%) of the households in table-2a had household sizes ranging from 1-10 persons, the minimum and maximum household sizes were 1 and 50 persons respectively, while the mean household size was 9 persons. The size of a household is an important socio-economic attribute that can influence the food security status of the household.

Table 2: Socio-Economic Characteristics of Farming Households in the Study Area

| Variables | Frequency | Percentage (%) | Mean |
|------------------------------------|-----------|----------------|-------|
| Age (years) | | | |
| 17 - 26 | 24 | 24.0 | |
| 27 - 36 | 33 | 33.0 | |
| 37 - 46 | 17 | 17.0 | 37.7 |
| 47 - 56 | 14 | 14.0 | |
| 57 - 66 | 7 | 7.0 | |
| 67 - 76 | 5 | 5.0 | |
| Gender | | | |
| Male | 75 | 75.0 | |
| Female | 25 | 25.0 | |
| Household Size | | | |
| 1 - 10 | 68 | 68.0 | |
| 11 - 20 | 29 | 29.0 | 9.0 |
| 21 - 30 | 2 | 2.0 | |
| 31 - 40 | 0 | 0 | |
| 41 - 50 | 1 | 1 | |
| Marital status | | | |
| Single | 27 | 27.0 | |
| Married | 72 | 72.0 | |
| Widow/Widower | 1 | 1.0 | |
| Educational Level | | | |
| No School | 5 | 5.0 | |
| Informal Education | 1 | 1.0 | |
| Primary Education | 14 | 14.0 | |
| Secondary Education | 22 | 22.0 | |
| Tertiary Education | 45 | 45.0 | |
| Qu'ranic Education | 13 | 13.0 | |
| | 0 | 0 | |
| | 0 | 0 | |
| | 0 | 0 | |
| | 0 | 0 | |
| Types of Farming | | | |
| None | 3 | 3.0 | |
| Crops | 35 | 35.0 | |
| Livestock's | 20 | 20.0 | |
| Crops & Livestock Farming combined | 42 | 42.0 | |
| | 0 | 0 | |
| Farming experience (years) | | | |
| 1 - 10 | 71 | 71.0 | |
| 11 - 20 | 13 | 13.0 | |
| 21 - 30 | 6 | 6.0 | 11.70 |
| 31 - 40 | 5 | 5.0 | |
| 41 - 50 | 3 | 3.0 | |
| 51 - 60 | 2 | 2.0 | |
| Total | 100 | 100 | |

Source: *Field Survey, 2024*

This is because, on the one hand, large household sizes mean greater responsibility on the household head. Also, given an income level of a household, the greater the household size, the lower the per-capita food expenditure of the household and the more likelihood that the household would be food insecure and vice versa. On the other hand however, a greater household size has the opportunity to supply sufficient labor needed for the cultivation of large-sized farmlands which could increase productivity and consequently improve household food security status. Ekine et. al., (2008) reported that the size of a household is important in supplying part or all of the labor needed by a household in farm production. The Table-2a further reveals the marital status of the household heads. The result shows that majority (72.0%) of the household heads are married, while 27.0% are single and 1.0% being widow/widower respectively. This implies that most of the farmers in the study area are family men or women

who may be using farming as an occupation. Households where the respondents are married and both the spouses are working are expected to be more food secured than single households, widowed or divorced. Most rural farmers will prefer to marry in order to have cheap labor for agricultural activities to enable their household to be food secured (Kirwan et. al., 2013). Marital responsibility may increase the socio-economic responsibility on the household head which may consequently increase household food expenditure and supply of household labor needed for farming activities. This may or may not improve the food security status of households. Table-2a also presents the distribution of household heads based on their levels of educational attainment. The result shows that 5.0% of the heads of households did not have any form of education, 1.0% had informal education, 14% had primary education while 22% had secondary school education and 13% of the respondents

had qua'ranic education. From the table, it is revealed that 45.0% of the household heads acquired tertiary education. The findings implies that majority of the farmers in the study area are educated. Abdullahi et. al., (1999) reported that the level of educational attainment of an individual may indicate productivity potential in both farming and non-farming enterprises. The more educated an individual is, the more likely effective and efficient he or she will be in both farming and non-farming enterprises and the more the income (Agboola et al., 2014), hence better food security.

The distribution of the respondents according to types of farming as presented in table-2a shows that 3.0% engaged in non-farming activities due to various reasons, such as land constraints, lack of resources, or other economic or social factors, 35.0% were involved in crop farming, which can have both positive and negative impacts on food security, as crop production can contribute to food availability and income generation, but can also be vulnerable to environmental shocks and market fluctuations. Meanwhile; 20% of the farming households were also involved in livestock farming and 42.0% were involved in both crop and livestock's respectively. This implies that majority of the farming households in the study area engaged in both crop and livestock combined. This is in consonance with the findings of Smith et. al., (2010) who claimed that the integrated farming systems that combine crops and livestock can enhance food security by improving resource use efficiency and providing diverse sources of food and income and can contribute to more suitable and resilient food systems.

Years of farming experience of the household heads as presented in table-2a shows that experience in farming is one

of the key factors affecting farmers' productivity. Hence, the longer the years of farming experience, the more efficient the farmer becomes. According to the results in the table, 71% of the household heads had farming experience ranging from 1-10 years, Mean farming experience was 11.70 years. The result thus indicates that majority of the farmers in the study area are well experienced in farming hence, have acquired good practical knowledge of farming. This is in agreement with the finding by Zubairu et. al., (2014) who reported that farmers with more years of experience in farming are likely to adopt new innovations easier that would improve their productivity and ensure food security.

The distribution of the respondents on the basis of access to credit facilities as shown in table-2b revealed that 80.0% of the farming households had no access to credit facility, while only 20.0% had access to credit facility. This implies low investment and ultimately low productivity. Farmers' access to credit is an indication of their income and food security. Credit is important to farmers in the purchase of food items, farm inputs and payment for labor and other services needed in agricultural production, which could further strengthen their food security status. Households that can seek for and acquire credit could have a better status of food security than those that are unable to. This corresponds with Kuwornu et al., (2013) whom opined that consumption and production credit can improve household income on both short and long run. While consumption income can be used to increase the food basket of the household, production credit can be used to acquire production resources like seeds, fertilizers, pesticides and others.

Table 3: Socio-Economic Characteristics of Farming Households in the Study Area (Cont.)

| Variables | Frequency | Percentage (%) | Mean |
|-------------------------------|-----------|----------------|------------|
| Access to credit | | | |
| Access | 20 | 20.0 | |
| No access | 80 | 80.0 | |
| Amount of credit Accessed (₦) | | | |
| None | 80 | 80.0 | |
| 20000 - 400000 | 15 | 15.0 | |
| 400 001 - 780001 | 4 | 4.0 | |
| 780002 – 1160002 | 0 | 0 | 76,200.09 |
| 1160003 - 1540003 | 0 | 0 | |
| 1540004 - 1920004 | 0 | 0 | |
| 1920005 – 2300005 | 1 | 1.0 | |
| Access to Extension services | | | |
| Access | 14 | 14.0 | |
| No Access | 86 | 86.0 | |
| Number of Extension Visits | | | |
| None | 86 | 86.0 | |
| 1 - 3 | 12 | 12.0 | 0.37 |
| 4 - 6 | 1 | 1.0 | |
| 7 – 9 | 1 | 1.0 | |
| Estimated income (₦) | | | |
| 4000 - 199999 | 42 | 42.0 | |
| 200000 - 399999 | 22 | 22.0 | |
| 400000 - 599999 | 15 | 15.0 | 446,439.46 |
| 600000 - 799999 | 0 | 0 | |
| 800000 - 999999 | 6 | 6.0 | |
| > 1000000 | 15 | 15.0 | |
| Total | 100 | 100 | |

Source: *Field Survey, 2024*

Furthermore, Access to extension service by the farming household is also presented in table-2b. Result revealed that majority 86.0% of the households had no access to extension services; while 14.0% were visited by extension agents. This implies that most farmers in the study area do not have access to extension services making it more worrisome as far as farmer's education and adoption of new technologies is concerned. This could pose a threat to households having access to better crop production techniques, improved inputs

as well as other agricultural information provided by extension agents; and consequently render them food insecure. This is in contrast with the findings of Irohibe et. al., (2014) who reported that majority of farmers in some rural communities in Kano state had access to extension services. This could be attributed to differences in time and location as well as socio-cultural factors.

Income is an important economic determinant of households' access to food. Also presented in table-2b is the distribution

of farming households based on their level of income. The data shows that the majority of the population falls in the lower income categories, with 42% of the population having an estimated income between ₦4000-₦199999, and 22% having an estimated income between ₦200000-₦399999. This means that a significant portion of the population may not have sufficient income to afford nutritious and safe food, which is a critical dimension of food security. Mean annual income in the study area was ₦446,439.46. Income of households has positive effect on their food security status, implying that the more gainfully employed a household head

is, the greater the chances of his/her household of being food secure (Arene et. al., 2010)

Food Security Status of the Farming Households

Table-3 presents result of Food security index estimation, using expenditure method as used by Omonona et. al., (2007) and Zubairu et. al., (2014) were employed to classify the respondents into food secure and food insecure household in order to establish the food security status of the farming households in the study area.

Table 4: Food Security Status of Farming Households

| Household Food Security Status | Frequency | Percentage |
|---|-----------|-------------|
| Food Secure | 58 | 58 |
| Food Insecure | 42 | 42 |
| Total | 100 | 100 |
| Mean Per Capital Food Expenditure for all Households | | ₦357,566.30 |
| Food security line (2/3 Mean Per Capital Food Expenditure for all Households) | | ₦238,377.53 |

Source: Field survey, 2024.

*MPCFE = Mean per capita food expenditure of all household

Result presented in Table 3 revealed that the food security line (2/3 MPCFE) for all households was ₦238,377.53. Household whose per capita food expenditure is equal to or greater than 2/3MPCFE were designated as food secure households, while households whose per capita food expenditure fall less of the 2/3MPCFE were designated as food insecure households. The table revealed that the per capita food expenditure of majority of the households were at least equal to or greater than the 2/3MPCFE, representing 58.0% of all the households, hence such households were food secure; while the per capita food expenditure of 42.0% of the households were less than the 2/3MPCFE, hence food insecure. The average per capita food expenditure of all the households was ₦357,566.30. This implies that majority of the households in the study area were

food secured. This corroborates with several findings (Irohbe et. al., 2014; & Olaoye et. al., 2015) who reported that majority of households they studied in Kano and Ogbomosho were food secured respectively. The findings are however, in contradiction with those of Arene et. al., (2010) who reported that more than half of the households in Nsukka metropolis were food unsecured. This could be attributed to differences in location and time.

Determinants of Food Security Status among Farming Households

The factor influencing food security among farming households in the area was analyzed using binary logistic model and the result were presented in Table-4.

Table 5: Binary Logistic Regression Results Showing the Determinants of Food Security Status among Farming Households

| Food Security Status | Co-efficient | Standard Error | Z-value | P > z | 95% Conf. | Interval |
|----------------------|--------------|----------------|---------|--------|------------|----------|
| *Age | .03998489 | .0230205 | 1.74 | 0.082 | -.0051344 | .0851041 |
| Education | -.0037112 | .20976 | - 0.02 | 0.986 | -.4148333 | .4074109 |
| **Household size | -.307202 | .0693798 | - 4.43 | 0.000 | -.4431839 | -.17122 |
| Farming experience | .014406 | .02944 | 0.49 | 0.625 | -.0432954 | .0721074 |
| Income | 6.20e-08 | 4.80e-07 | 0.13 | 0.897 | - 8.80e-07 | 1.00e-06 |
| _Cons | 1.320822 | 1.173449 | 1.13 | 0.260 | -.9790947 | 3.62074 |

Number of observations= 100, LR Chi² (5) = 35.26, Prob > Chi² = 0.000 pseudo R² = 0.2591, Log Likelihood = -50.400477; ***significant at 1%; **significant at 5% and *Significant at 10%

Source: Field Survey, 2024.

Results in Table-4 reveals that the coefficient of age is positive and it is statistically significant at 10% level of probability. This implies that as respondents' age increase the likelihood of being food secured increases. Older farmers tend to have better experience in managing household farms and other sources of income even when they are getting older. They build trust overtime that earn them respect in their households and communities that makes their instruction to make things happen even when their physical strength cannot do certain things. Although on the other hand, young and energetic household heads are expected to cultivate larger farms compared to the older and weaker household heads. Also, older household heads may not have the ability to obtain off-farm jobs and income which younger household heads can. This is agreeing with Smith et al. (2018) who suggested that age can impact food security, with older individuals facing greater challenges due to limited mobility and fixed incomes. In addition, household size had a negative influence on food security status of the farming households at 1% level

of significance in the study area. This negative relationship suggests that as household size increases, food security decreases. This aligns with findings from Food and Agriculture Organization (FAO, 2020), which suggest that larger households tend to face greater challenges in accessing adequate food due to increased resource demands.

Farming experience refers to the number of years household heads are engaged in farming. The coefficient of farming experience is positive and is statistically not significant. An experienced household head is expected to have more insight and ability to diversify his production to minimize risks of food shortage. Also, an experienced farmer is expected to have adequate knowledge in pests and diseases management as well as good knowledge of weather. This agrees with the findings of Feleke et. al., (2003) and Oluyole et. al., (2009) who found a positive relationship between farming experience and food security status. Furthermore, income as a determinant of food security yielded a non-significant result, indicating that there is no statistically significant relationship

between income and food security in the context of the study. This finding is consistent with previous research that has also found mixed or inconclusive results regarding the impact of income on food security. For example, a study by Thompson et. al., (2019) found that while higher income levels were associated with improved food security due to increased purchasing power, the relationship was not always straightforward and could be influenced by other factors such as access to markets and social support networks. Similarly,

research by Brown et. al., (2017) suggests that while income can play a role in improving food security outcomes, its impact may be limited by factors such as household size and education.

Coping Strategies Adopted By Farming Households

Table -4 presents result of strategies used by the farming households to cope with situations of food insecurity in the study area.

Table 6: Food Insecurity Coping Strategies

| Coping Strategies | Frequency* | Percentage | Ranking |
|--|------------|------------|------------------|
| Buying less quality food to feed the family | 68 | 68.0 | 1 st |
| Allowing younger ones to eat before the adults | 66 | 66.0 | 2 nd |
| Eating less preferred food | 64 | 64.0 | 3 rd |
| Reducing food quantity to feed the family | 63 | 63.0 | 4 th |
| Eating same food for sometimes | 62 | 62.0 | 5 th |
| Skipping meal because you don't have enough to eat | 54 | 54.0 | 6 th |
| Borrowing money to buy food | 43 | 43.0 | 7 th |
| Borrowing food commodities from sellers | 41 | 41.0 | 8 th |
| Selling properties to buy food | 38 | 38.0 | 9 th |
| Borrowing food commodities from neighbours/friends | 33 | 33.0 | 10 th |
| Begging for food | 20 | 20.0 | 11 th |
| Sending young children to do petty trading | 20 | 20.0 | 11 th |
| Sending children to neighbours to eat | 11 | 11.0 | 13 th |

Source: *Field survey, 2024*. *Multiple Responses were allowed.

Results in Table -4 indicated that the most commonly used food insecurity coping strategy was buying less quality food to feed the family which was ranked first and used by 68.0% of the farming households while 11.0% send their children to neighbours to eat because they don't a better source of income to buy food. This implies that the respondents go for cheaper food items (of lower qualities) as long as their money will get them more quantity Also, 33.0% of the farming households borrowed food commodities from neighbours and friends when they find themselves in food insecure situations, and this strategy was ranked 10th. This is supported by the findings of Irohabe et. al. (2014), who in a similar study reported that farmers' access to credit is a crucial factor in determining the food security status of an individual. The Table further revealed that 64.0% of the farming households in the study area improvised by eating less preferred food and 63.0% reduced the quantity and quality of food consumed as measures for cushioning the effect of food insecurity. This could be as a result of high market prices of food items and low income levels of the farming households, which may cause households to opt for food that are less preferred. This finding is in consonance with that of Ibrahim et. al., (2009) who reported that some coping strategies employed by farming households include reducing the quantity and quality of meals consumed and purchasing less preferred food items. In addition, 62.0% of the farming households eat the same food for sometimes in order to reduce the effect of food insecurity in the study area. Other coping strategies adopted by the farming households in the study area include borrowing money to buy food which was ranked 7th, 41.0% borrowed food commodities from sellers, 38.0% sold household properties to purchase food items, as well as 20% of the farming households begged for food from friends and relatives. Hassan et. al., (1991) have found that the level of assets ownership in a household is an indication of its endowment and provides a good measure of household resilience in times of food crisis, resulting from famines, crop failures or other natural disasters. This is because a household can easily fall back on its assets in time of need by selling or leasing them.

CONCLUSION

Based on the study result, the following conclusions were made; integrated farming in the study area is mostly undertaken by male farmers who are in their prime age. They are mostly small-scale farmers. Majority of rural farming households in the study area are food secured with poor access to credit facilities and access to extension services as their greatest concern. Based on the findings of this research, the following recommendations are drawn or proffered.

- There should be easy access to affordable credit facilities and extension services in order to empower farming households to increase their production capacity.
- Farming households can come together to form cooperatives with the aim of helping themselves to improve their living standards through bulk purchase inputs and sales of outputs to expand their profit margins in their farm production activities.

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