



ANALYSIS OF FOOD SECURITY STATUS AND COPING STRATEGIES AMONG RURAL HOUSEHOLDS IN OLUYOLE LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA



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Abstract: This study analyzed the food security status and coping strategies among rural households in Oluyole local government areas of Oyo State, Nigeria. The specific objectives were to; describe the socio-economic characteristics of rural farming household heads, determine the level of food security status of the respondents, identify the coping strategies of rural household towards food insecurity in the study area and identify the causes of food insecurity encountered by respondents in the study area. A multistage sampling technique was used to collect primary data from 150 household heads using questionnaire. Data collected were analyzed using descriptive and inferential statistics. The findings revealed that 79.3 % of the respondents were male and 86.7 % were married. 96.6 % were educated and cultivated an average of about 1.74 hectares of farmland. The mean per capita food expenditure per month was estimated to be ₦6,470.46 and the 2/3 mean per capital food expenditure for the entire household was ₦4,313.64, the value was used as food security index; 58.7 % of the households were food secured. The respondents adopted several strategies to cope with food insecurity such as selling livestock to buy food, rationing money, purchasing food on credit, borrowing money, buying of less expensive food, skipping meals, allowing children to eat first, harvesting immature food crops, migrating to search job, off farm employment and consuming seed reserve. It is recommended that food security policy strategies to be put in place by the government should consider the socio-economic characteristics of households in order to achieve more than a marginal reduction in the number of food insecure households.

Keywords: Food security status, coping strategies, rural households

Introduction

It is a widely accepted fact that food is a basic necessity of life. Its importance at the household level is obvious since it is a basic means of sustenance (Olayemi, 1998). In view of the importance of food in man's life, food is rated as the most basic of all human needs (Oluyole and Lawal, 2008). Adequate intake of quality food is a key requirement for healthy and productive life (Okwoche and Asogwa, 2012). Shala and Stacey (2001) found out that sub-Saharan Africa was the most vulnerable region with average amount of food available per person per day in the region was 1,300 calories compared to the world wide average of 2,700 calories. Food and Agriculture Organization FAO (2004) concluded that Africa has more countries with food insecurity problems than any other region. FAO (2012) reported that nearly 870 million people were suffering from chronic undernourishment between 2010 and 2012 majority whom are living in developing countries. Even though, Nigeria has great agricultural potentials and abundant natural resources for all round development, most indicators of the economic well-being are still very low.

Food insecurity and poverty are still widespread across different parts of the country. Food insecurity situation in Nigeria is worsening with the passage of time due to the wide gap between the national supply and demand for food. For example the percentage of food insecure households rose from 18 % in 1986 to over 40 % in 2005 (Sanusi *et al.*, 2006). However, a number of studies in recent time showed that between 31 and 52 % of the populations in Nigeria was food secure (Babatunde *et al.*, 2007; Amaza *et al.*, 2007; Obamiro *et al.*, 2006; Ziervogel *et al.*, 2006). Reducing the number of food insecure households, therefore, continues to be a top priority of Nigerian government. This is necessary because as is the case of many developing countries Nigeria is faced with a major challenge of feeding its ever-increasing human population, which currently stood at 167 million. It is feared that the population figure might significantly rise due to a number of factors: Akinyele (2009) reported that, there are overwhelmingly large proportion of Nigerians who are food

insecure that spread across both urban and rural communities, though most of the food insecure are found in the rural areas.

According to Maharjan and Chhetri (2006), food security is widely seen as access by all people at all times to enough food for an active life, while food insecurity is the inability of a household or individuals to meet the required consumption levels in the face of fluctuating production, price and income. At the national level, food security exists when all people at all times have the physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for active and healthy life, while at the household level, food security implies physical and economic access to food that is adequate in terms of quantity, safety and cultural accessibility, to meet each person's need (Ingawa, 2002).

There exist four major elements in accessing food security, namely: availability, accessibility, utilization, and sustainability. While availability connotes the physical presence of a large quantity of food, accessibility implies that there is the ability to acquire the required quantity; utilization/adequacy means sufficiency in both quantity and quality of food; and sustainability implies access at all times and not losing such access (Omonona and Agoi, 2007). Majority of the recent research works that have been done so far on issues related to food security are relatively broad and considers the problem from national or regional point of view (Fiona *et al.*, 2011; Adewuyi and Hayatu, 2011; Ayantoye *et al.*, 2011; Asogwa and Umeh 2012; Adeniyi and Ojo, 2013; Adepoju and Adejere, 2013; Adamu, 2014). However, it is difficult to generalize about coping strategies in response to food insecurity. The strategies are at best region specific and when ineffective, vulnerability of marginal groups is increased. It is therefore critical to verify and screen the adaptation options in a particular situation to generate relevant information. Based on this, the study focused on the food security status and coping strategies among the different respondents in Oluyole local government area of Oyo State, Nigeria.

Materials and Methods

The study was conducted in Oluyole Local Government Area (LGA) of Oyo State, Nigeria. Data for this study was collected from primary source with the aid of a structured questionnaire administered to the respondents. Multi-stage sampling technique was employed in selecting the representative households used for this study. The local government comprises of 10 wards in which all wards with rural settlements (8 wards) in the study area were purposively selected in the first stage. The second stage involved the random selection of 50 % of these wards (4 wards). The selection of settlements was constituted the third stage. 50 % of the rural settlements (25 villages) were proportionately sampled from the wards selected. The last stage was the selection of household heads from the chosen settlements. A total of 150 respondents were drawn from the chosen settlements proportionate to size.

Descriptive statistics such as frequency distribution, means and percentages were used to in the study. The food security line was estimated as two-third of mean per capita monthly expenditure of all respondents. Households were then classified into their food security status as food secure and food insecure households based on the food security line. The formula is given as;

$$FSi = \frac{\frac{2}{3} \text{percapita food expenditure for the ith household}}{\frac{2}{3} \text{mean per capita food expenditure of all households}} \dots\dots (1)$$

Where: FSi= food security index

FSi ≥ 1 food secure ith household.

FSi < 1 food insecure ith household.

Likert scale was used to identify the coping strategies adopted by the rural household towards food insecurity of the respondents in the study area.

Results and Discussion

Socio-economic characteristics of the respondents

Table 1 show that 79.3% of the rural farming household heads were males while 20.7% were females. This shows that majority of the respondents involved in farming activities were males. 38.7% accounted for those that were within the age range of 21 and 40, 50.0% accounted for 41-60 and above 60 years were 11.3% respectively. Majority of the respondents were married (86.7%) while 1.3%, 6.7% and 5.3% accounted for single, Widow/Widower and Divorced respectively. This agrees with (Olayemi, 1998; Gordon and Craig, 2001) that said, marital status influences the level of participation in farming and non-farm economic activities and also, household food security status. 48.7% of the respondents had household size between 1 and 5 while 42.7%, 6.7% and 2.0% had 6-10, 11-15 and 16-20 people, respectively. Adebayo (2012) reported that household size affects food availability per head in the family. Distribution based on educational level of respondents revealed that only 3.4% of the respondents did not have any form of education while 96.6% had one form of education or the other and this in line with Tashikalma *et al.* (2015) who opined that literate status can improve food security status and also the adoption of improved farm practices.. The mean farm size of the respondents was about 1.74 hectares. The result shows that majority of the respondents were into crop and livestock farming had 69.3% while 18.7%, 10.7% and 1.3% engaged in only crop farming, livestock rearing and horticulture respectively. This finding is in line with those of Arene *et al.* (2010) and Oni and Fashogbon (2013) who said that, rural Nigeria is characterized by small scale agrarian livelihood as well as certain other primary production activities.

Table 1: Descriptive statistics of respondents

| Socio economic characteristics | Frequency | Percentage (%) |
|--------------------------------|-----------|----------------|
|--------------------------------|-----------|----------------|

Gender

| | | |
|--------|-----|------|
| Male | 119 | 79.3 |
| Female | 31 | 20.7 |

Age (Years)

| | | |
|-------|----|------|
| 21-40 | 58 | 38.7 |
| 41-60 | 75 | 50.0 |
| >61 | 17 | 11.3 |

Mean age is 45.4 years

Marital Status

| | | |
|---------------|-----|------|
| Single | 2 | 1.3 |
| Married | 130 | 86.7 |
| Widow/Widower | 10 | 6.7 |
| Divorced | 8 | 5.3 |

Household Size (Number)

| | | |
|-------|----|------|
| 1-5 | 73 | 48.7 |
| 6-10 | 64 | 42.7 |
| 11-15 | 10 | 6.7 |
| 16-20 | 3 | 2.0 |

Mean household size is 6.4

Educational Level

| | | |
|---------------------|----|------|
| No Formal Education | 5 | 3.4 |
| Primary Education | 54 | 36.0 |
| Secondary Education | 53 | 35.3 |
| Tertiary Education | 38 | 25.3 |

Farm Size (Ha)

| | | |
|------|----|------|
| < 1 | 72 | 48.0 |
| 1-5 | 74 | 49.3 |
| 6-10 | 4 | 2.7 |

Farming Activities

| | | |
|----------------------------|-----|-------|
| Crop Farming | 28 | 18.7 |
| Livestock Farming | 16 | 10.7 |
| Crop and Livestock Farming | 104 | 69.3 |
| Horticulture | 2 | 1.3 |
| Total | 150 | 100.0 |

Source: Field Survey (2015)

Table 2: Food security status of the respondents

| Food security status | Frequency | Percentage (%) |
|---|-----------|----------------|
| Food insecure | 62 | 41.3 |
| Food secure | 88 | 58.7 |
| Total | 150 | 100.0 |
| Total household size is 150 | | |
| Mean per capita household food expenditure (MPCHHFE) is ₦6,470.46 | | |
| Food security line (2/3 of MPCHHFE) is ₦4,313.64 | | |

Source: Field Survey (2015)

Respondents' food security status

Food security index which is per capita food expenditure for the ith household divided by 2/3 mean per capital food expenditure of all households was used to determine the food security status. Household with food security index (F1) greater or equal to one was considered food secured. Table 2 reveals that, the monthly mean per capita food expenditure for the total household was ₦6,470.46 and the 2/3 mean per capital food expenditure for all the household was ₦4,313.64. Using the mean per capital household food expenditure, the selected households were divided into two mutually exclusive. A total of 58.7% of the surveyed households had per capita food expenditure equal or greater than 2/3 mean per capita food expenditure, while 41.3% fall below the poverty line. This implies that 41.3% of households in the study area were food insecure and 58.7% of the households were food secure. This implies that 41.3% of the farming households in

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the study area were food insecure while 58.7% were food secure. This agrees with the findings of Olayiwola (2013) who reported that, 52% of smallholders' farmers were food secured and this is in line with the findings of Solomon *et al.* (2005) who reported that, there is high incidence of food insecurity in rural Nigeria.

Coping strategies of the respondents in the study area

Coping strategies were employed to cushion the effects of not having enough food to meet the household's needs. Most rural households sampled produced mainly for domestic consumption resulting in low food reserves. These households were either not able to produce enough to last throughout the year or were unable to store enough produce for home consumption throughout the year. Table 3 shows the coping strategies employed by respondents in the study area. The frequency of use of various coping strategies was ranked. Selling livestock to buy food was ranked 1st with mean score (2.49). This shows that respondents increased their access to food by these strategies. Rationing money, purchasing food on credit and borrowing money was ranked 2nd with mean score (2.47), 3rd with mean score (2.45) and 4th with mean score (2.43) respectively. This indicates short term household food availability. Buying of less expensive food was ranked 5th with mean score (2.41). This shows that respondents start to change their consumption pattern that is (dietary

adjustment) in the face of inadequate access to food as reported by Adebayo (2012). Skipping Meals, allowing children to eat first, harvesting immature food crops and consuming seed reserve were ranked 6th with mean score (2.28), 7th with mean score (2.16), 8th with mean score (2.04) and 10th with mean score (2.01) respectively. This implies that, rural household heads changed the consumption pattern in the face of food insecurity and also respondents increase short term household food availability. Migrating to search job and off farm employment were ranked 8th with mean score (2.04) and 9th with mean score (2.03). This shows that rural household heads were diversify to non-farm activities in order to survive food insecurity.

Other coping strategies that were not effective include; reduction in quantity of food served children (1.92), consumption of unconventional food (1.91), reliance on help from relatives (1.84) and picking of leftover food at social function (1.76) among others. However, no household in the rural area skipped whole day(s) without food. In line with the views of Quaye (2008) and Adekoya (2009), households in the study area employed both protecting consumption and modifying consumption. This implies that respondents in the study area not employed all the coping strategies in order to be food secure.

Table 3: Distribution of respondents according to coping strategies employed

| Coping Strategies | Always | | Occasionally | | Never | | Mean | Rank |
|---|--------|------|--------------|------|-------|------|------|------------------|
| | Freq | % | Freq | % | Freq | % | | |
| Borrowing Money | 98 | 65.3 | 18 | 12.0 | 34 | 22.7 | 2.43 | 4 th |
| Rationing Money | 98 | 65.3 | 24 | 16.0 | 28 | 18.7 | 2.47 | 2 nd |
| Skiping Meals | 94 | 62.7 | 4 | 2.7 | 52 | 34.7 | 2.28 | 6 th |
| Consumption of Unconventional Food | 66 | 44.0 | 4 | 2.7 | 80 | 53.3 | 1.91 | 12 th |
| Reduction in Quantity of food Served Children | 64 | 42.7 | 10 | 6.7 | 76 | 50.7 | 1.92 | 11 th |
| Off farm Employment | 62 | 41.3 | 30 | 20.0 | 58 | 38.7 | 2.03 | 9 th |
| Reliance on help from relatives | 56 | 37.3 | 14 | 9.3 | 80 | 53.3 | 1.84 | 13 th |
| Purchasing food on credit | 108 | 72.0 | 2 | 1.3 | 40 | 26.7 | 2.45 | 3 rd |
| Skiping Meals for whole day | 20 | 13.3 | 0 | 0.0 | 130 | 86.7 | 1.27 | 18 th |
| Buying of less expensive food | 102 | 68.0 | 8 | 5.3 | 40 | 26.7 | 2.41 | 5 th |
| Selling durable Assets | 44 | 29.3 | 4 | 2.7 | 102 | 68.0 | 1.61 | 15 th |
| Eating Wild Fruits | 26 | 17.3 | 6 | 4.0 | 118 | 78.7 | 1.39 | 16 th |
| Allowing Children to Eat First | 76 | 50.7 | 22 | 14.7 | 52 | 34.7 | 2.16 | 7 th |
| Picking of leftover Food at Social Function | 56 | 37.3 | 2 | 1.3 | 92 | 61.3 | 1.76 | 15 th |
| Consuming Seed Reserve | 76 | 50.7 | 0 | 0.0 | 74 | 49.3 | 2.01 | 10 th |
| Harvesting Immature Food Crops | 74 | 49.3 | 8 | 5.3 | 68 | 45.3 | 2.04 | 8 th |
| Selling Livestock to buy Food | 108 | 72.0 | 8 | 5.3 | 34 | 22.7 | 2.49 | 1 st |
| Migrating to search job | 74 | 49.3 | 8 | 5.3 | 68 | 45.3 | 2.04 | 8 th |
| Withdrawal of Children from School | 22 | 14.7 | 0 | 0.0 | 128 | 85.3 | 1.29 | 17 th |

Source:Field Survey (2015)

Table 4: Distribution of respondents according to causes of food insecurity

| Causes of household food insecurity | Frequency | Percentage (%) |
|---|-----------|----------------|
| Poverty | 130 | 19.0 |
| Use of crude implements for farming | 114 | 16.7 |
| Low level of income at household level | 82 | 11.8 |
| No access to modern inputs | 70 | 10.3 |
| Poor Nutrition Education | 66 | 9.7 |
| High cost of food items | 60 | 8.8 |
| Ignorance | 58 | 8.5 |
| Insufficient attention to food production | 56 | 8.2 |
| Shift from rural to urban area | 48 | 7.0 |
| Total | 684* | 100.0 |

Source: Field Survey (2015); *Multiple responses

Causes of food insecurity in the study area

The distribution of identified causes of household food insecurity encountered by the respondents in the study area is

presented on Table 4. Poverty (19.0%) has been identified as the most serious cause and ranked first among the list of causes faced by respondents. Use of crude implements for farming (16.7%) ranked second followed by low level of income at household level (11.8%) and no access to modern inputs (10.2%). Other causes faced by the respondents include; poor nutrition education, high cost of food items, ignorance, insufficient attention to food production and Shift from rural to urban area. This implies that most of the respondents' cause of food insecurity was centred on poverty which goes beyond income poverty; it can be simply described as a condition of unsustainable livelihood. This is in consonance with United Nations (1997) who cited that sustainability in the context of livelihood of farm households mean the ability to maintain and improve food security status of a rural household while maintaining and enhancing the means of livelihood.

Conclusion

Food security is a fundamental objective of development policy and also a measure of its success. Yet, achieving food security is still a problem in most households in the study area. The analysis and findings in this study have shown that food insecurity is a problem measured and also opined by the respondents. However, respondents adopted several strategies to cope with food insecurity but they are caused by many factors. Notably among causes of food insecurity is poverty. Hence, it is expected that the synergistic effect of these factors will lead to the implementation of future meaningful food security strategies in the study area. Based on the findings of this study, the following policy measures aimed at improving households' food security status in the study area were recommended.

- i. Policy makers should therefore accept the potentials of small scale farmers by developing appropriate policy in support of it. This should include provision of credit facilities to farmers in order to change their production techniques of smallholder farmers;
- ii. The need to promote sustainable livelihood among rural households through job-creating programmes and policy of Government, such as National Directorate of Employment (NDE), Graduate Internship Scheme (GIS) and National Poverty Eradication Programme (NAPEP) in the rural areas in order to reduce farmers' dependency ratio hence, empowering the rural households to be food secured.
- iii. The launching of enlightenment programmes on nutrition education especially on the different food groups and dietary diversification practices among the low income households. This will help households re-orient their daily diets towards the consumption of a more diversified diet.

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