

# **Analysis of Food Insecurity and Coping Mechanisms among Rural Women in Boripe Local Government Area Of Osun State, Nigeria**

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## **ABSTRACT**

The study was based on food insecurity level and coping mechanisms among the rural women in Boripe local government area, of Osun state. The study therefore examined the level of food insecurity and coping mechanisms among the rural women.

The broad objective of the study was to determine the level of food insecurity and coping strategies among the different respondents in Boripe Local government area of Osun state. The study utilized multi stage sampling technique which involved more than one sample stage and systematic random sampling technique to get the required sample for the study, which gives room for 120 well-structured questionnaires. The data were analyzed using descriptive statistics, food insecurity coping strategy and household food insecurity scale (HFIAS) and Logit regression model. The findings revealed that most of the respondents were in their active age and most were not. All respondents were females with 72.5% married.

Few (30%) of the respondents never worry about their households food security, 46.7% sometimes had to eat a limited variety of food 30.0% rarely ate a limited variety of food and only 16.7% could eat the variety of food they wanted based on the insecurity condition where house members had to eat some food that they didn't really want to eat 20%, had nothing to worry about, 39.2% rarely did 32.5% sometimes had to and only 8.3% often had to worry about this insecurity condition.

37.5% of the respondent always had food to eat, 41.7% rarely ran out of food 14.2% sometimes ran out of food and only 6.7% of the total respondent often had no food to eat of any kind in their household. 37.5% of the respondent never went to bed hungry, Furthermore, the result indicated that 70% of the respondents were food insecure while only 30% were food secure.

## **Introduction**

The issue of food security has been understood by many development workers as the availability of food in the world marketplace and on the food production systems of developing countries (FANTA, 2003). However, global food availability does not ensure food security in any particular country because what is available in the world market may not necessarily be accessible by famine affected people in African countries, as the economies of these countries, in general, cannot generate the foreign currency needed to purchase food from the world market (Bedeke, 2012).

Basically, there are two forms of food insecurity, namely chronic undernourishment and transitory food insecurity. Chronic food insecurity implies a persistent inability on the part of the household to access adequate food. Chronic food insecurity generally arises through inadequate access to resources, and is therefore structural in character. Transitory food insecurity come about as a result of shocks due to economic failures and human induced as well as natural disasters creating food shortages that affect, temporarily, all or part of the country population. In addition, even in the absence of chronic and transitory hunger the population may suffer from the lack of essential micronutrients. This is often referred to as hidden hunger (Maxwell, 2000).

According to Moharjan 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).

A country can be said to be enjoying food security when people's fear of not having enough to eat is removed and the most vulnerable group, namely women and children, in the marginal areas have access to adequate quality of food they want. According to the World Bank (1986), food security refers to access to food resources by each individual at all times for healthy and active life. Food demand in Nigeria has generally grown

faster than either food production or total supply. Central Bank of Nigeria (CBN 2001) reported that the rate of increase in food production of 2.5 percent per annum does not keep pace with the annual population growth rate of 2.8 percent per annum. Fakiyesi (2001) also maintained that Nigeria's domestic food supply has been far short of the need of the population. This could result in reduced consumption among the poor. The urban poor in particular are lacking in education, basic technical skills and employment. Consequently these category of persons belong to the low – income groups and are therefore most vulnerable to food insecurity. Given the high cost of social services, nutritional level and food purchasing capacity tend to deteriorate as relatively large proportion of income goes to meeting these social services (Olayemi, 1998). Ali (1994) stated that the African poor have common characteristics of facing the most severe difficulties in relation to production of food and access to food market which make them most vulnerable to food security crisis. In Nigeria, the issue of food in security is of a major concern. This is particularly more in the northern Sudan Savannah and Sahel zones which have the highest prevalence of under nutrition (FAO, 1998) and where the study area lies. Fakiyesi (2001) also estimated that about 66% of Nigeria's populations live below poverty line as portrayed by their level of food security

Poverty in Nigeria used to be a rural phenomenon, but lately, it has become a common rural and urban experience which correlates directly with family size and the number of earners in a particular household. The rural populace in Nigeria depends on traditional agricultural methods with limited or no improved technology to support their agricultural techniques, as a means of providing food and improving on their sources of income. With the small income and low productivity from agricultural activity one unavoidable eventuality of the farming populace in Nigeria and their dependents (Urban and Rural) is food insecurity.

Food insecurity is an issue that is growing in prevalence proportionately to the effort being put in place to combat it its being intractable is rather due to the global approach being employed instead of formulating and applying solutions based on specific locations with an understanding of the social system and livelihood activities (Food and Agricultural Organization FAO 2003). It is necessary to include food availability, affordability, and accessibility as factors underpinning food security. Food insecurity is experienced differently at the household adult and child levels. Household with children and young children in particular have higher rates of food insecurity rates than households without children (Nord et al. 2008).

As capital for investment dries up, consumption (both food and nonfood) is restricted, stores of food are drawn down, and the number and variety of potential income sources that are available become crucial to survival and the ability to protect past investments decreases (Windfuhr, 2005).

### **Objectives of the study**

The main objective of the study is to determine the level of food insecurity and coping strategies among the different respondents in Boripe Local government area of Osun state. The Specific objectives are to:

- i. examine the socio-economic characteristics of the respondent,
- ii. determine the level of food insecurity of the respondents,
- iii. identify the coping mechanisms of rural women towards food insecurity,
- iv. determine the food security index of the respondents,
- v. examine the problems of food security encountered by rural women

### **Hypothesis**

Null hypothesis was used for this research: There is no significant relationship between the socio-economic characteristics of the respondents and food insecurity status.

### **Methodology**

This research was carried out in Boripe local government area. Boripe local government area is located in Osun state, Nigeria.

Multi stage sampling technique was employed in selecting the sample (120 respondents) needed for the study. The first stage involved the selection of Six (6) villages out of the nine villages in Boripe local government, the Second stage made use of systematic random sampling in selecting 20 respondents by picking every fifth (5<sup>th</sup>) households in each town.

Data used were generated through the use of structured questionnaires administered to the selected households. Descriptive statistics, such as age marital status, level of education, food insecurity, coping mechanisms and Logit model was used in the data analysis. Food insecurity coping strategies are means by which households adapt with unavailability or insufficient of food for a healthy life. Given the difficulties of acquiring valid and reliable figure for income expenditure and production and the high data collection cost, an

indicator was developed to capture the short termed food insufficiency at household level. The dependent variable of the study is the household food insecurity level. It was measured by adapting Household Food Insecurity Access Scale HFIAS (Coates et al; 2007). Also food security index was used to classified household into food secure and food insecure. It is given as

$F_i = \frac{\text{Per capita food expenditure for the } i\text{th household}}{2/3 \text{ mean per capita food expenditure of all household}}$

Where  $F_i$  = food security index

Where  $F_i \geq 1$  = food security of ith household

$F_i < 1$  = food insecure of ith household

A food secure household is therefore that whose per capita monthly food expenditure fall above or is equal to two-third of the mean per capita food expenditure. On the other hand a food insecure household is that whose per capita food expenditure falls below two-third of the mean monthly per capita food expenditure. Omonona and Agoi (2007)

To examine the determinants of food insecurity a Logit model was used to determine the factors influencing entering or exiting food insecurity. The model was adopted for its suitability in capturing the various degree of food insecurity among the food insecure households.

$Y_{ij} = b_0 + b_1 X_1 + b_n X_n + e$

Where:  $Y_{ij}$  = the dependent variable for the various food insecurity transitions

$j = 1, \dots, 4$  categories of food insecurity transitions

$Y_{ij} = f(X_1, X_2, \dots, X_5)$

$X_i$  = the independent variables

The independent variables, which are the socio – economic and demographic variables, are captured as:

$X_1$  = Household sizes

$X_2$  = Primary education

$X_3$  = Age of respondents (year)

$X_4$  = Marital status of the respondents

$X_5$  = Gender of the household head

## Results and Discussions

### Socio-economic characteristics

Table 1 shows the socio-economic characteristics of the respondents. The table revealed that 31.5% of the rural women were between 40-49 years. It also shows 8.4% for women between 20-29 years, 25.9% for women between 30-39 years, 23.2% for 50-59 years and 10.8% for women between 60-69 years. This revealed that most of the rural women in the study area were relatively young. This implies that most of the respondents are still in their active age and are capable of providing for the members of their household towards ensuring food security. The table also showed that 72.5% of the respondents were married, 4.2% were single, 6.7% were divorced, and 16.7% were widowed. This implies that most of the rural women in the area of study were married women.

The data in table 1 revealed that 22.5% of population had no formal education 50.8% had primary school education while 9.2% had tertiary education. This implies that majority (60%) of the respondents has formal education and this defines the type of their income generating and livelihood activities. According to the findings, it was observed that 46.5% of the respondents had household size between the ranges of 1-5, 47.5% were between the range of 6-10 and only 5.9% of the total populations were above 10. The mean household size was 6.10 members. This implies that majority of the respondents possess medium household size.

On the membership of social organizations, the result revealed that majority of the respondents belonged to a social organization. Specifically, 70.08% of the respondents belonged to a social organization while only 29.2% of the respondents did not belong to a social organization. The table also revealed the statistics on the primary occupation of the respondents. 38.3 % of the of the respondents were engaged in farming, 27.5 % were engaged in trading, 27.5% were engaged in artisan work ,1.7% in civil service while 5.0% of the respondents were engage in other means of livelihood that is best known to them. The highest percentage being farming implies that agricultural activities were seen as a lucrative job that can be used to sustain their family in terms of food security in the study area.

Table 1 revealed that 72.5 % of the total populations were male headed houses and 27.5% were female headed houses. This implies that male headed houses are less likely to be food insecure while female headed households are more likely to be food insecure.

**Table 1: Distribution of respondents by Socio-economic characteristics**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age Distribution</b>		
20-29	10	8.4
30-39	31	25.9
40-49	38	31.5
50-59	28	23.2
60 and above	13	10.5
<b>Marital status</b>		
Single	5	4.2
Married	87	72.5
Widowed	20	16.7
Divorced	8	6.7
<b>Level of Education</b>		
None	27	22.5
Primary	61	50.8
Secondary	21	17.5
Tertiary	11	9.2
<b>Household size</b>		
1-5	56	46.7
6-10	57	47.5
Above 10	7	5.9
<b>Membership of social organization</b>		
Yes	85	70.8
No	35	29.2
<b>Formal years spent in school</b>		
1-6	25	65.0
7-12	10	8.3
13-18	12	24.2
19 and above	3	2.5
Above 80,000	14	11.7
<b>Primary occupation</b>		
Farming	46	38.3
Trading	33	27.5
Artisan	33	27.5
Civil servant	2	1.7
Others	6	5.0
<b>Household structure</b>		

Male headed	87	72.5
Female headed	33	27.5

**Source:** Field survey, 2012.

### Household food insecurity level

Table 2 reveals the overall assessment of level of household food security of respondents. Majority (66.90%) of the respondents were faced with one of this insecurity condition or the other.

**Table 2: Distribution of respondents based on the household food security scale**

Insecurity condition	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Eating limited variety	100	83.3	20	16.7
Eating food you did not want to eat	96	80	24	20.0
worry about household food security	84	70	36	30.0
Not able to eat the kind of food you preferred	71	59.2	49	40.8
No food to eat	75	62.8	45	37.5
Going to sleep hungry	75	62.8	45	37.5
Not eating for a whole day	61	50.8	59	49.2

**Table 3: Distribution of respondents based on the household food security scale**

Insecurity conditions	Rarely		Sometimes		Often		Mean	Rank
	F	%	F	%	F	%		
Eating food you didn't want to eat	36	30	56	46.7	8	6.6	1.44	1
Eating limited variety	47	39.2	39	32.5	10	8.3	1.29	2
Worry about household food security	34	28.3	47	39.2	3	2.5	1.14	3
Not able to eat the kind of food preferred	21	17.5	35	29.5	15	12.5	1.13	4
No food at all to eat	50	41.7	17	14.2	8	6.7	0.92	5
Going to sleep hungry	46	38.3	23	19.2	6	5.0	0.90	6
Not eating the whole day	42	35.0	7	5.8	12	10.0	0.78	7

Source: Field survey, 2012.

### Coping mechanisms

Table 4 shows the coping strategies employed by the respondents towards food security based on ranking in order of most preferred coping strategy. Respondents in the communities under investigation mostly cope with food insecurity by buying less expensive food, limiting portion of meal size, reducing the number of meal times, using savings to buy food, purchasing food on credit, getting money from Esusu, getting help from relatives, working in exchange for food and selling of durable goods to purchase food.

The respondents believed that these strategies are effective in coping with the problem associated with food insecurity. It is however worrisome that other coping strategy such as consuming seed stocks, skipping entire day without eating and borrowing food adopted by the respondents are not quite believed to be effective in coping with food insecurity issue.

**Table 4: Distribution of respondents based on coping mechanisms of rural women**

Coping strategies	Always		Sometimes		Rarely		Never		Mean	Rank
	F	%	F	%	F	%	F	%		
Eating less expensive food	8	6.7	12	10	65	54.2	35	29.2	2.06	1
Limiting portions of meal size	95	79.2	6	5.0	17	14.2	2	1.7	1.88	2
Reducing number of meals times	6	5.0	27	22.5	74	12.0	13	10.8	1.77	3
Using savings to buy food	13	10.8	38	31.7	52	43.3	17	14.2	1.61	4
Buying food on credit	64	53.3	31	25.8	17	14.2	8	6.7	1.43	5
Getting money through Esusu	28	23.3	33	27.5	54	45.0	5	4.2	1.30	6
Getting help from relative or friend	31	25.8	45	37.5	36	30.0	8	6.7	1.18	7
Working in exchange for food	49	40.8	34	28.3	22	18.3	15	12.5	1.03	8
Selling durable goods	54	45.0	22	18.3	34	28.3	10	8.3	1.00	9

Consuming seed stocks for next season	60	50.0	27	22.5	19	15.8	14	11.7	0.89	10
Skipping entire day without eating	55	45.8	33	27.5	30	25.0	2	1.7	0.83	11
Borrowing food	25	20.8	24	20	66	55	5	4.2	0.74	12
Sending household members to eat elsewhere	58	48.3	43	35.8	15	12.5	4	3.3	0.71	13
Sending household members to beg for food	8	6.7	15	12.5	80	66.7	17	14.2	0.68	14
Consuming wild food or immature food	10	8.3	22	18.3	15	12.5	73	8.3	0.38	15

Source: field survey, 2012

### Problem of food insecurity

Table 5 shows the group identification of problem of food insecurity encountered by the women. Low level of income at household level, accessibility to market, high cost of food items, lack of transportation, and insufficiency of food items were the major problems of food insecurity. The problems were ranked according to their mean. Low level of income at household level was ranked 1 with a mean Of 0.44 and this indicate that majority (56.7%) of the respondents are faced with the problem of low level of income at their respective households.

Table 5: Distribution of respondents according to problem faced

Problem of household food security	Yes		No		Mean	Rank
	Frequency	%	Frequency	%		
Low level of income at household level	68	56.7	52	43.3	0.44	1
Accessibility to market	80	66.7	40	33.3	0.35	2
High cost of food items	78	65	42	35.0	0.35	3
Lack of transportation	83	69.2	37	30.8	0.31	4
Insufficiency of food items	85	70.8	35	29.2	0.29	5
Others	114	95.0	6	5.0	0.06	6

### Food insecurity status

Households were categorized into two groups; food secured and food insecure groups which were based on their per capita expenditure. The food insecurity line is pronounced as two-third of the mean per capita food expenditure of the total household. Household whose per capita income falls below ₦3915.37 are food insecure while a household level that is equal or greater than the per capital ₦3915.37 are food secure.

Mean per capita household food expenditure = ₦5873.06

2/3 mean per capital household food expenditure = ₦3915.37 (food security line)

Table 6 indicated the distribution of respondents based on food insecurity status in which 70% were food insecure and 30% were food secured.

**Table 6: Food insecurity index**

Food insecurity status	Frequency	Percentage
Food insecure	84	70
Food secure	36	30
Total	120	100

**Source:** Field survey, 2012.

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