LIVELIHOOD PREFERENCE AND INCOME DETERMINANTS AMONG RURAL HOUSEHOLDS IN ABIA STATE NIGERIA.

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ABSTRACT
This study investigated the livelihood preference and income determinants among rural households in Abia State, Nigeria. A multi stage sampling technique was employed to draw a sample of 210 respondents. Data were obtained from the respondents through the use of questionnaire. Descriptive statistics and multiple regression were employed in analysing data elicited from the respondents. The study revealed that 98(50.3%) of the respondents embarked on both agricultural and non-agricultural livelihood activities, 65(33.3%) of the respondents preferred and engaged in agricultural activities only while 32(16.4%) engaged in non-agricultural activities only. Expectation of future benefit/returns (4.35), low associated risk (4.31), ensuring food security (4.22), cognate knowledge of the area of investment (4.17), availability of resource input (4.16), availability of finance (4.04), ensuring financial security (3.36), family business (3.55) and Availability of investment opportunity (3.01) are the significantly factors affecting livelihood preference among rural households. Household investment (0.204), educational status of household head (2.020), household dependency ratio (-0.565) and diversification of investment (0.200) affected household income. The study recommended that rural dwellers should be motivated to diversify their income sources through sensitization programmes and the provision of needed resources. Government should formulate and implement policies that will increase rural household income.
Keyword: Livelihood, income, rural household

INTRODUCTION
Rural households constitute a greater proportion of the population of developing countries. According to Bashir *et al.,* (2012) about 530 million people live in rural area in developing countries. Rural households are commonly resident in areas where lifestyles are traditionally oriented with predominance of market/ trading activities and subsistence agriculture (Asogwa *et al.,* 2012). Agricultural occupation and participation in agriculture is predominant in rural areas and it is engaged in by poor rural households who are characteristically smallholder farmers (Asogwa *et al.,* 2012). These agricultural activities include: crop production, animal husbandry, crop and livestock marketing to mention a few. It is worth noting that the rural areas wherein the households are domiciled are characteristically neglected as far as development and infrastructure is concerned (Asaolu *et al.,* 2010). They are underdeveloped in respect of economic and infrastructural amenities when compared with the urban areas. This is to say that there is dearth or absence of good road network, electrification, water supply, schools etc. This scenario tends to affect the livelihood of the rural households with regards to income and investments – either or both of which determines livelihood.

According to Odoemelam *et al.,* (2013), "investment in the agricultural sector or farm activity includes the purchase of fertilizer and chemicals, hired labour and leasing more land for farming. While investment in non-agricultural sector are mainly centred on education, trade expansion, building houses, dowry obligation, and purchase of durable assets". It suffices us to say that the commitment of fund by the rural households into various economic activities with the expectation of future benefit can be called investment. This investment(s) by the rural households are characteristically small due to the income distribution and size of rural dwellers. This in turn affects the size of the (household) income. Investment and Livelihood choice(s) is a means of improving the income stream and size of households through returns on investment. Several studies exist on investment theories, decision, determinants and nature in Nigeria and the diaspora (Ellund, 2013). According to Nwachukwu *et al* (2014), raising rural incomes are arguably the greatest challenges facing Sub-Saharan Africa and the developing world generally; this has ineluctably informed the need to understand the determinants of income particularly among rural household. Income is a significant determinant of household expenditure and the percentage of a household's income spent on food expenditure gives an indication of their vulnerability or otherwise to poverty and food insecurity in the future. This study is poised to investigate investment preference and income determinants among rural households in Abia state, Nigeria. An in-dept understanding of the factors influencing the income level and investment preference among rural households will enable policy makers to evolve an informed policy in a bid to stimulating an increase in the income of rural households.

REVIEW OF RELATED LITERATURE

Rural household was defined as a persons or a group of persons, related or unrelated, who live together in the same dwelling unit, who make common provisions for food and regularly take their food from the same pot or share the same grain store ,or who pool their income for the purpose of purchasing food. According to Diao et al. (2007) the majority of Sub-Saharan Africa's population live in rural areas. It have been observed that the most common criteria for the classification of rural households are distance and population (Nwakwasi, 2013) Population size , distance from an urban area , quality and availability of essential services, level of literacy, availability and adequacy of infrastructural amenities and so on are other criteria for adjudging an area rural. Hence, individuals inhabiting this location or locality are referred to as rural dwellers. However, it suffices us to understand that rural households are defined by location of habitation and not by mere economy and economic activities. Odoemalam et al. (2013) noted that the majority of the rural populace in Nigeria either depend entirely on farming and farming activities for survival and generation of income, or depend on other non-farming activities to supplement their main sources of income.

According to Donwa and Agbontaen (2010) "Investment is an essential component of aggregate demand and fluctuations in investment have considerable effect on economic activities and long-term economic growth". Investment opportunities in Nigeria are in addition to the foregoing stifled by the increasing levels of uncertainties in the macroeconomic environment of doing business (Donwa and Agbontaen, 2010). According to Odoemelam et al (2013) "investment in the rural economy appears to be in monetized and non-monetized forms. This could be attributed to the subsistent nature of the economy.

According to Sarah (2013), farm income is derived from the production or gathering of unprocessed crops or livestock or forest or fish products from natural resources and non-farm income is derived from all other sources of income, including processing, transport or trading of unprocessed agricultural, forest and fish products". However other non-farm income among rural households in Nigeria includes: rent from real estate, lease and rent received on land. It was also observed by Babatunde (2008) that eighty-eight percent (88%) of the sample households in rural Nigeria receive income from off-farm sources; this emphasising the important of off farm income to household income.

According to Machethe (2004) the level of farm income increases relative to total household income. This emphasises the importance of farm income as an important source of household income irrespective of the fact that most households also have a significant proportion of their income from non-farm sources (Machethe, 2004). Igwe and Imadu (2010) in a study of the determinant of income from fresh and processed crayfish marketing found that educational level attainment positively affected the income of cray fish marketers. They opined that "*bargaining is enhanced with increased education.*" Onyeiwu and Liu (2012) also found out that education was a significant determinant of income among rural households in Kenya and Nigeria. Okurut et al., (2002) found out that the higher the educational attainment of the household head, the wealthier the household. Aikaeli (2010) in his research on the income of rural income in Tanzania observed that educational level is a significant determinant of rural household income. He opined that the higher the educational attainment of the household head, the higher the household per capita income. The parameter, education of the household head is positively correlated with household income but not significant at five percent. The reason for this may be due to the fact that better educated and skilled household heads abandon farming for better income generating employment (Ibekwe 2010).

In a study carried out on determinants of farm income among women farmers in Enugu State by Ajah (2009), he found out that household size was not a significant determinant of farm income. According to Igwe and Imadu (2010), the higher the household size, the higher the income. This deduction was drawn from findings of their study which revealed that the household size of crayfish marketers in Oron LGA was positively related to the household size. This deduction can be accepted as most itinerants usually involve household members in the business, thus increasing market share and total sales. Ajah (2009) found out in his study that the age was not a significant determinant of farm income among women farmers in Enugu state, Nigeria. However, Onyeiwu and Liu (2012) in their study carried out on rural households in Kenya and in Nigeria found out that age was a significant determinant of rural household income. They opined that as members of a household get "too old," average household income declines, albeit at a very low rate.

Obika et al., (2011) in a study carried out in Abia State found out that the age of the household head had negative on the farm income of the household. They further deduced that the farmer becomes less productive as he becomes older. However, the age of household head was found not to be statistically significant at five percent level but it is positively correlated with farm household income (Ibekwe 2010) Years of (farming) experience was discover to be positively related to the level of income among women in Enugu state, Nigeria (Ajah, 2009) Olawepo (2010) observed that cost of farm inputs and equipment affects the level of income among rural farmers in Afon District in Kwara State, Nigeria. Mafimisebi (2008) observed that inputs such as labour and variety of cassava cultivated positively affect the income of farmers.

Aikaeli (2010) estimated the determinants of income using linear models by applying a generalized least squares technique and found that incomes of households in rural areas is significantly and positively affected by variables like household labour force size, household head's education level, non-farm ownership of rural enterprise and land use in acreage. He also found that income in male headed households was significantly higher than in households where female was the head. He also noticed a positive effect of greater use of telecommunications and improvements in road infrastructure on rural incomes at the community level.

RESEARCH METHODOLOGY

This study was carried out in Abia State Nigeria. Abia State has Umuahia as its capital and it is located in the South eastern part of Nigeria where *Igbo* is the pre dominant ethnic group. A multistage sampling technique was employed in this study. This involved four stages. In the first stage a purposive selection of three (3) Local Government Areas (LGAs) was done. These LGAs include: Obingwa, Ikwuano, and Isiukwuato. These LGAs were selected because they had preponderance of clusters of rural households. In the second stage, two autonomous communities were randomly selected from each of the three (3) LGAs. In the third stage, five villages were purposively selected giving a total of thirty (30) villages in all. In the fourth stage of the sampling, seven (7) rural household were randomly selected from each of the thirty (30) villages giving a total of 210 respondents. Data for this study were collected from primary source through the administration of copies questionnaire and through oral interview of the respondents. A total of 210 copies of questionnaire were administered to the rural household but a total of 195 respondents provide information which was adequate for the study.

Both econometric and statistical tools were used as deemed suitable for the study. These analytical tools includes: descriptive statistics, linkert scale and multiple regression analysis. In the use of the linkert scale, the mean score for each response was computed and rated. A mean score of greater than (>) 3.00 was deemed acceptable as significant while a mean score of lesser than or equals to (≤) 3.00 was deemed unacceptable.

Model specification for the Factors affecting rural households' income

The empirical model for the factors affecting rural households' income among rural households in Abia which was to achieve objective four is implicitly given as:

$$I = f(\varphi_1, \varphi_2, \varphi_3, \varphi_4, \varphi_5, \varphi_6, \varphi_7) \dots \dots \dots \dots \dots \dots \dots \dots \dots 1$$

The foregoing function is explicitly given as:

$$\delta = \beta_0 + \beta_1\varphi_1 + \beta_2\varphi_2 + \beta_3\varphi_4 + \beta_5\varphi_5 + \beta_6\varphi_6 + \beta_7\varphi_7 + e_i \dots \dots .2$$

Where:

δ = Household Income (in Naira (₦)),

φ_1 = Household investment (in Naira (₦)),

φ_2 = Educational Status of Household Head (in Years),

φ_3 = Household Dependency Ratio {computed as the ratio of dependents (people younger than 15 or older than 64) to the working age population (ages 15-64) x 100}

φ_4 = Gender of household head (Dummy, whereby 0 = female; 1 = male)

φ_5 = Age of the Household Head (in Years),

φ_6 = Diversification of Investment (proxied by number of areas of investment),

φ_7 = Farm Size (in hectares),

β_0 = Constant term,

$\beta_1 - \beta_7$ = beta coefficient of explanatory variables, and

e = error term.

Given *a priori* expectation, the beta coefficients are expected to be as follows:

$\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 < 0$; $\beta_4 > 0$; $\beta_5 < 0$; $\beta_6 > 0$; $\beta_7 > 0$

RESULTS AND DISCUSSION

4.1 ANALYSIS OF THE LIVELIHOOD PREFERENCE OF RESPONDENTS IN THE STUDY AREA
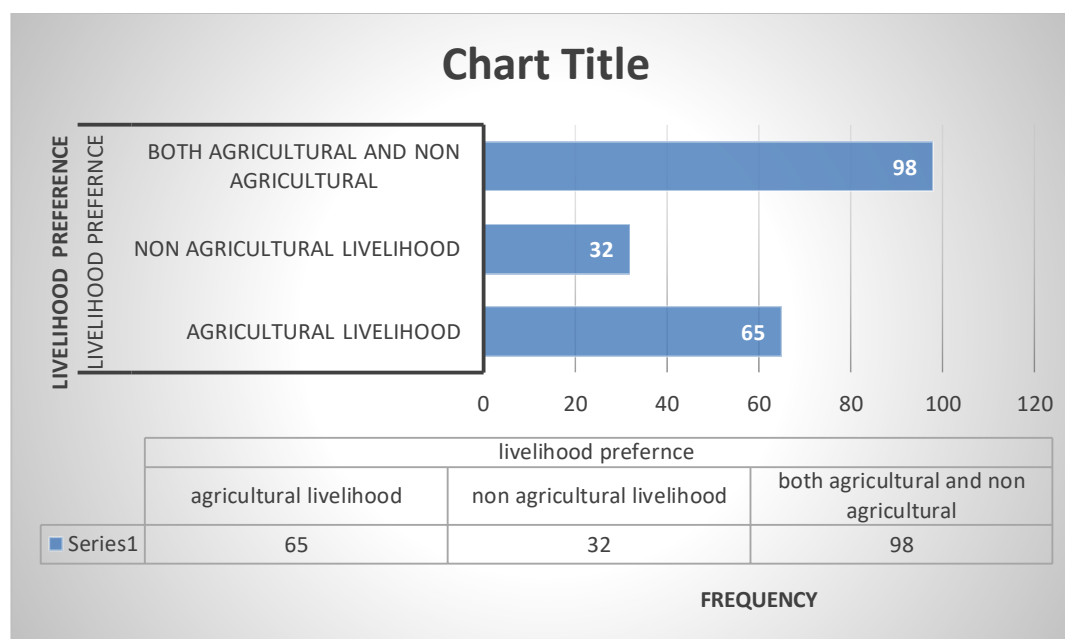
Fig. 1: Distribution of respondents according to Livelihood preference
Source: Field survey data, 2015

Figure 1 revealed that 65(33.3%) of the respondents preferred and engaged in agricultural activities only; 32 (16.4%) were engaged in non-agricultural activities only while 98 (50.3%) of the respondents had both agricultural and non-agricultural activities. The foregoing indicated that majority (50.3%) of the rural households engaged in both agricultural and non-agricultural activities, implying increased diversification of income stream by the rural households. This result was not consistent with the finding of Teshome and Edriss (2013). However, FAO (1998) observed that there are mounting evidences in the literatures that participation in non-farm activities creates favourable conditions for poverty alleviation in rural areas and by extension, food security. Ellis (2000) and Lanjouw (1999) gave reasons for income diversification to include declining farm income and desire to insure against agricultural production risk. Furthermore, Teshome and Edriss (2013) observed that households in remote areas were less likely to participate in the non-cropping sector than their counterparts closer to local markets, while households with educated heads are more likely to participate in the non-farm sector than those with non-illiterate heads. The results of the analysis might not be unconnected with the fact that most of the respondents had good education: which this study found to be a significant determinant of income diversification among rural households.

4.2 FACTORS RESPONSIBLE FOR LIVELIHOOD CHOICE IN THE STUDY AREA

Table 1: Analysis of the factor responsible for livelihood choice in the study area

Variables	Strongly Agreed	Agree	Undecided	Disagree	Strongly Disagree	Total score	Mean score	Rank	Decision
Cognate knowledge of the area of investment	96 (480)	69 (276)	14 (42)	0 (0)	16 (16)	814	4.17	4th	Sig
Availability of resource input	62 (310)	102 (408)	31 (93)	0 (0)	0 (0)	811	4.16	5th	Sig.
Availability of finance	55 (275)	105 (420)	26 (78)	6 (12)	3 (3)	788	4.04	6th	Sig.

Cultural belief	2 (10)	33 (132)	76 (228)	79 (158)	5 (5)	533	2.73	11th	Ns
Family Business	33 (165)	76 (304)	52 (156)	34 (68)	0 (0)	693	3.55	8th	Sig.
Formal training	35 (175)	25 (100)	51 (153)	72 (144)	11 (11)	583	2.99	10th	Ns
Government support and grant	12 (60)	14 (56)	74 (222)	75 (150)	20 (20)	508	2.61	12th	Ns
Expectation of future benefit/returns	81 (405)	101 (404)	13 (39)	0 (0)	0 (0)	848	4.35	1st	Sig.
Ensuring food security	72 (360)	94 (376)	29 (87)	0 (0)	0 (0)	823	4.22	3rd	Sig.
Ensuring financial security	50 (250)	47 (188)	73 (219)	25 (50)	0 (0)	707	3.63	7th	Sig.
Availability of investment opportunity	2 (10)	79 (316)	46 (138)	54 (108)	14 (14)	586	3.01	9th	Sig.
Low associated risk	79 (395)	96 (384)	20 (60)	0 (0)	0 (0)	839	4.31	2nd	Sig.

Source: Field survey data, 2015, Decision rule: Significant: - mean > 3, Not significant: - mean ≤ 3

From the results, we can deduce that expectation of future benefit/ return was the most significant factor responsible for households' livelihood choice having a mean score of 4.35, low associated risk ranked 2nd with mean score of 4.31; ensuring food security had a mean score of 4.22 ranked 3rd; cognate knowledge of area of investment ranked 4th with a mean score of 4.17; availability of resource input had a mean score of 4.16 ranking 5th; availability of finance ranked 6th with a mean score of 4.04; ensuring financial security ranked 7th with a mean score of 3.63, family business had a mean score of 3.55 ranking 8th; availability of investment opportunity ranked 9th with a mean score of 3.01; formal training ranked 10th with a mean score of 2.99; cultural belief ranked 11th with a mean score of 2.73 while Government support and grants ranked 12th with a mean score of 2.61. By this result we can conclude the most common factor responsible for livelihood choices of the respondents was future benefit/ return.

4.3 DETERMINANTS OF HOUSEHOLD INCOME AMONG RURAL HOUSEHOLDS IN ABIA STATE, NIGERIA

Table 2: Regression analysis for the determinants of household income in the study area

Explanatory variables	Parameters	Linear	Exponential	Semi log	Double log +
Constant	δ_i	-23206.173 (-0.104)	11.268 (20.887)***	349153.959 (0.425)	10.571 (5.449)***
Household investment	φ_1	0.043 (1.241)	1.037E-7 (1.283)	64278.470 (2.746)**	0.204 (3.763)***
Educ. status of household head	φ_2	9757.856 (1.277)	0.029 (1.579)	370.82 (0.003)	2.020 (7.354)***
Household dependency ratio	φ_3	21874.684 (0.923)	0.078 (1.369)	-65440.935 (-0.573)	-0.565 (-2.095)*
Gender of Household head.	φ_4	-25442.173 (-4.440)	-0.039 (-0.283)	-31977.444 (-4.837)***	-0.016 (-0.101)

Age of household head	φ_5	579.617 (2.669)*	0.024 (4.503)***	-45891.473 (-3.250)**	0.148 (0.444)
Diversification of investment	φ_6	64240.507 (1.617)	0.121 (1.265)	96302.507 (2.069)*	0.200 (1.817)*
Farm size	φ_7	9704.170 (0.655)	-0.104 (-2.924)*	77185.257 (1.278)	0.077 (0.538)
R		**0.532**	**0.674**	**0.642**	**0.890**
R^2		**0.731**	**0.630**	**0.584**	**0.736**
F- ratio		**1.840****	**1.350****	**1.074****	**2.230****

Source: Field survey data, 2015, Note: values in parentheses () are the respective t- ratio. ***, **, and * implies statistical significance at 0.01, 0.05 and 0.1 probability levels respectively.

The results presented in the Table 2 showed that the double log functional form was chosen as the lead equation. This was based on the value of F ratio, number of significant variables and coefficient of multiple determination. The coefficient of multiple determination (R^2) was 0.736; this indicates that 74% of the variations in household income was explained by the explanatory variables (household investment, educational status of household head, household dependency ratio, and gender of the household head, farm size, and diversification of income and the age of the household head). The results also showed that household investment, educational status of household head and household dependency ratio and level of diversification were statistically significant variables affecting the income of rural households in Abia State, Nigeria.

The beta coefficient of household investment was positive and statistically significant at 1% probability level. This means that the higher the household investment, the income of rural households. In other words, as the level of investment increases, their income also increases. This result was in contrast with the result of Ibekwe *et al.,* (2010) who found out that the coefficient of farm investment was significant and negatively correlated with farm income.

The beta coefficient of the educational status of the household head was positive and statistically significant at 1% probability level. This means that the higher the educational status of the heads, the higher their income. Education guides investment decisions, enterprise combination and the combination of resources for optimum productivity and higher income. This is true and consistent with the finding of Ibekwe *et al.,* (2010), Aikaeli (2010) and Leyaro and Morrissey (2010). The beta coefficient of dependency ratio was negative and statistically significant at 10% probability level. This result indicates that there is an inverse relationship between household dependency and income. This result explains that the higher the number of independent household members, the higher their income level.

The beta coefficient of the diversification of investment was positive and statistically significant at 10% probability level. We can deduce from this result that there was a positive relationship between level of investments diversification and the level of household income among rural households in Abia State. This means multiple livelihood sources increases household income. Diversification is a way rural households insure themselves against the occurrences of such shocks (Schwarze, 2004). Studies by de Janvry *et al.* (1991) and Kinsey *et al.* (1998) indicated that diversification (of income) is positively correlated with increased income.

Conclusion and Recommendation
This study investigated the livelihood preference and income determinants among rural households in Abia state, Nigeria. We can conclude from the findings of this study that majority (50.3%) of the rural households engaged in both agricultural and non-agricultural activities. It was also obvious that investment by rural households were largely informed by need to reap future benefit/return, low associated risk, ensuring food security, cognate knowledge of the areas of investment and availability of resources input. More so, household investment, educational status of household head and household dependency ratio and level of diversification affected the income of rural households in Abia State, Nigeria. The study recommended that rural dwellers should be motivated to diversify their income sources through sensitization programmes and the provision of needed resources. Government should formulate and implement policies that will increase rural household income.

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