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Rural Livelihood and Food Poverty in Ekiti State, Nigeria

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Abstract: The study examined the effect of livelihood activities on food security status of rural households in Ekiti State, Nigeria. Primary data were collected from 150 households through a multi-stage sampling procedure. The majority of the rural residents were in their economic active years, had diversified their livelihood activities so as to increase their income stream and also mitigate against shocks. The highest food poverty headcount was observed among female crop farming non-farm households with one to six members, while all households with more than 12 members were food poor. Food poverty incidence also reduces with higher education and engagement in non-farm activities while food poverty gap reduced with belonging to non-farm, female-headed households with seven to twelve members and dependency ratio of one. Severity of food poverty decreased with years of farming experience, educational status and farm size of crop farmers and those engaged in non-farm activities. The probability of a rural household being food poor reduced with household head's attainment of primary education and land ownership but increased with being headed by a woman and having high dependency ratio.

Keywords: Demographic factors, capital assets, food expenditure, food security headcount, FGT

Introduction

Food is core to human and economic development and it is the most basic of all human needs and the major source of nutrients needed for human existence. Africa faces the world`s gravest hunger problems and these problems are becoming worse as the number of Africans who are undernourished has been on the rise for decades and stood at about 279 million people lacking economic and physical access to the food required to lead a healthy and productive life in 2010 (Gidey 2012). Even more

disturbing, sub-Saharan Africa (SSA) remains one of the most malnourished regions in the world. In sub-Saharan Africa, about 23.2 percent of the population, is estimated to be undernourished in 2014, which is the highest prevalence of undernourishment for any region in the world, with about 220 million hungry people in 2014, In fact, the number of undernourished people even increased by 44 million between 1990–92 and 2014 which reflects the region's remarkably high population growth rate of 2.7 percent per year (F.A.O, 2015). Even though there has been an increase in production of food in Nigeria, despite the increase in production of food, majority of the people in the country (especially the rural Nigerians) are still not food-secure. Nigeria exhibits some level of food insecurity. Deficits in per calorie intake declined from 9.1% in 1990 to 5.8% in 1995 but rose thereafter to 6.2% in 2008. In addition, food imports have been rising steadily from 1976 to 2008 (Dada, 2011) making food accounts for a large, and increasing, share of family budgets.

Food poverty is the inability to afford, or to have access to, food to make up a healthy diet. It is about the quality of food as well as quantity. It is not just about hunger, but also about being appropriately nourished to attain and maintain health (Maslen, *et al.,* 2013). A household that is food poor is also food insecure. A major food insecurity measure is the household wealth status which accounts for the accessibility concept of food security and is measured by total food consumption, food expenditures or income (Migotto *et al.,* 2006). Food expenditure comprises a large share of the spending of poor households, making them relatively more vulnerable to the impacts of food price inflation (Eme *et al.,* 2014). A household may slash its food purchases and alter its consumption patterns in order to cope with rapid food inflation. Typical coping strategies include buying smaller quantity of food, switching to different types of food, reducing dietary diversity and skipping meals (Oldewage- Theron *et al*., 2006).

Food poverty is the consequence of the failure of local livelihoods to guarantee access to sufficient food at the household level. By livelihood we mean the assets (natural, physical, financial, social) activities, and the access to these (mediated by institutions, organisations and social relations) that together determine the living gained by individual or households (Ellis 2001). Livelihoods are therefore the means of making a living, the various activities and resources that allow people to live. Different people have different lifestyles and ways of meeting their needs. Households perform various activities to gain and maintain their livelihoods. The nature of these livelihood activities depends on the availability of assets, resources (including climate), labour, skills, education, social capital, seasonality, agro-climate/agro-ecology, and gender (Okali, 2006; Porter *et al,* 2007; Ogunlela and Mukthar, 2009; Akinwale, 2010).

Food poverty in Nigeria is determined by sex of the household head, farmland holdings, income, education, age, marital status, household size, dependency ratio, gender, tertiary education, access to both credit and remittances availability of infrastructure, availability of extension services, farm size, livelihood activities and

livelihood assets (Agbola *et al.,* 2005; Adepoju and Adejare, 2013; Oni and Fashogbon, 2013; Edeh and Gyimah-Brempong, 2015). Local communities engage in different livelihood activities in response to the effects of food shortages and availability. Nonetheless, this has attracted little attention from the government and also, little attempts have been made to systematically investigate the bundle of activities employed by the rural households in response to declining food availability and the factors that influence their food security. Recently, many studies have been conducted on food insecurity in Nigeria (Babatunde *et al.,* 2008; Olagunju et al., 2012; Adepoju and Adejare, 2013; Akerele, 2013;) but none of these studies linked food insecurity with livelihood. Oni and Fashogbon (2013) analysed food poverty and livelihood in rural Nigeria using a national data. However, the study did not disaggregate farming activities nor did it assess food poverty gap and severity in rural Nigeria. This study contributes to the literature on household food poverty by assessing the effect of livelihood activities and assets on food poverty in the study area with a view to bringing out grassroots policy implications. The study, therefore, raises the following pertinent research questions: What are the various livelihood option available to households in the study area? What is the food poverty situation in the study area? Do livelihood options have effect on food poverty status of households?

Methodology

Primary data were collected for this study in 2014 through a multi-stage sampling procedure using semi-structured questionnaires. First, Gbonyin Local Government Area was chosen as the study area because agriculture is the prominent primary occupation of the rural residents. Second, five out of the identified eight major divisions were randomly selected. Third, twenty-five villages were then selected proportionate to the sizes of the divisions and the final stage was the random selection of 150 households proportionate to sizes of the selected villages. Data on socio-economic characteristics of rural dwellers, their household assets, expenditure (food and non-food) and livelihood activities of were obtained based on 2012/2013 cropping season.

Data on the household age and gender composition were used to calculate adult equivalence of households using standard requirement levels as suggested by the World Health Organization (FAO-WHO-UNU-2001). Foster, Greer And Thorbecke, (FGT) (1984) food security index was used to measure the food poverty status of the rural households . The food poverty is normally deduced from per capita food expenditure (per week or month or year). The mean household per capita food expenditure (MPCHHFE) was estimated calculated as the ratio of total per capita household expenditure to the total number of households. Within the food poor households, those that spent less than one-third (1/3) of the MPCHHFE were

classified as core food poor households while those that spent less than two-third (2/3) but more than one-third (1/3) of MPCHHFE were classified as being moderately food poor.

The FGT weighted poverty measure was adopted for quantitative food security assessment. The decomposition was based on several socio economic characteristics of households.

The FGT index is given mathematically as

$$P\alpha = \frac{1}{N}\sum_{i=1}^{q}\left[\frac{z-Yi}{z}\right]^{\alpha} \qquad \alpha \geq 0 \ldots\ldots\ldots\ldots\ldots\ldots 1$$

Where

Y*i*= per capita household food expenditure

(*i* = 1, 2————————q)

Z = Food security index

N= Total number of population

q = Number of food secure household

Pα = weighted food poverty index, a0 and it can take values of 0, 1, and 2 these values have different implications

When α= 0, the FGT index P_0 measures food poverty incidence. This represents the proportion of the households that are food secure i.e. the proportion of households that fall below the food poverty threshold (line). The proportion of food secure households is given as 1-P_0.

$$P_0 = \frac{1}{N}\sum_{i=1}^{q}\left[\frac{z-Yi}{z}\right]^{0} \ldots\ldots\ldots\ldots\ldots\ldots 2$$

$$P_0 = \frac{q}{n}$$

(ii) When α=1, the FGT index P_1 measure the food poverty depth of the household. This denoted the proportion of food poverty line that the food poor household will require to be food secure.

$$P_1 = \frac{1}{N}\sum_{i=1}^{q}\left[\frac{z-Yi}{z}\right]^{1} \ldots\ldots\ldots\ldots\ldots\ldots 3$$

When α=2, the FGT index P_2 measures the severity of food poverty. It measures how far was the food poor households are from the food poverty line. This gives more weight to the core food poor in the household food poverty status.

$$P_2 = \frac{1}{N}\sum_{i=1}^{q}\left[\frac{z-Yi}{z}\right]^{2} \ldots\ldots\ldots\ldots\ldots\ldots 4$$

Probit regression model was used to determine factors affecting food security status of rural households. The choice of this model as against Tobit or Logit is based on the fact that there are differentials in the food poverty status of rural households,

so the model measures such differentials or the intensity of the food poverty status of rural households.

The model is expressed below as:

$Y_{ij} = \beta x_i + e_i$

Y_{ij} = food insecurity/intensity and is given as

$\frac{Z-Yi}{Z}$ Where $Y_{ij} > 0$ for $Y_i \geq Z$ and $Y_{ij} = 0$ for $Y_i \leq Z$

Where $Y_{ij} > 0$ for Y_i Z and $Y_{ij} = 0$ for Y_i Z

X_i = vector of explanatory variables
Y_i = per capital household expenditure
Z = food security line
B = vector of respective parameters
e_i = independent distributed error term.

Results and discussion

The livelihood profile of the respondents is presented in Table 1. The majority of households were male-headed (82%), which is typical of patrilineal family structure in Nigeria. None of the female household heads was engaged in livestock farming but a higher proportion of them (85.2%) were engaged in non-farm activities. A higher percentage of the respondents and about two-thirds of the male household heads were engaged in non-farm activities respectively, as their primary occupation. This suggests a shift in rural livelihood from agriculture to non-farm activities. The distribution of the respondents had an inverse relationship with their age. A majority of them (92.67%) were not above 60 years of age and were in their economic active years. About half of those who were actively engaged in non-farm activities were in their useful years (≤ 40 years) while 44% of those who were engaged in crop farming were between 41 and 60 years of age. All the respondents that were primarily engaged in off-farm and livestock farming activities were also between 41 and 60 years of age. This suggest that the proportion of the aging population in rural areas are small. This supports the assertion of Pillay and Maharaj (2013) that although the percentage of the older population in Africa is expected to remain small, the absolute number of older persons is expected to increase dramatically over the next few decades. The majority of the household heads were married but none of the married respondents was primarily engaged in livestock farming. However, a higher proportion of them (72%) were engaged in non-farm activities. In all, about 80.7% of the household heads were engaged in non-farm activities. This suggests that household heads carry the responsibility of the needs of their members by participating more in non-farm

Table 1 - Livelihood profile of the rural households.

Demographic characteristics	Livestock %(N= 2)	Crop %(N=25)	Non-farm %(N=121)	Off farm %(N=3)	Pooled %(N=150)
Gender					
Female	0.00	2.67	15.33	0.00	18.00
Male	0.67	14.00	65.33	2.00	82.00
Total	0.67	16.67	80.67	2.00	100
Age group(yrs)					
21-40	0.00	6.67	42.00	0.00	48.67
41-60	0.67	7.33	34.00	2.00	44.00
61-80	0.00	2.00	3.33	0.00	5.33
81-above	0.00	0.67	0.00	0.00	0.67
Total	0.67	16.67	80.67	2.00	100
Marital Status					
Married	0.00	14.67	72.00	2.00	88.67
Others	0.67	2.00	8.67	0.00	11.33
Total	0.67	16.67	80.67	2.00	100
Household size					
1-6	0.67	12.67	73.33	1.33	88.00
7-12	0.00	2.00	6.67	0.67	9.33
>12	0.00	2.00	0.67	0.00	2.67
Total	0.67	16.67	80.67	2.00	100.00
Dependency Ratio					
0.01-0.99	0.67	10.67	60.00	0.00	71.33
1.0	0.00	0.67	12.00	1.33	14.00
>1.0	0.00	5.33	8.67	0.67	14.67

activities to boost their income. Large household sizes tend to reduce per capita expenditure of the household. The proportion of the respondents tends to decrease with household sizes with a majority of them (88%) had less than seven household members and were primarily engaged in non-farm activities. Similarly, the proportion of the population of the respondents had an inverse relationship with their dependency ratio (i.e. the proportion of non-working members). A larger percentage of the rural dwellers had more workers than dependents. The dependency ratio is expected to decrease as household size decreases. However, the income earned by the working members of the household must be taken into consideration since it is possible for all the members of a household to be working but their income altogether may be small.

Household capitals and major livelihood activities of respondents

Household livelihood activities was also profiled with household capital assets (Table 2). Although, more than half of the rural households had no farming

experience (60%), more than three-quarters of them were primarily into non-farm activities. This suggests that about a fifth of the respondents diversified their non-farm activities with farming activities. However, a higher percentage of the crop farmers and all those that were primarily engaged in off farm and livestock farming activities did not have more than 40 years of farming experience. This reveals a shift from agriculture to non-farm activities in the rural area so as to increase income streams to the household. A higher percentage of the rural dwellers were smallholders (60.67%) having less than 2 hectares of farm size while about a quarter had more than five hectares of farmland. About 60% of the respondents who were landless were solely involved in non-farm activities while about two-thirds of the crop farmers had access to more than five hectares of farmland. Non-farm sources of income are important for the rural poor for two reasons. First, the direct agricultural income of the poor is

Table 2 - Household capital assets and primary livelihood activities.

Assets	Livestock %(N= 2)	Crop %(N=25)	Non-farm %(N=121)	Off farm %(N=3)	Pooled %(N=150)
Farming Experience (Yrs.)					
1-40	0.67	14.00	21.33	1.33	37.33
41-60	0.00	1.33	0.00	0.67	2.00
61-above	0.00	1.34	0.00	0.00	0.67
No farming experience	0.00	-	59.33	0.00	60.00
Total	0.67	16.67	80.67	2.00	100.00
Farm size (ha)					
0	0.00	0.00	59.33	0.00	0.00
> 2	0.67	0.67	0.00	0.00	60.67
2-5	0.00	5.33	8.67	1.33	15.33
>5	0.00	10.67	12.67	0.67	24.00
Total	0.67	16.67	80.67	2.00	100.00
Educational status					
No education	0.00	0.67	1.33	0.00	2.00
Primary Education	0.00	3.33	6.67	0.67	10.67
Secondary Education	0.00	7.33	13.33	1.33	22.00
Tertiary Education	0.67	5.33	59.33	0.00	65.33
Total	0.67	16.67	80.67	2.00	100.00
Extension contact					
No	0.00	13.33	66.00	1.33	80.67
Yes	0.67	3.33	14.67	0.67	19.33
Total	0.67	16.67	80.67	2.00	100.00
Credit Access					
No	0.00	12.67	62.00	0.67	75.33
Yes	0.67	4.00	18.67	1.33	24.67
Total	0.67	16.67	80.67	2.00	100.00

not enough to sustain their livelihoods, either because of landlessness or because the land they own or lease is insufficient. Second, wage employment in agriculture is highly seasonal, so that the poor value non-farm sources as employment supplementation (IFAD, 2004).

A higher percentage of the rural household heads had tertiary education and were solely involved in non-farm activities. Ekiti state, though rural, is known for high educational attainment. Therefore, the rural non-farm sector absorbs those released from agriculture but not absorbed in the urban industries. Only a fifth of the households had extension contact, out of which a higher proportion of them were primarily into non-farm activities. Only a small fraction of those that were primarily crop farmers, fishing folks and those engaged in off-farm activities had contact with extension agents. Furthermore, three-quarters of the households had no access to credit facilities while only a third of crop farmers had access to credit facilities.

Food poverty profile of the rural households

The food security line (two-thirds of the mean per capita food expenditure (MPCHHFE)), was 3276.89. Based on this food security line, households were classified into being food poor households and food secure households. The food poverty profile of all the livelihood activities are presented in Table 3. All the livestock farming and off-farming households were food poor while about 48% and 68% of crop farming and non-farming households were not food poor respectively.

Food poverty headcount, demographic characteristics and livelihood activities

Table 4 shows the food poverty incidence of the rural households in relation to their main livelihood activities. Non-farm households were more food secure than those engaged in other livelihood activities. About 65% of non-farm and 25% crop

Table 3 - Food poverty distribution of the respondents.

Total Respondents			150		
Mean Per Capita Household Food Expenditure (MPCHHFE)			₦ 4915.34		
Food poverty line (i.e. 2/3 of MPCHHFE)			3276.89		
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities	All
P_0	1.00	0.52	0.42	1.00	0.45
P_1	0.08	0.29	0.23	0.37	0.25
P_2	0.01	0.19	0.16	0.19	0.16

farming female-headed households were food secure whereas all household that were into off-farm activities were food poor. This suggests that non-farm activities is a major exit to food poverty in the rural area. Food poverty headcount increased with age suggesting that older people (defined as over sixty years of age) are more likely to experience food poverty. An older person, who lives alone and has decreased mobility, who has problems with transport to shops selling healthy affordable food and has problems with cooking for themselves is at risk of a poor quality diet (Holmes and Roberts 2010). Household food poverty increased with increase in household size and dependency ratio. The highest food poverty headcount was observed among female crop farming non-farm households with one to six members while none of the households with more than 12 members was food secure irrespective of the main livelihood. However, crop farming households with less than dependency ratio of one had the highest food security headcount. None of the livestock farming households was poor while a higher percentage of households whose heads were married were less food poorer than the unmarried.

Food security, capital asset and main livelihood activities

Food poverty incidence of the rural households in relation to livelihood activities

Table 4 - Food poverty headcount profile of the rural households.

Demographic characteristics	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities
Gender				
Male	-	0.48	0.44	1.00
Female	-	0.75	0.35	-
Age group				
21-40	-	0.30	0.35	-
41-60	-	0.55	0.48	1.00
61-80	-	1.00	0.67	-
81-above	-	1.00	-	-
Marital Status				
Married	-	0.33	0.39	1.00
Others	-	0.54	0.43	-
Household size				
1-6	-	0.33	0.30	1.00
7-12	-	0.47	0.46	1.00
>12	-	1.00	1.00	-
Dependency Ratio				
< 1	-	0.38	0.43	-
1.0	-	0.70	0.61	1.00
>1.0	-	0.75	0.70	1.00

Table 5 - Food poverty incidence, capital assets and livelihood activities.

Capital Assets	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities
Farming Experience				
1-40	-	0.43	0.50	1.00
41-60	-	1.00	-	1.00
61-above		1.00	-	-
No farming experience	-	-	0.39	-
Farm size	-			
0	-		0.41	
< 2	-	1.00	-	-
2-5		0.50	0.46	1.00
>5	-	0.50	0.42	1.00
Educational status	-			
No education		1.00	-	-
Primary Education	-	0.60	0.50	1.00
Secondary Education	-	0.64	0.35	1.00
Tertiary Education	-	0.25	0.20	-
Extension contact				
No	-	0.50	0.39	1.00
Yes	-	0.60	0.55	1.00
Credit Access	-			
No	-	0.42	0.43	1.00
Yes	-	0.83	0.39	1.00

and capital asset variable is presented in Table 5. Households that had no farming experience and were only engaged in non-farm activities were the least food poor. Food poverty incidence decreases with increase in educational status and engagement in non-farm activities. Thus, non-farm households whose heads had tertiary education and primarily engaged in non-farm activities were the most food secure owing to high returns to education and non-farm activities. Contrary to expectation, households with extension contact and access to credit were food poorer than those without extension contact and access to credit facilities for all the livelihood activities.

Food poverty depth of Socio economic characteristics with Livelihood

The depth of food poverty increased with the age of the household head, household size and dependency ratio (Table 6). Results further show that non-farm, female-headed households with seven to twelve members and dependency ratio of one would require the lowest amount of money to make them food secure. Crop farming households whose heads were elderly (above 60years old) would require the highest amount of money to make them food secure. Food poverty gap was highest among female-headed households that were primarily engaged in crop production and off-

Table 6 - Food poverty depth, demographic characteristics and livelihood activities.

Demographic characteristics	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities
Gender				
Male	-	0.27	0.25	0.37
Female	-	0.37	0.16	-
Age group				
21-40	-	0.12	0.22	-
41-60	-	0.26	0.23	0.37
61-80	-	0.76	0.37	-
81-above	-	0.75	-	-
Marital Status				
Married	-	0.25	0.23	0.37
Others	-	0.29	0.30	-
Household size				
1-6	-	0.23	0.24	0.47
7-12	-	0.31	0.16	0.19
>12	-	0.63	0.00	-
Dependency Ratio				
< 1	-	0.20	0.24	-
1.0	-	0.34	0.16	0.47
>1.0	-	0.45	0.25	0.19

farming activities while the lowest depth of food insecurity was found among female-headed households that were primarily into non-farm activities.

Food poverty depth, capital assets and livelihood activities

The amount of money needed to raise food poor households to being food secure decreased with educational status for both crop farming and non-farm households but increased with years of farming experience for both groups, farm size for non-farm households and educational status for off-farming households (Table 7). The elderly and smallholder crop farmers with less than less than two hectares of farmland, more than 60 years of farming experience and without any form of formal education were the most vulnerable and would require the highest amount of money to make their households food secure.

Severity of Food poverty Socio-economic characteristics with Livelihood

The food expenditure distribution of the female-headed, crop farming, elderly (> 60 years), with large households and where the number of the dependants was more than the number of working members of the households, were farthest from the food

Table 7 - Food security depth, capital assets and livelihood activities.

Capital assets	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities
Farming Experience (years)				
1-40	-	0.22	-	0.47
41-60	-	0.49	-	0.19
> 60		0.75	0.21	-
No farming experience	-	-	0.31	-
Farm size (ha)	-			
0	-	-	0.22	-
< 2	-	0.80	-	-
2-5		0.26	0.25	0.47
>5	-	0.27	0.30	0.19
Educational status	-			
No education		0.75	-	-
Primary Education	-	0.30	0.29	0.19
Secondary Education	-	0.40	0.27	0.49
Tertiary Education	-	0.07	0.22	-
Extension contact				
No	-	0.28	0.22	0.26
Yes	-	0.29	0.32	0.69
Credit Access	-			
No	-	0.25	0.24	0.19
Yes	-	0.40	0.23	0.47

security line (Table 8). Severity of food security increased with age, household size and dependency ratio for crop farming and non-farm households. Although food poverty was more severe among female-headed crop farming households than their male counterparts, the opposite of this was observed among non-farm households. Severity of food poverty decreased with years of farming experience, educational status and farm size of crop farmers and those engaged in non-farm activities (Table 9).

Determinants of rural household food security

The study further identified the determinants of rural household food poverty in Ekiti state using the dichotomous Probit regression model (Table 10). The log-likelihood value of the Probit regression was 69.9284 ($P < 0.01$) suggesting that the model had a good fit. Out of the 15 explanatory variables included in the model, only four significantly influence the probability of the household being food poor. The four variables are gender ($P < 0.05$), primary school educational attainment ($P < 0.05$), dependency ratio ($P < 0.01$) and land ownership ($P < 0.01$). Gender and ownership had negative influence on food poverty while primary school attainment

Table 8 - Severity of food security socio-economic characteristics with livelihood.

	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off farm activities
Gender				
Male	-	0.18	0.17	0.19
Female	-	0.22	0.09	-
Age group				
21-40	-	0.06	0.16	-
41-60	-	0.17	0.14	0.19
61-80	-	0.60	0.25	-
81-above	-	0.56	-	-
Marital Status				
Married	-	0.19	0.15	0.19
Others	-	0.19	0.24	-
Household size				
1-6	-	0.13	0.17	0.27
7-12	-	0.30	0.10	0.03
>12	-	0.45	0.00	-
Dependency Ratio				
< 1	-	0.13	0.17	-
1.0	-	0.11	0.11	0.27
>1.0	-	0.32	0.15	0.30

Table 9 - Severity of food poverty socio-economic characteristics with livelihood.

	Livelihood Activities			
	Livestock farming	Crop farming	Non-farm activities	Off-farm activities
Farming Experience				
1-40	0.23	0.64	0.22	0.27
41-60	0.00	0.14	-	0.03
61-above	0.00	0.31	-	-
No farming experience	0.00	-	0.14	-
Farm size (ha)				
0	0.00	-	0.14	-
< 2	0.23	0.64	-	-
2-5	0.00	0.19	0.19	0.27
>5	0.00	0.17	0.22	0.34
Educational status				
No education	0.00	0.56	-	-
Primary Education	0.00	0.17	0.21	0.03
Secondary Education	0.00	0.30	0.21	0.27
Tertiary Education	0.23	0.02	0.15	-
Extension contact				
No	-	0.19	0.14	0.32
Yes	0.23	0.21	0.21	0.48
Credit Access				
No	-	0.17	0.16	0.20
Yes	0.23	0.26	0.14	0.27
Yes	0.23	0.26	0.14	0.27

Table 10 - Determinants of rural household food poverty.

VARIABLE	COEFFICIENT	STANDARD ERROR	dy/dx	STANDARD ERROR
Age	0.0153	-0.0124	0.0052	-0.0054
Farming experience	-0.0207	-0.0129	-0.0071	-0.0063
Farm size	-0.0034	0.0043	-0.0012	0.0017
Marital status	-0.0039	0.4055	-0.0013	0.1381
Extension contact	-0.4427	0.3296	-0.1605	0.1459
Credit Access	-0.1002	-0.2963	-0.0337	-0.1006
Gender	-0 .8468**	-0.3326	-0.3152*	-0.1599
Primary Education	1.4195**	-0.6949	0.5221**	-0.2158
Secondary Education	-0.1383	0.6473	-0.0482	0.2316
Tertiary Education	0 .2258	0.5853	0.0781	0.2101
Dependency ratio	0.2839***	-0.1092	0.0968	-0.0723
Land Ownership	-1.0369***	-0.3194	-0.3880***	-0.1446
Non-farm activities	-3.8322	169.3151	-0.5657	12.2210
Off-farm activities	-4.2706	169.3169	-0.7406	1.5747
Crop farming	-3.2579	169.3155	-0.8466	11.6420
Constant	3.6506	169.3184		

No of Observation = 150 *Log likelihood value= -69.928*
*LR chi2(13) = 48.09**** *Prob > chi2 = 0.0000*
Pseudo R^2 = 0.2559
*** denotes significance at 1%, ** denotes significance at 5%,* denotes significance at 10%

and dependency ratio had positive influence on food poverty status of the rural households.

The probability of being food poor increased with a household being headed by a female. This is because men have more access to productive assets than the women and consequently have higher returns than the women. This substantiates the findings of Ede and Gyimah-Brempong (2015). This however contradicts the findings of Adepoju and Adejare (2012) that female-headed households have a lower probability of being food insecure than their male counterparts during post-planting season in rural Nigeria. The negative and significant coefficients (0.4195) of primary level of education attainment of the households head indicates that the probability of a household being food poor reduced with its head having the highest educational attainment of primary school education. A unit increase in dependency ratio increases the probability of a household being food poor by 0.096%. Thus, higher number of dependants in the households reduced the food available within the households (Riber and Hamrick, 2003). Land ownership was adopted as a proxy for measure of wealth

status of rural households. Assets ownership by rural households which implies high wealth status and this tend to reduce the probability of being food poor among the rural households. Landed property has the tendency of enhancing productive capacity, thus, improving income status which may results to increasing food security status of households.

Conclusion

This study assessed the influence livelihood activities of household food security of rural dwellers. A majority of the rural residents were in their economic active years and had diversified into non-farm activities. Two out of every five of the rural households were food poor and household food poverty increased with increase in household size and dependency ratio. Therefore food poverty alleviation policies should intensify on reproductive health services in order to ensure birth control and consequently control family sizes. Further, attainment of primary education and land ownership reduced the probability of a household being poor.

Thus, rural development policy should intensify basic educational attainment and enhancement of non-farm income earning capacity of household members, which has the capability to improve asset accumulation of the households and as a result alleviate their food poverty status. Female-headed households were food poorer than the male-headed households. Thus, food poverty alleviation policies should be gender sensitive so as to abate the food poverty situations in both male-headed and female-headed households.

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