

## **Off Farm Activities and Its Contribution to Household Income in Hawul Local Government Area, Borno State, Nigeria.**

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**Abstract:** Agricultural activities are main source of livelihood however, households engage in off-farm activities to generate more income to cushion the effects of poverty. This paper investigated off-farm activities and its contribution to households income in Hawul, Borno, Nigeria. The methods used are multi-stage and stratified simple random sampling procedure in three stages. Stage one: Three Districts were randomly selected; Stage two: The delineation of the selected villages for the study were identified based on rural characteristics stratification measures. And stage three: The sample frame. The population size of the study area is 210 and the sample frame taken is 136. The data were collected using structured questionnaire and verbal interview in measuring socio-economic characteristics of the farming households, off-farm activities and its contribution to households income and socio-economic factors influencing households patterns of off-farm labour. The data were analysed using descriptive and inferential statistics. The descriptive statistics are tables, frequency and percentage while the inferential is Logit regression Model where  $Y = b_0 + b_1x_i + e$ . The results of the findings revealed that female gender participate more in off-farm activities, most of whom are married with 21-40 years of farming experience, with monthly off-farm income between ₦11, 000 – ₦20, 000 with less than one hectare of farm size It is paper recommended that household members should be encouraged to take up off-farm employment so as to argument their income and raise their standard of living.

**Keywords:** Off-farm Activities, Household Income, Contribution to Livelihood

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### **I. Introduction**

In Africa, various studies have shown that most rural households are involved in agricultural activities as their main source of livelihood, however, they also engage in other income generating activities to augment the main source of income (Adepoju and Obayelu, 2013). But (Mezid, 2014) stated that households are pushed into off-farm sector due to lack of opportunities but off-farm activities contributes more to household income (Haggblade et.al, 2007; De Janvry and Sadoulet, 2001; Ruben and Van Den Berg,2001). And according to (Ovwigho, 2014) off-farm are supplementary or complimentary activities that farmers engage in either off-season or on-season to support themselves such as in casual labor, transportation business, traditional dancing, wine taping, petty trading etc. The off-farm income is the sum of rural non-farm income and wage earning in agriculture. On the other hand, off-farm refers to all income-generating activities except crop and livestock production (Barette et.al, 2001, and Lanjouw and Lanjouw, 2001). Off farming income generating activities ostensibly obviate the seasonality of primary agricultural production and create a continuous stream of income to cater for exigencies of life (Ovwigho, 2014).

The type of off-farm income generating activities varies across geo-political locations and countries. Lanjouw and Feder, (2001) noted that much of the observed variation among countries in the share of off-farm activities stems from weaknesses in the data being used. The diversification in developing countries according to (Damite and Negatu, 2004; Ellis, 2000), is as a result of increasingly complex portfolio of activities and assets in order to survive and improve standard of living. Barrett, Reardon and Webb (2001), stated that, very few people collect all their income from any one source or hold their wealth in the form of any single asset, or use their resources in just one activity.

Researchers identified several reasons for households to diversify their income sources, The main driving forces include; firstly to increase income when the resources needed for the main activity are too limited to provide a sufficient livelihood (Minot et.al,2006); second to reduce income risk in the face of missing insurance markets (Reardon,1997; Barrett, Bezuneh and Aboud,2001), third to exploit strategic complementary and positive interactions between different activities and fourth too relate to the third point to earn cash income to finance farm investments in the face of credit market failures (Reardon,1997; Ruben and Van Den Berg,2001).

In the study of Senadza (2011), it was found out that aggregate of off-farm income increased income inequality among households in Ghana also off-farm self employment income reduce income inequality and off wage income increased income inequality. It is on this back-drop this paper investigated off-farm activities and its contribution to household income in Hawul, Borno Nigeria.

## II. Materials and Method

Hawul Local Government Area is one of the 27 Local Governments Areas in Borno State, located in the southern part. Multi-stage and stratified simple random sampling procedure were used. The first stage, three (3) Districts were randomly selected. The second stage was the delineation of the selected Villages identified based on degree of rural characteristics stratification measure suggested by (Ovwigbo and Ifie, 2009). The third stage is the sample frame; were the population size of the study areas is two hundred and ten (210) which the sample frame was taken from of one hundred and thirty six (136), as stated by (Robert and Daryle 1970).The data were collected using structured questionnaires and verbal interview which measured socio-economic characteristics of the farming households, off-farm activities and its contribution to households income and socio-economic factors influencing households pattern of off-farm labor and the data was analyzed using descriptive and inferential statistics. the descriptive tools were tables, frequency and percentage while the inferential statistics is Logit Regression Model:  $Y = bo + b_1x_1 + e$

Where:

Y = Dependent variable (Off-farm Occupations, 1 participation traders, artisans, civil servants, others and 0 if Otherwise)

bo = Intercept

b<sub>i</sub> = Coefficient of explanatory variables

x<sub>i</sub> = Independent variable (x<sub>1</sub>-age of working member (years), x<sub>2</sub>-farm size (hectares), x<sub>3</sub>farming Experience (years), x<sub>4</sub>- gender (Dummy, 1 male, 0 otherwise), x<sub>6</sub>-marital status (Dummy, 1 married, 0 otherwise)

e = Error term

Logit Regression Model was used to determine the influence of socio-economic factors on pattern of off-farm labor using the SHAZAM Econometric Software.

## III. Results and Discussion

Table 1 below, revealed s that more than half (63.70%) of the household members were female. They play a significant role in the family as household members. Thus, they engage in off-farm activities to supplement their household income, thereby providing the households' food and other basic needs. This is in conformity with Tijjani *et al.* (2009). 59.25% of the respondents are in their active age. Within an average age of 26 – 35years. 62.96% of the households are married and 54.10% of the respondents have between 21 – 40 years of farming experience. The occupational analysis indicated that trading 48.14% and artisans 37.03% who contributed more to household income as revealed in Ellis (2000) studies that "diverse income portfolio creates more income and distributes income more evenly", (Adepoju and Obayelu, 2013) buttressed that very few of the respondents obtained income from only one source as households engage in a combination of farm and off farm activities. Annual income shows that 56.30% of the households income comes from farming activities with monthly off farm income of between ₦11, 000 – ₦20, 000 (49.63%) and 42.96% cultivating less than one hectare.

**Table 1: Socio-economic Characteristics of the Farming Households (n = 135)**

Socio-economic Variables	Frequency	Percentage
<b>A. Gender:</b>		
Male	49	36.30
Female	86	63.70
<b>B. Age:</b>		
Less than 18 years	05	03.70
18 – 25	40	29.63
26 – 35	80	59.25
36 – 45	08	05.90
46 and above	02	01.48
<b>C. Marital Status:</b>		
Married	85	62.96
Single	17	12.60
Widow	20	14.81
Divorced	13	09.63
<b>D. Period of Farming Experience:</b>		
Less than 20 years	30	22.20
21 – 40 years	73	54.10
41 years and above	32	23.70
<b>E. Major Occupation:</b>		
Trading	65	48.14
Farming	06	04.44
Civil servant	03	02.22
Artisans	50	37.03
Others	11	08.14
<b>F. Annual Farm Income:</b>		

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Less than ₦ 100, 000	76	56.30
₦101, 000 – ₦200, 000	44	32.59
₦201, 000 – ₦300,000	12	08.89
₦301,000 and above	03	02.22
<b>G.Monthly Off-Farm Income:</b>		
Less than ₦ 10, 000	48	35.56
₦11, 000 – ₦20, 000	67	49.63
₦21, 000 – ₦30,000	13	09.63
₦31, 000 – ₦40,000	05	03.70
₦41,000 and above	02	01.48
<b>H.Farm Size:</b>		
Less than 1	58	42.96
1 -2	29	21.50
3 – 4	25	18.50
4 and above	23	17.04

*Source: Field Survey, 2014.*

Table 2 below revealed the contribution of off-farm activities to households' income. The off-farm activities categorized into ten (10) with a mean income per year in Naira equivalents. The majority of households engaged in both off-farm and on-farm activities with total mean income per year of ₦1,810,000 and ₦2,360,000 respectively. The annual income earned from off-farm activities alone is ₦400,000 (96.30%) while on-farm alone ₦270,000 (54.81%) and income yielding assets amount to ₦500,000 (61.48%). this indicated that, the amount accrued to households to argument livelihood from on-farming activities (crop and livestock) is less in comparison to off-farm activities. this significant proportion of contribution to households income cushions a lot of effects and over dependence on on-farm activities. And this agrees with the finding of Tijjani *et al.* (2009) that most of the farming households participating in off-farm activities earned their average annual household income from off farm activities.

**Table 2: Off-farm Activities and Its Contribution to Household Income (n = 135).**

Categories of Activities	Frequency	Percentage**	Mean Income/year*–₦	
			Off-Farm	On-Farm
Crop And Livestock Production	74	54.81	-----	270,000
Crop and Off-Farm Labour				
Livestock and Off-Farm Labour	51	37.78	100,000	95,000
Crop, Livestock And Assets				
Livestock And Farm Labour	20	14.81	110,000	300,000
Crop Production	54	40.00	200,000	320,000
Crop, Livestock, Off-Farm Labour And Assets	23	17.04	-----	400,000
Crop, Livestock and Off-Farm Labour	42	31.11	-----	75,000
Livestock Production	19	14.07	350,000	360,000
Off-Farm Activities	43	31.85	150,000	240,000
Income Yielding Assets	76	36.30	-----	300,000
	130	96.30	400,000	-----
	83	61.48	500,000	-----
		<b>Total</b>	<b>1,810,000</b>	<b>2,360,000</b>

*Source: Field Survey, 2014*

\*Figures in parentheses represent the percentage of mean income contributed by farm and Off-farm activities to Household income per year.

\*Multiple responses existed hence, percentage is greater than 100

Table 3, describe the findings on socio-economic factors influencing household patterns of off-farm labour. The findings reveals that the co-efficient of age, gender, marital status and occupation are significant at 5% and 10% level of confidence. This is conformed with the a-priori expectation being positive. On the other hand, farm size and farming experience are not significant. This is plausible because, household members that are involved in multiple occupations such as trading, artisans and others participate more in off-farm activities than those who do not participate. The result of the findings and that of Shittu *et al.* (2006) are in conformity "that individuals trained for off-farming activities, such as traders, farmers, artisans (tailors, hairdressers, mechanics etc) tend to participate more in off-farm activities and contribute more to their household income than an average individuals that have taken farming as their main occupation".

**Table 3: Socio-economic Factors Influencing Household Patterns of Off-farm Labour**

Socio-economic Variables	Estimated Variables	Coefficients	Standard Errors	Z-value	P> z
Constant	X <sub>0</sub>	4.781757	3.459582	1.38	0.167
Age	X <sub>1</sub>	0.1080731	0.1189404	0.91	0.036**
Farm size	X <sub>2</sub>	-0.6430558	0.9749879	-0.66	0.510
Farming experience	X <sub>3</sub>	-0.1326599	0.1137992	-1.17	0.244
Gender	X <sub>4</sub>	-0.725019	1.036404	-0.70	0.048**
Marital status	X <sub>5</sub>	0.0712163	1.005404	0.07	0.094***
Occupation :	X <sub>6</sub>	2.453032	1.233134	1.99	0.047**
Log-likelihood		-26.267297			
R <sup>2</sup>		0.6451			

Source: *Field Survey, 2014*

\* = Significant at 1%

\*\* = Significant at 5%

\*\*\* = Significant at 10%

#### IV. Conclusion

In conclusion, the investigation of off-farm activities contributes more to household income. This will encourage households to participate in off-farm activities which will lead to positive indirect effects. Especially when rural financial markets are imperfect, cash from off-farm income can partly be invested in agriculture, thus will also increase farm production and income. A related policy implication for this and similar situations is that there is still significant scope for income increases through the direct promotion of crop and livestock activities, which are currently the main income sources of the poor. Apart from farming, household members equally participate in off-farm activities to improve their livelihood.

The study indicates that majority of the households that participated in off-farm activities earned their mean annual household income from crop and livestock production in the study area. Off-farm activities had contributed in self-employment, and provision of labor to augment households' income. Some of the problems militating against farm and off-farm activities include: inadequate credit facilities, poor knowledge on improved technology, lack of access to market, high cost of raw materials, discrimination and low social status in the society among others. The result of the study also revealed that households that participate in off-farm activities do better and their living standard is better due to the extra income generated from off-farm activities.

#### V. Recommendation

Based on the findings of the study; the following recommendations were made: -

- Household members should be encouraged to take up off-farm activities so as to augment their income and raise their standard of living.
- Creation of accessible credit schemes can facilitate the establishment of off-farm businesses
- Off-farm activities should be diversified and rural households properly informed on its advantages to livelihood.
- Some of the constraints highlighted by the households should be looked into by all stakeholders in order to raise the living standards of the households.

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