

Empirical Investigation into Determinants of Non-Farm Entrepreneurial Activities among Internally Displaced Persons: Evidence from Borno State, Nigeria

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Abstract: *This study focuses on the determinants of participation in non-farm entrepreneurial activities among Internally Displaced Persons (IDPs) in Borno State, Nigeria. The study use purposive sampling technique to select Borno state as the case study area. Similarly, all the 32 formal IDP camps in Borno state were selected purposively since the study is on internally displaced persons. A total of 400 IDPs were selected using Yamane formula. The result was analyzed using ordinary least square regression model. Findings of the study revealed the significant impact of access to credit, donor from NGOs/government and membership of association on income generated from nonfarm entrepreneurial activities. Nevertheless, both demographic characteristics and socio-economic factors affect the IDPs decision on the level of income generated from nonfarm entrepreneurial activities in the study area. The study therefore, recommends that IDPs should be encouraged by government and the NGOs to form or join Community Based Organizations (CBOs) and other cooperative societies with a view to promote mutual interest. A sustainable framework that will enable the IDPs have access to credit at a lower rates should be encourage. Capacity building on product value addition should be provided to the IDPs to improve the quality of their commodities thereby earning a better return.*

Keywords: *Non-farm, Entrepreneurial, Internally Displaced Persons, Borno State*

Introduction

Due to fast growing population in Africa, there is increasingly pressure on limited arable land. Thus, many households are no longer able to live on agriculture alone but also participate in other non-farm entrepreneurship activities. (Oseni & winters, 2009).

The UN estimates that over 41.3 million people around the world have been forcibly moved from their homes into refugee and internally displaced person (IDP) camps (IDMC, 2019). Unlike other forms of migration, where the choice of movement can be an optimization problem for the household, majority of displaced persons are forced to leave their homes and land with little more than what they can carry. Such movement constitutes a large economic shocks to many households. The chances of people recovering from such a shock has implications for both individual well-being and national long-term growth.

Nigeria has witnessed an upsurge in insurgency attacks by Boko Haram, the result of which left many people into displacement. These persons are always confronted with various challenges which include loss of their livelihood, loved ones, frustrations, abuses and threat of assault etc. Displacement Tracking Matrix round XXI of January 2018 identified estimated 1.7 million IDPs in over 321,580 households across six states of North-East Nigeria with 40 per cent residing in camp-like settings in urban areas, plus 1.4 million returnees. The number of IDPs represented 4.5 per cent increase compared to the 1,702,680 identified in Round XX Dec. 2017. The number of displaced people in the country increased by 4.5 percent as at January 2018. (Nigeria's National Population Commission, 2018).

Since May 2013, the Boko Haram insurgency in northern Nigeria has resulted in destroying infrastructure, provoked severe livelihoods erosion and triggered the displacement of over 1.3 million people in Borno state, out of which 265,782 are in Maiduguri. The humanitarian situation of internally displaced persons (IDPs), returnees and the non-displaced population in Borno state is concerning. Therefore, the study seek to assess the determinants of participation in entrepreneurial nonfarm income generating activities among internally displaced persons in Borno State, Nigeria. The inspiration for this study comes from the fact that farm sector alone cannot provide the needed livelihood of the internally displaced population in the state that was devastated by insurgency and poses a threat to growth and development in the area and Nigeria at large (Mohammed & Ahmed, 2014).

The livelihood of internally displaced persons (IDPs) are mostly characterized by complex methods that involves various forms of income generating activities by one or more IDP, as non-farm income activities undertake an increasingly important role over time See (Rashidin, M.S., Javed S., Liu B., & Jiang W. 2020).; IDMC (2019); (Shehu & Abubakar, 2015).; (Kimty, 2015). Over the years, several studies were conducted in Nigeria and beyond on both demographic characteristics and socio-economic features that determine participation in non-farm entrepreneurial activities by households. Variables such as household's age, household size, gender, education, marital status, dependency ratio, access to formal credit, distance to community center, value of livestock, access to tarred road, total expenditure on food and non-food items, remittance to household and membership of association were used. See (Rashidin, M.S. *et al.* 2020); (Ojeleye, Saleh & Oyewole 2014); (Madaki & Adefila 2014); (Ike, 2015) and (Kimty, 2015) but none of these studies captured the status of the household whether the household are Internally Displaced, Refugee or host community as these are bound to play a significant role in influencing the type of non-farm income activity to be adopted by the household in the study area. Furthermore, there have been a number of studies in Nigeria and beyond on non-farm entrepreneurial activities by many scholars like (Shehu & Abubakar, 2015), (Ike, 2015) and (Rashidin, M.S. *et al.* 2020) all of which present evidence of determinants of participation in non-farm entrepreneurial activities as an income source, but to the best of our knowledge, no study was conducted in the north-eastern part of Nigeria particularly Borno state. Hence the aim of this study is to address this information gap. Therefore, the study seek to assess the determinants of participation in non-farm entrepreneurial activities among internally displaced persons in Borno State, Nigeria with specific interest to factors that influences the level of income.

Review of Related Literatures

This section discusses the theoretical framework and conceptual studies on entrepreneurial nonfarm income generating activities in Nigeria, Africa, other developing countries and developed nations.

Theoretical Framework

Sustainability theory

Several factors influencing the Internally Displaced Person to take decision with regards to participating in various non-farm entrepreneurial activities. Qasim, (2012) asserted that in developing countries, several uncertainties (social and natural markets) influenced the household's behavior. This has pose series of constraints in determining their production decisions. The economic theory underpinning this study is the Sustainability theory.

The sustainability theory tries to select and incorporate social responses to environmental and cultural problems. It points out that an economic model expresses sustain natural and financial capital, ecological model describes biological range and ecological integrity while political model defines social systems that appreciate human self-esteem. One of the major concerns of economist is how to make efficient use of scarce natural resources with alternative uses so as to ensure sustainability and improved environmental quality for man (Hoffman & Ashwell, 2001). Sustainability as regards natural endowment like land and its deposits, forests, air and water bodies means a balanced use of these resources over a lengthy time period without impairing the fundamental ability of the natural resource base to support future generation. A sustainable environmental system need to sustain a steady resource base, avoid excess exploitation of renewable resources and draining of non-renewable resources to make investment in adequate substitute.

Sustainability has become a significant idea to solving global resource and environmental issues (McGee, 2006) most especially in the management of natural resources. Sustainable agriculture according to Olowookere (2010) is the ability of farmers to produce food without damaging the environment and surrounding ecosystem by their agricultural activities.

Therefore, this study adopts this theory as a working framework since it captured the central message of the study as it vividly explain the relationship between participation in non-farm entrepreneurial activities by the internally displaced persons and its major determinants which is one of the objectives of this study.

Conceptual Framework

Non-farm Entrepreneurial Activity

Non-farm economy may be defined as comprising any non-agricultural activities that can generate income to the households (including income in-kind and remittances), either through wage labour or in self-employment. In some contexts, non-farm entrepreneurial activities are also important sources of local economic growth (e.g. timber processing, mining, tourism etc). (Davis, J. R. 2003). Most development economists have maintained that underinvestment in non-farm sector is largely due to: a) existence of one primary economic activity, namely farming; b) that theoretically, the

share of agriculture as a primary sector declines in the course of economic development; and c) labour moves out of agriculture and rural areas.

Accelerating the importance of non-farm economy is the inconsistent increase in demand for non-farm output as incomes rise (the theory of “economic transformation” where the share of the farm sector in gross domestic product (GDP) declines as GDP per capita rises over time, termed Engel’s Law (Haggblade et. al., 2001)). This is the structural transformation of a successful developing economy.

Due to its production relation and employment opportunities it creates, the entrepreneurial sector is paramount to the growth and development of the economy. The contribution it provides to households income represents a substantial and greater share of rural incomes.

Determinants of Participation in Non-farm Entrepreneurial Activity

Davis, J. R. (2003) found an evidence regarding the importance of factors that determine access to Non-farm entrepreneurial activities in Uganda, Tanzania, India, South America, Armenia, Georgia and Romania. In his paper titled “rural non-farm economy, livelihoods and diversification” he identified the determinants of non-farm income activities as: Education and skills, Social capital, Ethnicity and caste, Gender dynamics, Financial capital and Physical infrastructure and information. Furthermore, literature have shown that the household’s decision to participate in non-farm entrepreneurial activity is determine by various factors. Reardon *et al.* (2010) classify the factors responsible for the determinants of rural household participation into pull and push factors which are mostly facilitated by the household competence and the institutional atmosphere.

The pull factors include: low risk related with the activity compared to farm activity, need for immediate cash for transaction purpose, greater return on labour, greater yield on investment, desire for better life among the youth and economic opportunities. The push factors on the other hand include; increase in population, scarcity of fertile land and decline in its access, poor farm output, deteriorating earnings from farming, temporary shocks, absence of rural financial markets, and inaccessibility to market of farm inputs and weakening of the natural resource base.

Reasons for household participation in non-farm entrepreneurial activities

According to Reardon, T (2000), decisions made by households concerning the form and extent of their involvement in non-farm income activities (either starting enterprises or entering the wage labour market) generally depend on two main factors:

- The incentives offered, such as the relative profitability and risk of farm and Non-farm activities;
- The household’s capacity (determined by education, income and assets and access to credit, etc.) to undertake such activities.

Households are motivated to undertake non-farm income activities by either "pull" or "push" factors. In the case of enterprises set up by households, the choice of technologies and products will likewise be determined by similar conditions.

Empirical Literature Review

Different empirical studies have been conducted on non-farm entrepreneurial activities in Nigeria, Africa, other developing countries and developed nations.

M. S. Rashidin, S. Javed, B. Liu, and W. Jian (2020) investigates the effects of nonfarm income on agricultural productivity in rural Pakistan. Data was collected from the Pakistan Social and Living Standards Measurement Survey (PSLM) 2017–2018, a sample of rural and urban areas designed by Pakistan's Federal Bureau of Statistics. Heckman's two-step procedure was used to tackle the problems of endogeneity and selection bias. The first phase, probit regression, indicates that the accessibility of banks, motorable roads, forest, telecommunication substructure, montane grasslands, and shrub lands zone affects nonfarm income. On the other hand, the second stage, ordinary least squares regression, found a negative impact of nonfarm income on per capita farm income. Furthermore, results reveal that nonfarm household income has a significant positive effect on agricultural productivity.

Moreover, Seng (2015) investigate the effect of non-farm activities on farm households' food consumption in rural Cambodia using data of 5762 household from 2009 Socio-Economic Survey data by National Institute of Statistics. Explanatory variables include; gender of household head, age of household head, education level of household head, Household members greater than 64 years, Household members less than 15 years, Landholding, Availability of irrigation, yield damage and availability of public transport. Probit model was applied to explore the data. Findings from the study shows that there is a positive and significant relationship between the level of education of the household head and per capita food consumption. Therefore, engagement in non-farm activities exerts positive effects on household food consumption.

Shehu and Abubakar (2015) uses the Nigerian nationally representative household level data to examine the factors influencing the decision of farm household to participate in non-farm enterprise (NFE) activities in rural Nigeria. The model was estimated using Tobit regression. Variable studied include household size, head's gender, head's age, and years of education of the adult members of the household, formal credit, social capital, proximity to market, access to mobile phone, electricity and public transport. Result shows that among other variables, household size significantly influence non-farm enterprise participation decision of the household. Unique to this study, was that households having access to social and financial capital can overcome the non-farm enterprise's entry barriers. This suggests that for the development of rural entrepreneurship in the country, the farm households need to be provided with basic education, community infrastructures, effective micro-credit and social network.

Ike (2015) use both descriptive statistics and the Tobit regression to analyze data collected from 180 households in 18 communities of Southeastern Nigeria on factors that cause households to participate in non-farm activities. The study precisely studies the socio-economic features of farmers that contribute to participation in non-farm activities. The variables studied include: household heads' age, household heads' gender, educational level of household head, size of the household and dependency ratio. Other variables studied are the farm size, income from farm, remittance and the distance to the nearest urban center. Result from the Tobit regression model shows that the variables studied exclusive of gender are all significant. The coefficient of the

household heads' age, remittance and size of farm as well as income from farm and distance to nearest urban center are all negative. The study recommends an all-inclusive collaboration among the three tiers of government in to pursue rapid development in the rural areas by providing basic infrastructural facilities so as to diversify the rural economy away from dependency on the farm sector.

Moreover, Nagler and Naudé (2014) in their unique approach to Non-farm activities looks at the greater importance of non-farm economic activity among rural households in Africa. The study use data collected from the World Bank Living Standard Measurement Study-Integrated Survey in Agriculture (LSMS-ISA) which covers six countries from 2005-2012. Probit regression was used to identify the factors that determined rural household undertaken a non-farm enterprise. Variables used includes: access to formal credit, household size, share of adults, household wealth, distance to nearest major road, distance to nearest urban center and annual precipitation. Result from the study shows that non-farm entrepreneurship creates informal jobs to family members and are influenced by seasonality of agriculture. The findings also reveal that substantial heterogeneity exist across countries in the determinants of rural non-farm entrepreneurship.

Methodology

Description of study area/site/subjects

Located in the north-eastern geo-political part of the country with Maiduguri as its capital, Borno state has an area of 61, 435sq. km. One exceptional feature of the state is that it shares border with three countries namely Cameroun republic to the east, Chad republic to the north-east and Niger republic to the north. Located on latitude 10° N and 14° N and longitude 11.30° E and 14.45° E, the state has a hot and dry climate in most part of the year particularly from March to July and a cold climate during the hamattan period which last from November to February. The period of rainfall is normally from June to September in the north and from May to October in the southern part which varies from 300mm to 500mm and 700mm to 1000mm in the northern and southern part respectively. (Mustapha, Gwary and Makinta, 2014)

Agriculture is the mainstay of the state's economy that has a vast fertile land. It is suitable for the production of arable crops. The state is endowed with many solid minerals. Recently, exploration of crude oil was started in the shores of the lake Chad Basin area. Other non-farm entrepreneurial activities engage by the populace includes: cap making, weaving and knitting, groundnut oil processing, dyeing of cloths, ginnery and tannery, food processing, local drinks production, Local perfume making, blacksmith and goldsmith, pottery, mechanic, vulcanizer, Tricycle riding(Keke Napep), etc. (Mustapha, Gwary and Makinta, 2014)

Data collection and data analysis

The study use purposive sampling technique to select Borno state as the case study area. Similarly, all the 32 formal IDP camps in Borno state were selected purposively since the study is on internally displaced persons. However, out of the 400 sample size that was identified using the Yamane formula, random sampling technique was used to select the respondents from the 32 camps which were allocated proportionally. The survey method was adopted. A structured

questionnaire was used to gather data from respondents who are the internally Displaced Persons in the IDP camps and the host communities in Borno state.

The data was analyze using relevant descriptive and inferential statistics to test the hypotheses. Dummy data was analyze using percentage, frequency and chi-square test to see the existing relationship between categorical or dummy variables and entrepreneurial activities. The data was computed and analyze using relevant and appropriate economic theory with the aid of STATA (14) package.

The type of analysis to be employed in a research depends on the nature and purpose of the study (Chukwuone, 2009). Similarly, selection of techniques to be adopted depends on some factors, particularly the objectives of the study, availability of data and time constraint (McNally & Othman, 2002).

This study therefore, besides descriptive statistical tools, employed OLS regression analysis to test the hypotheses. The OLS in the form of multiple regressions was adopted to regress the household's income as a dependent variable on other set of independent variables. This form of regression model is used when dependent variable is quantitative and the independent variables are of any type as in the case in this study. It is normally used to test the correlation between the dependent variable on one or more other independent variables (Gujarati, 2007)

Descriptive Analysis and Interpretation of the Data

This section presents the descriptive statistics for easier understanding of the variables under study. Table 4.1 and 4.2 presents the results of the descriptive statistics as follows:

Table 4.1 Descriptive Analysis of Demographic Variables

Variables	Respondents Opinion	Frequency	Percentage
Age	Less than 25	140	35
	25-35	101	25
	36-45	94	24
	Above 45 years	65	16
	Total	400	100
Gender	Male	175	44
	Female	225	56
	Total	400	100
Level of Educational	No Education	47	12
	Qur'anic Education	134	33
	Primary	110	28
	Secondary	73	18
	Tertiary	36	9
	Total	400	100
Occupation	Farm sector	340	85
	Non-farm	60	15
	Total	400	100
Household Size	Less than 6	219	55
	6-11	107	27
	More than 11	74	18
	Total	400	100

Source: Field survey, 2021

From table 4.1, the result indicated that out of four hundred respondents, 140 of the respondents equivalent to 35% fall into the age bracket of less than 25 years. 101 respondents (25%) are in the age range of 25-35. 94 other respondents, constituting about 24% are between the ages of 36 to 45. Also, about 65 equivalent to 16% of the respondents are above 45 years. This shows that an average Internally Displaced Person in the study area was in his/her productive age suggesting high economic productivity. Moreover, as can be seen from Table 4.1, 175 respondents (44%) are males and the remaining respondents constituting about 56% are females. The predominance of female IDPs in Borno state could be attributed to their nature of vulnerability and freedom of association in the study area. Nevertheless, 36 respondents constituting 9% acquired tertiary education. 73 (18%) obtained 'O' level results while only 110 respondents about 28% obtained primary school leaving certificate. 33% that is, 134 respondents attended Qur'anic education only. Thus, 57 respondents (12%) have never attended school. This implies that majority of the household head are literate and hence helps a lot to determine participation in non-farm income activities.

Furthermore, 340 of the IDPs reckoning 85% are farmers, while 60 constituting 15% are engaged in other non-farm entrepreneurial activities. In addition, from Table 4.1, the results indicated that out of 400 IDPs, 219 representing 55% fall into the household size bracket of less than 6; 107 equivalent to (27%) are in the household size range of 6-11 people and the remaining 74 representing about 18% have above 11 people in their households. This implies that majority of the IDPs in the study area are having few household members.

Table 4.2 Descriptive Analysis of Socio-economic Variables

Variables	Respondents Opinion	Frequency	Percentage
Access to Credit	Yes	32	8
	No	368	92
	Total	400	100
Remittance	Yes	136	34
	No	264	66
	Total	400	100
Donor from NGOs/Govt.	Yes	383	96
	No	17	4
	Total	400	100
Membership	Yes	44	11
	No	356	89
	Total	400	100
Non-farm Income	Less than 20,000	215	54
	20,000-50,000	109	27
	More than 50,000	76	19
	Total	400	100
Level of Participation	High	102	26
	Low	298	74
	Total	400	100

Source: Field survey, 2021

From table 4.2 above, the result indicate that, 32 respondents equivalent to 8% have access to credit either in a short term or long term from banks and non-banks financial institutions, while 368 respondents constituting (92%) have no access to credit in the study area. However, 136 internally displaced persons (34%) are receiving financial support from their relatives living outside the IDP Camp, while 264 households reckoning 66% are not receiving any support inform of remittance. This implies that majority of the IDPs are not enjoying any financial support from their relatives that are not staying with them.

Furthermore, 383 respondents equivalent to 96% are receiving humanitarian support from either government or non-governmental agencies while 17 respondents (4%) do not receive any support. This indicates that the IDPs living in organized/formal camp receives attention from donor agencies. Moreover, only 44 respondents (11%) have membership with associations or organizations, whereas about 356 households reckoning 89% did not have membership with any

association or organization. This implies that most of the respondents are not registered with any Community Based Organisation.

However, from Table 4.2, the results indicated that out of 400 respondents, 215 respondents representing 54% are receiving income of less than 20,000 naira, 109 respondents equivalent to 27% are in the income range of 20,000-40,000 naira while 76 respondents representing 19% are receiving income of more than 40,000 naira. This means that majority of the respondents are receiving income of less than 20,000 naira which is the least income in the study area. Finally, 102 households equivalent to 26% participated actively in the non-farm activities, while 298 respondents representing (74%) engaged in farming activities with less involvement in non-farm activities. This implies that majority of respondents in the study area are farmers.

Inferential Statistics

This section deals with presentation and interpretation of the results of the determinants of participation in non-farm entrepreneurial activities among Internally Displaced Persons in the study area.

Table 4.3 Results of the Factors that Affect the Level of Income Earned by IDPs from Participating in Non-farm Entrepreneurial Activity

Dependent Variable: Non-farm Income	
Independent Variables	Coefficient
Age	-0.009 (-0.18)***
Gender	0.722 (2.53) **
Level of Education	0.164 (0.66) ***
Occupation	-2.073 (-18.04) ***
Household Size	0.019 (1.36) ***
Access to Credit	0.558 (2.03) ***
Remittance	0.098 (1.19) ***
Donor from NGOs/Govt.	-0.115 (-1.06) ***
Membership	0.405 (2.55) **
Constant	10.778 (27.45) ***
R ²	0.634
F value	(48.10) ***

Significant at (***) 1%) (**5%) (*10%)

Source: Author's computation using STATA 14, extracted from appendices

Discussion of Findings

This study has empirically assessed the determinants of participation in non-farm entrepreneurial activities among Internally Displaced Persons in Borno state, Nigeria. These include: Age, Household size, Gender, Level of Education, Occupation, Household size, Access to credit, Donor from NGOs/Government and Remittance. To achieve the specified objectives, the study employed descriptive statistics together with logistic regression and ordinary least squared (OLS) in the form of multiple regression models. For the diagnostic tests, the study applied serial correlation test, normality test, multicollinearity test, heteroscedasticity test and functional misspecification test.

From the result in table 4.3, age coefficient is negative but significant at 1% level. This indicates that increase in age might likely reduce income from non-farm entrepreneurial activities by 18%. This findings support the conclusion reached by Seng (2015), Shehu & Abubakar (2015) and Ojeleye, Saleh & Oyewole, (2014) who also found that as ones age increases, he tends to shift from productive age to dependent and his capacity to participate in other income generating activities will decrease thereby reducing income.

Likewise, table 4.3 shows a positive and significant relationship between gender and non-farm income at 5% level with the male having an increase of 2.53. This is in line with the descriptive statistics in Table 4.1 which shows that participation in non-farm activities differs between the two sexes as male are more engaged in labour than females', this is because they mostly work outside their homes and rural environment. In most Nigerian cultures, particularly the northern region, men often dominate women and part of the responsibility of male is to work and provide the family income as they are the breadwinner. The result is in line with earlier findings that male participate more in non-farm activities than females. Ike (2015), Owoo & Naude (2014) and Khan, Deb & Bantilan (2014). However, findings by Seng (2015) and Polzen & MacDonald (1975) fail to concur with the above findings.

Similarly, Table 4.3 shows a positive and significant relationship between the level of education and non-farm income at 1%. It further indicates that as the level of education increase, income is likely to increase by 66%. The result of this study supports the finding of de Janvry, Sadoulet & Zhu (2005), Saliu & Adebayo (2010), Atamanov (2011) and Ibekwe *et al.* (2012) as they found that education of household head increases the chances of participating in various forms of income generating activities thereby increasing the level of household income from non-farm entrepreneurial activities. However, it is contrary to the findings of Beyene (2008) and Owoo & Naude (2014) who opined that level of education has no significant influence on participation in non-farm activities.

Furthermore, table 4.3 shows that occupation of the household head is significant but negative at 1% level. This indicates that full participating in farming reduces income from non-farm by 18.04. Occupation of the household head therefore, is a significant factor in determining both the level of participation and income from non-farm entrepreneurial activities. This study concur with the findings of M. S. Rashidin, S. Javed, B. Liu, & W. Jian (2020) and Madaki & Adefila (2014) who

found that occupation of the household head influences participation in non-farm income because household that participate less in agriculture have the probability of participating more in non-farm income activities that will generate income to the family.

Table 4.3 shows a positive and significant relationship between household size and income from non-farm entrepreneurial activities. With a coefficient of 0.019, an increase in household size might likely increase household income by 1.36. This result is based on the fact that, from the descriptive statistics in table 4.1, majority of the respondents have a moderate sizeable family, with the presence of at least one within the household. Also 'significant' value of household size might be due to a common rural practice of entire household participation in labour. This is a common practice in extended families which is the most common type of family in rural areas of Borno State. The result of this study is in line with the finding of Timothy (2011), Berjan, *et al.* (2013), Khan, Deb & Bantilan (2014), Nagler & Naudé (2014) and Shehu & Abubakar (2015) who found that increase in household size leads to increase in both participation and income from non-farm activities.

Another puzzling result, obtain on the coefficient of access to credit depicts a positive and statistically significant effect at 1 percent level on non-farm entrepreneurial activities with 0.558 on non-farm income as shown in table 4.3 respectively. The result shows that access to credit tremendously increases non-farm income by 2.03. The findings concur with other studies, which found that households who have access to credit participate more in non-farm entrepreneurial activities since it serves as a source of capital. Access to credit also gives the household the purchasing power to acquire or hire factors of production. (Stefan & Manfred, 2005; Timothy, 2011; Berjan, *et al.*, 2013; Ojeleye, Saleh & Oyewole, 2014; Nagler & Naudé, 2014; Shehu & Abubakar, 2015).

As for the donor from NGOs/government, the regression analysis on table 4.3 shows that the donor from NGOs/government coefficient of 0.115 is statistically significant but negative at 1% level. The study found that it is most IDPs who receive donor from NGOs and government institutions do rarely participate in other entrepreneurial activities.

However, table 4.3 shows a positive relationship between remittance and income from non-farm source. With a coefficient of 0.098, remittance tend to increase the household income from non-farm activity by 1.19. Finding of this study concur with the finding of Möllers & Buchenrieder (2011), Timothy (2011) and Ike (2015) who observed that remittance reduce the level of participation in non-farm entrepreneurial activity since households might tent to rely on remittance as an income supplement thereby forgoing participation in other income generating activities. However, the finding of this study therefore differ from that of Malek & Usami (2009) who found that transfer payment do not influence the level of participation in non-farm activities.

Similarly, Table 4.3 shows a positive and significant relationship between membership of association and non-farm income. Membership of association might likely increase non-farm income by 2.55. The findings corroborate the findings of Berjan, *et al.*, (2013), Ojeleye, Saleh &

Oyewole (2014), and Owoo & Naudé (2014) who found that although membership of association significantly influences non-farm income, it has no significant influence on the level of participation in non-farm entrepreneurial activities.

Diagnostic Tests

This section deals with the presentation and the interpretation of the results of diagnostic tests of the data collected.

Table 4.4 Results of the Diagnostic Tests

Tests	Test Statistic	P-value
Normality	42074.79	4.0963
Serial Correlation	2.467105	0.0327
Heteroskedasticity	0.41	0.5215
Functional Misspecification	6.86	0.6430
Multicollinearity		
Variables	Variance Inflation Factor	
Access to Credit	2.15	
Gender	1.80	
Membership	1.65	
Occupation	1.29	
Household Size	1.28	
Donor from NGOs/Govt.	1.23	
Age	1.22	
Educational Level	1.14	
Remittance	1.06	

Source: Author's computation using STATA 14, extracted from appendices

Table 4.4 presents the results of diagnostic tests for normality inform of Jarque-Bera, serial correlation in form of Breusch-Godfrey Serial Correlation LM Test, heteroscedasticity inform of Breusch-Pagan/Cook-Weisberg test, functional misspecification inform of Ramsey RESET test and multicollinearity. The results revealed that the model has passed all the tests conducted. Thus, the results indicate that there is no any problem.

Summary of Major Findings

This study assessed the determinants of participation in non-farm entrepreneurial activities among internally displaced persons in Borno state, Nigeria. It uses descriptive and inferential statistics to analyze the data. Moreover, inferential statistical tool namely Ordinary Least Square (OLS) in the form of Multiple Regression Model was employed to determine the factors that affect the level of income earned by households from participating in non-farm income activities. The findings of the study are summarized below:

4. Age of the household head (-0.18), Donor from NGOs/Government (-1.06) and occupation (-18.04) had a negative and significant impact on income generated from non-farm activities.
5. Gender of the respondents (2.53), level of education (0.66), household size (1.36), access to credit (2.03), remittance (1.19) and membership of association (2.55) all had a positive and significant impact on non-farm income.
6. Access to credit was positive and statistically significant (2.03). This shows that it tremendously increases income earned by the IDPs from participating in non-farm entrepreneurial activities.
7. Membership of association was also found to be positive (2.55). Result of the OLS reveals that it significantly influence the level of income earned from non-farm entrepreneurial activities.

Conclusion and Policy Implication

Based on the above findings, a general conclusion was drawn which shows that both demographic characteristics and economic factors affect the level of household income generated from non-farm entrepreneurial activities in the study area.

Specifically, donor from NGOs/Government to the IDPs have a significant impact on income from non-farm activities in the model. This shows that IDPs who receives donor earned more income from non-farm activities than household head who do not receive any.

Finally, the study found that access to formal credit and membership of association are an important determinant of non-farm income as none of the study examined disagree with the findings of this study. This means that households who had registered with an association had easy access to credit which is a source of capital and tend to earn more than household who have no access to credit. Thus, access to credit and membership of association are said to be the major determinant of non-farm entrepreneurial activities which is in line with a priory expectation.

Recommendations

Based on the findings of this study, the followings recommendations are made;

- iii) Since the findings revealed that membership of association significantly influenced income earned from non-farm entrepreneurial activity. The IDPs should be encouraged by government and the NGOs to form or join Community Based Organizations (CBOs) and other cooperative societies with a view to promote mutual interest.
- iv) Access to credit was also statistically significant. Therefore, government at both local and federal level are advised to establish a sustainable framework that will enable the IDPs have access to credit at a lower rates. The provision of low interest capital will promote participation in entrepreneurial activities thereby boosting the acquisition of

- productive assets which could increase household income, hence reducing their level of poverty and dependence on transfer payment.
- v) Government and non-governmental agencies implementing policy intervention strategies targeting entrepreneurship should give more attention to the IDPs. This can be achieved through assurance of adequate access to credit facilities on reasonable terms for acquisition of necessary inputs.
 - vi) Even though female IDPs participate in a number of entrepreneurial activities, they earn lower than their male counterparts from these activities. This is mainly due to their involvement in low return small scale traditional non-farm activities like: making of local perfume (Turaren wuta), cap making, weaving, tailoring and preparing local drinks like 'Sobo' and 'Kunun Aya', thus, government and other non-governmental organisations should build their capacity towards improving the quality of their commodities thereby earning a better return.

Suggestions for Further Studies

Apparent there are yet many questions which need to be answered. Specifically, further studies could be conducted on a comparative study on determinants of non-farm entrepreneurial activities between the IDPs and the host communities. In addition, the scope of this work is limited to Borno state, further studies could be conducted on the north-eastern region for a wider scope.

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