



COPING STRATEGIES TO FOOD INSECURITY AMONG RURAL HOUSEHOLDS IN IDO LOCAL GOVERNMENT AREA OF OYO STATE

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ABSTRACT

Food insecurity is associated with rural households and urban poor who are more vulnerable to high price and limited access to food as a result of low income. There are ways to manage food insecurity among poor rural and urban households. The study assessed the coping strategies to food insecurity in rural households of Ido local Government Area of Oyo state. Multistage sampling procedure was used to select 120 households in the study area. Interview schedule was used to collect information on respondents' socioeconomic and enterprise characteristics, food insecurity and coping strategies. Data were analysed using descriptive tools such as frequency and percentages, while inferential statistics such as Chi-square, Pearson's Product Moment Correlation were used to test the hypotheses of the study at $p=0.05$. Majority (76.7%) of the households were male-headed and most households (70.0%) had household sizes of between 5 and 8 persons. Also, 69.2% of the respondents had trading as their secondary occupation. Results also showed that most (63.0%) of the respondents in the study area were food insecure, while majority of them used more of the coping strategies which include consumption of unconventional food (64.2%), reduced the quality of food serve (60.8%), skipping meals (59.2%) and rationing money (58.3%). Respondents' age ($r=-0.190$), household size (-0.354) and income ($r=0.237$) were significantly correlated with their households' food security status. Intervention programmes that ensure improvement in households' income can be used to address food insecurity among the respondents in the study area.

Keywords: Coping strategies, Food insecurity, Rural household,

INTRODUCTION

According to FAO (2000), food insecurity is a situation that exists when people lack secured access to sufficient amount of safe and nutritious food for normal growth and development as well as an active and healthy life. It may be chronic, seasonal or transitory. At times when an individual, household, or community is unable to avail and access food for the above mentioned reasons, the situation could be described as a state of food insecurity.

Food security on the other hand implies physical and economic access to adequate food in terms of quantity, nutritional quality, safety and cultural acceptability, to meet each person's need. The concept of household food security refers to the ability of a household to assure all its members have sustained access to sufficient quantity and quality of food to live active and healthy lives. Household food security does not depend on the availability of adequate and sustainable supply of food only, but also on the strategies employed by households for its acquisition. Achieving food security requires that the aggregate availability of physical supplies of food is sufficient through their own production, through the market or through other means and that the utilisation of these food supplies is appropriate to meet the specific dietary needs of individuals (Shah and Strong, 2000). This is because in food security matters, it is necessary to recognise people's right to define their own policies and strategies for sustainable production, distribution and consumption of food that guarantees the right to food for the entire population (Shah and Strong, 2000).

The World Bank (2001) identified three pillars underpinning food security, these are; food availability, accessibility and utilisation. Food availability connotes the presence of sufficient quantities of food of appropriate quality. Food accessibility suggests sufficient purchasing power or ability to acquire quality food at all times. Food access is ensured when households and all individuals within them have adequate resources to obtain appropriate foods for a nutrient diet. Food utilisation refers to the ability of households to obtain and use food for meeting the food preference and nutrition needs of its member (Webb and Roger, 2003; Guardiola *et al*, 2006).

The problem of food insecurity is apparent even in countries where food is abundant, indicating that the problem is not just one of food availability. Despite the many programmes and projects on food security, there are still millions of food insecure people around the world with many of them living in developing countries particularly in Africa (FAO *et al*, 2013). Moreover, the proportion of undernourished people remains highest in sub-Saharan Africa, at 30 percent (that is, 239 million) in 2010 (FAO, 2010).

The main causes of food insecurity are high population growth rate, high reliance on small-size and rain-fed agricultural holdings, lack of access to input and credit, high susceptibility to drought, limited access to basic service, lack of access to market, land degradation and decreased productivity, lack of income generation opportunity and alternatives, lack of access to technology and lack of access to information on market, agricultural technology (Food Stamp Programme,



2003; World Food Programme, 2006; European Union, 2012).

In Nigeria, hunger is prevalent and brings hardship on rural communities, which has resulted in poor living conditions and poverty. About 75% of the world's hungry people live in the rural areas. Many studies (World Bank, 2001 and Ribar and Hamrick, 2003) have noted that rural people face a high risk of food insecurity due to poverty, income inadequacies, limited access to resources and many barriers to self-sufficiency, which create family frailty and crisis. Food insecure persons are more likely to engage in negative coping mechanisms that may be counterproductive to individuals' wellbeing such as reduction in amount and quality of meals served, skipping meals, engaging younger household members in employment, sales of domestic assets such as jewellery, furniture etc; sales of productive assets such as livestock and sales of land. Household food insecurity can negatively affect dietary variety, nutrient intake and nutritional status of household members, consumption of low quality foods because they are cheaper not minding the health implication of such foods. Household food insecurity causes hunger and malnutrition in most countries including Nigeria (FAO, 2015). This might be part of the reasons why Ido local government area was one of the nine participating LGAs under the National Special Programme for Food Security in Oyo state. However, the inhabitants of Ido local government area are predominantly farmers cultivating both food and cash crops, such as cassava, maize, yam, vegetable, cocoa, oil palm and kolanut. The people also engaged in animal husbandry.

The main objective of the study was to determine the coping strategies to food insecurity among rural households of Ido local government area of Oyo state, while the specific objectives were to:

1. identify the socioeconomic characteristics of households in the study area;
2. determine the enterprise characteristics of respondent in the study area;
3. assess the food security status of household in the study area and;
4. identify the coping strategies employed by households in the study area,

The hypotheses of the study, stated in null form, are as follows;

- H₀₁: There is no significant relationship between the socioeconomic characteristics of the rural households and their level of food insecurity.
- H₀₂: There is no significant relationship between the coping strategies employed by the rural household and their level of food insecurity.

METHODOLOGY

The study was carried out in Ido Local Government Area of Oyo state. The local government area was created in 1989 with its headquarters at Ido. It covers an area of about 8,000km and lies between latitude 06°45' and 09°45' north of the equator and longitude 02°30' and 05°15' east of the Greenwich Meridian. Its boundaries are Ibarapa local government area to the North, Ibadan South West local government area to the east, Akinyele local government area to the west and Odeda local government area (Ogun state) to the south.

The local government area is made up of four (4) Agricultural Development Programme Blocks out of which three (3) ADP blocks from the zone was selected namely: Akufo, Omi-Adio and Arutu, using simple random sampling techniques. The second stage involved selection of two (2) villages randomly from each of the selected blocks hence: six villages were selected. The third stage involved quota selection of twenty (20) households randomly from each of the selected villages. The household heads were selected from the household to give a total sample of 120 respondents. The data for this study were collected using a well structured questionnaire, which was administered as interview schedule.

Independent variables

Socioeconomic characteristics

Sex: the sex of the respondents was identified; nominal value of 1 was assigned to male while 2 was assigned to female respondents.

Age: the respondents was asked to state their actual ages in years

Marital status: the respondents was asked to indicate their marital status among the listed options; single, married, divorced, widowed with nominal value of 1,2,3, 4 assigned respectively.

Educational attainment; respondents was asked to state their highest level of educational attainment.

Enterprise characteristics

Respondents were asked to state the crop cultivated, animal reared, processing activities, farm size, year of experience and sources of finance.

Level of household food insecurity

Respondents were provided with a list of 9 items of food security with responses options of often, sometimes, rarely and never with each assigned to score of 3, 2, 1, and 0 respectively.

Dependent variable

Coping strategies used by the households

Respondents were provided with a list of 8 items of food security with responses options of always, sometimes and never with each assigned to score of 2, 1, and 0 respectively. The weighted score was obtained by multiplying the assigned score with the corresponding frequency.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Results from Table 1 show that 76.7% of the respondents were male, while 23.3% were female. This indicates that there are more male headed households in the area. It also reveals that 42.0% of the respondents were between 51 and 60 years age category and 28.3% were within 61 and 70 years of age category, while the mean age was 60.0 years. The result suggests that respondents in the study area are fairly aged. This is expected to have negative effect on their food security level because majority have passed their active economic ages.

Christians constituted 55.0% of the respondents while 45.0% of them were Muslims. The findings of this study further reveal that majority (75.0%) of the respondent were married, while 24.2% were widowed. This implies that majority of the respondents will have additional responsibilities to their spouses and children. The result is corroborated by the findings of Tologbonse and Adekunle (2000) who found more of married people among rural farmers in their study area in southwest Nigeria and Oyesola and Adegboye (2011), who saw marital status as a social symbol which attracts prestige among rural dwellers.

Furthermore, the results reveal that most (67.10%) of the respondents had family sizes of between 5 and 8 members, while 17.5% had between 3 and 4 members with the mean family size at 7 persons. This shows that household size was fairly large in the study area. This is expected to affect the quantity of food intake and dependency ratio adversely. This position is in line with that of Olayemi (2012), who stated that the

larger the family sizes lesser food available to each person within the household.

Results show that 98.3% of the respondents did not have any formal education, while only 0.8% of respondents had above 12 years of formal education. In essence, majority of the respondents were illiterate, which might negatively affect the food security status due to expected adoption of improved farm practices. This is corroborated by the finding of Mutisya *et al* (2016), which shows that education is a key to enhancement of food security for rural population in developing countries.

Also, majority (67.2%) of the respondents were involved in trading, 20.0% were artisans, while 8.3% were involved in farming. This result shows that majority (67.2%) of the respondents had trading as their secondary occupation. This is in line with the positions of Babatunde and Qaim (2010) and Seng (2015) that employment in off-farm and non-farm activities is essential for diversification of the sources of income for farm households. It enables households modernise their production by giving them an opportunity to apply the necessary resources and reduce the risk of food shortage during periods of unexpected crop failure through food purchases.

The mean income of the respondents was ₦10,000. Consequently, respondents with income less than mean were low income earners. Summary of the result of the categorisation shows that 75.0% of the respondents were low income earners. This is expected to have great effect on their standard of living, because income is an important factor in food security. This is in line with FAO (2001) report that households must have sufficient income to purchase the food they are unable to grow.

Table 1: Distribution of the respondents by socioeconomic characteristics

Variable	Frequency	Percentage (%)	Mean
Sex			
Male	92	76.7	
Female	28	23.3	
Age			60.0
30-40	42	1.6	
41-50	29	24.2	
51-60	52	42	
61-70	34	28.3	
71-80	4	3.4	
Religion			
Christianity	66	55.0	
Islam	54	45.0	
Marital status			
Married	90	75.0	
Widowed	29	24.2	
Divorced	1	0.8	
Household size			
0-4	21	17.5	
5-8	84	70.0	



Variable	Frequency	Percentage (%)	Mean
9-12	15	12.5	
Years of formal education			
None	118	98.3	
Primary	1	0.8	
Secondary	1	0.8	
Secondary occupation			
Farming	10	8.3	
Trading	83	69.2	
Artisan	25	20.8	
Clergy	1	0.8	
Hunting	1	0.8	

Respondents' enterprise characteristics

Result reveals that cassava 95.0% was the major crop cultivated by the respondents in the study area, 92.0% of them cultivated maize which was the second most cultivated crop in the study area and oil palm was cultivated by 22.5% of the respondents (Table 2). Further findings on enterprise characteristics of the respondents reveal that animal reared by majority of the respondents was goat (65.8%), followed by local fowl (32.5%) and only 20.8% were into sheep rearing, while few (1.7%) were involved in fish rearing.

Close to half (49.0%) of the respondents were involved in palm oil processing, 22.5% were into gari processing, while 12.5% and 0.9% were into cassava flour and palm wine processing, respectively. Majority (61.7%) of the respondents had farm size of 1.0 and 2.0 acres, 2.5% of them had farm size between 5.0 and 6.0 acres, while only 5.0% of the respondents had above 6 acres. It can be concluded from the result that majority of the respondents were small scale farmers. The result of

the respondent's farming experience as given in Table 2 reveals that 37.7% of the respondents had been farming for at least 31 years. Also, 27.5% of them had between 41 and 50 years experience and (5.8%) had between 11 and 20 years experience. The result is expected given the fact that 60 years was the mean age of the respondents. It is also corroborated by the observation of Adeogun and Oluyole (2004) and Ndanitsa and Umar (2008) that majority of respondents were above 11 years in farming business in similar studies.

The result on source of finance reveals that 93.3% of the respondents depend on their own savings, followed by 14.3% from cooperative society while 1.7% had support from National Programme for Food Security (NPFS). The result reveals that respondents in the study area do not have financial support from formal (government or non-governmental) organisations. Majority of the respondents solely depend on their own savings which is expected to have negative effect on financing of their agricultural activities.

Table 2: Distribution of the respondents by enterprises characteristics

Variables	Frequency	Percentage (%)
Crop cultivated		
Cassava	119	95.0
Maize	111	92.5
Yam	51	42.5
Cocoyam	3	2.5
Vegetable	9	7.5
Tomatoes	4	3.3
Pepper	2	1.7
Cocoa	2	1.7
Banana	1	0.8
Cashew	1	0.8
Oil palm	27	22.5
Animal Reared		
Sheep	25	20.8
Goat	79	65.8
Local fowl	39	32.5
Fish	2	1.7
Processing activities		
Gari	27	22.5
Fufu	8	6.7
Palm oil	49	40.8



Variables	Frequency	Percentage (%)
Palm kernel	1	0.8
Cassava flour	15	12.5
Yam flour	3	2.5
Farm size		
1.0 – 2.0 acres	74	61.7
3.0 – 4.0 acres	37	30.7
5.6 – 6.0 acres	3	2.5
> 6acres	6	5.0
Years of experience		
1-10	3	2.5
11-20	7	5.8
21-30	28	23.3
31-40	45	37.6
41-50	33	27.5
51-60	4	2.3
Source of finance		
Own saving	112	93.3
Cooperative	17	14.2
NPFS	2	1.7

Level of household food insecurity

The result on level of household food insecurity reveals that majority (70%) of the respondents asserted that their household members often eat fewer meals in a day because there was no enough food, worry that their households would not have enough to eat and 70% agreed that they eat food that they preferred not because of a lack of

resources to obtain other types of food. Also, most (65.8%) of the respondents indicated that they often not able to eat the kinds of food they preferred because of lack of resources, followed by the response that their household member eat a smaller meal than they felt needed because there was not enough food (65%) and response that their household would not have enough to eat (62.5%).

Table 3: Distribution of respondents by level of household food insecurity (n=120)

Questions	Often	Sometimes	Rarely	Never
Did you worry that your households would not have enough to eat?	62.5	34.2	0.8	2.5
Were you or any household member not able to eat the kinds of food you preferred because of lack of resources	65.8	30.8	1.7	1.7
Did you or any household member eat just a few kinds of food day after day due to a lack of resources?	63.3	32.5	2.5	1.7
Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	70.0	25.0	4.2	0.8
Did you or any household member eat a smaller meal than you felt you needed because there was not enough food?	65.0	27.5	5.8	1.7
Did you or any household member eat fewer meals in a day because there was not enough food?	70.0	25.8	1.7	2.5
Was there ever no food at all in your household because there were not resources to get more?	60.8	27.5	8.3	3.3
Did you or any household member go to sleep at night hungry because there was not enough food?	46.7	34.2	13.3	5.8
Did you or any household member go a whole day without eating anything because there was not enough food?	39.2	42.5	10.0	8.3

Table 3.1: Distribution of respondents by level of food insecurity

Food insecurity	Frequency	Percentage
Food insecure	76	63.3
Food secured	44	36.7



Coping strategies used by the households

Table 4 shows distribution of the coping strategies employed by respondents in the study area in order to manage situations of food insecurity. The most frequently used coping strategy by the respondents was consumption of unconventional food (weighted score=162.6); this was followed by reduction in quality of food served to household members (157.4), then rationing money (155.8) and skipping meals (150.9). Other strategies that were least adopted by the respondents included eating meals at homes of friends or relatives (94.9) and relying on help from

relatives or friends outside the household (28.4). These options are similar to the finding of Gupta *et al* (2015) and Tefera and Tefera (2014). A close scrutiny of these strategies implies that they are not steps that may help food secure persons on a sustainable basis; and hence cannot be said to be appropriate strategies.

Summary of use of coping strategies as shown in Table 4.1 shows that majority (73.0%) of the respondents used more of the coping strategies. Adequate utilisation of appropriate coping strategies is expected to improve their level of food security (Adekoya, 2009).

Table 4: Distribution of households by coping strategies used

Coping strategies	Always	Sometimes	Never	Weighted score
Consumption of unconventional food	64.2	34.2	1.7	162.6
Reduced the quality of food serve to household	60.8	35.8	3.3	157.4
Rationing money	58.3	39.2	2.5	155.8
Skipping meals	59.2	32.5	8.3	150.9
Purchasing food on credit	40.8	54.2	5.0	135.8
Borrowing money for food from friends or relatives	25.8	60.0	14.2	111.6
Eating meals at home of friends or relatives	5.8	83.3	10.5	94.9
Relative or friends bringing foods	1.7	25.0	73.3	28.4

Table 4.1: Distribution of households by level of use of coping strategies

Level of use	Frequency	Percentage
Low	47	39.2
High	73	60.8
Total	120	100

Hypothesis 1

This hypothesis was proposed to test for correlation between socioeconomic characteristics and food security status of the households' of the respondents. The result in Table 5 shows that age ($r=-0.190$), household size (-0.354) and income ($r=0.237$) were significantly correlated with food security of the respondents in the study area. This implies that age, household size had inverse

relationship, while income had positive influence on the level of food security. It shows that older persons and those with large household sizes would have lower levels of food security whereas the more the income of the respondents, the better their level of food security. The result is in agreement with the finding of Babatunde *et al* (2007), who found that households with higher income had better access to food.

Table 5: PPMC for test of correlation between respondents' socioeconomics characteristics and level of food security

Variable	r-value	p-value	Remark
Age	-0.190	0.038	Significant
Household size	-0.354	0.000	Significant
Formal education	0.170	0.063	Not significant
Income	0.237	0.009	Significant

Hypothesis 2

This hypothesis was proposed to test correlation between the use of coping strategies and food security of respondents' households. Results in Table 6 shows that there was an inverse but significant relationship between the use of coping strategies by the respondents and their level of food

security ($r=-0.629$). The result implies that the food insecure respondents use more of the coping strategies. This outcome is expected to be borne out of their desire to get out of the undesirable situation of food insecurity. However, it is only use of appropriate strategies that can alleviate their situation not level of use.

Table 6: PPMC for test of relationship between the use of coping strategies by the respondents and their level of food security

Variables	r-value	p-value
Coping strategies vs. Food insecurity	-0.629	0.000

CONCLUSIONS AND RECOMMENDATIONS

From the outcome of the study, it can be concluded that the majority of the respondents in the study area were food insecure. The frequently used coping strategies by the respondents were those that may not have desirable outcome for the respondents experiencing food insecurity in the study area. It is therefore recommended that Extension agents in various organisations should focus on interventions that can improve income of heads of households in order to address food security.

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