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LIVELIHOOD DIVERSIFICATION AND INCOME INEQUALITY OF HOUSEHOLDS IN MINNA NIGER STATE NIGERIA

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Abstract

The study examined the effect of livelihood diversification and income inequality of households in Minna, Niger state. Multistage sampling technique was employed with 120 questionnaires administered. Data collected were analyzed using descriptive statistics, Gini coefficients and Simpson's Index of Diversity. The result of the research indicated that the respondents were into both off-farm and on-farm activities. In addition, trading, livestock and crop farming were the major livelihood activities of the respondents. Result of Gini coefficient indicated that livelihood diversification had a negative impact on inequality (0.795) but Simpson's index of diversity (SID) showed a high level of diversity in the area (0.76) This implies that, diversification has an effect on household income. The need for the respondents to get involved in both agricultural and non-agricultural activities in order to earn more income and diversify income sources was recommended.

Key words: Livelihood, Diversification, Income inequality and Household.

INTRODUCTION

Livelihood diversification refers to attempts by individuals to raise income and reduce poverty (Hussein and Nelson, 1999). For rural households, it includes both on and off-farm activities which are under taken to generate additional income. In Africa, different studies have demonstrated that while most provincial family units are involved in farming activities, for example, livestock production, crop production and fish farming as their primary wellspring of livelihood, they additionally participate in other income producing ventures. A lion's share of provincial family has truly expanded their beneficial activities to envelope a scope of other profitable businesses (Barrett, 2001).

Rising income inequality threatens growth and poverty reduction targets. This was why the united nation millennium summit put it as one of its main targets, and it was endorsed by virtually all world leaders to reduce the incidence of income inequality in developing countries from 30% to 15% between 1990 to 2015 (Adejuwon and Tijani, 2012).In Niger state, families that are poor are those that live below $1 per day as well as individuals who experience the ill effects of tremendous imbalances in incomes, wellbeing status, and instability (National Bureau of Statistics, 2013). Oyekale, Adeoti and Ogunupe (2004), in their study stated that the general Gini coefficient for Nigeria was 0.580. The study also discovered income inequality to be higher in provincial territories in contrast with urban regions and that business income expands income inequality. Nigerian profile report of 2010 showed that while income inequality rose from 0.429 in 2004 to 0.447 in 2010, destitution occurrences were 28.1, 46.3, 65.6,58.3 and 69% in 1980, 1985, 1996, 2005 and 2010 respectively (world Bank, 1996, IMF, 2005 and NBS, 2010).

Income inequality has become a significant open strategy challenge among improvement organizations and destitution diminishing specialists.

Various studies (Ellis, 2000 and Oyeleke *et al.*, 2004) have demonstrated that rustic families in the sub-Saharan Africa get their income from different sources with non-agrarian exercise representing a significant offer of aggregate income. Correspondingly, the general conviction that income inequality is nearly identified with destitution and that inequality is more broad and predominant in provincial than urban zones (IPAD 2001 and Oyekele et al., 2004) supports the behavior of a top to bottom examination of rustic income inequality.

It has been built that neediness is common in Nigeria with the higher rate of the poor followed by the rural cultivating family units, and income inequalities has been to a great extent connected with destitution (McKay, 2002). That is the reason neediness and income inequalities destitution are the first among the eight thousands year's advancement objectives (Adejuwon and Tijani, 2012). Against this backdrop, this study examined livelihood diversification and income inequality among households in Minna Niger state.

METHODOLOGY

The study was conducted in Minna Niger state. The state is located within in the North Central part of Nigeria and it lies between longitude 3°30E and 7°20E and latitude 8°20'N and 11°30N. The state currently covers a total land mass of 76,000 sq/km and it has about 9% of the total land mass of Nigeria (Niger state geographic information system, 2007). The state also has a population of about 4 million people (population census, 2006) and a projected value of 4,702,376 at the end of 2013 (CBN 2.38% annual projection).

The study applied a multistage sampling technique in selecting the representative household to be used. The first stage was a purposive selection of four wards from two local government areas in Minna metropolis. In the second stage, 2 communities each were selected at random from the wards and the thirds stage involved the selection of 20 households each from the communities systematically giving the total sample size of 120 households.

The data collected involved the use of a well-structured questionnaire in obtaining information on socioeconomic and demographic characteristics such as household size, level of education, age, sex, marital status etc. as well as other indicators that shows the diversification activities of the respondents and income sources.

The data collected were analyzed using descriptive statistics, Gini coefficients for estimation of income inequalities, Simpson's index of diversity (SID).

The models are specified as follows:

The Gini coefficient: $G = 1-\sum xy$

Where: x = proportion of income and y = proportions of total income in categories

Tobit Regression model; the implicit form is expressed thus:

$Y = f\{X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8 \ldots\ldots X_{14}\}$

Where Y = individual Simpson's index and $X_1 \ldots\ldots X_{14}$ are independent variables

Where: X_1 = gender (male = 1, otherwise = 0)

X_2 = age (in years)

X_3 = education, (highest educational qualification)

X_4 = marital status (married = 1; otherwise = 0)

X_5 = monthly Income of respondents (₦))

X_6 = Household size
X_7 = primary occupation
X_{7i} = farming
X_{7ii} = trading
X_{7iii} = civil servant
X_{7iv} = artisan
X_{7v} = agro-processing
X_8 = own houses
X_9 = own land
X_{10} = large family
X_{11} = limited income from primary occupation
X_{12} = limited returns from agriculture
X_{13} = availability of non-farm opportunities
X_{14} = limited financial power
The Simpson's Index of Diversity (SID): $SID = 1-\sum pi^2$
Pi = 1 and SID = 0

RESULTS AND DISCUSSION

The result of the socioeconomic characteristics of the respondents as shown on table 1 revealed that the mean age of the respondents was 41 meaning that majority of respondents are in their active age and could actively involve in various livelihood sources and earn more income. Majority of the respondents were males (70%) and were married (66.7%). An average of 6 members per household was observed and this had an impact on their reason for diversification. It was also observed that most of the respondents had one form of education or the other with the majority having tertiary education (57.5%).

The mean income of respondents was ₦218,247.67 (Table 2), using the national average of persons per household; it means that per capita income in the area is ₦36,374.61; this is above national minimum wage operational in the country (Jude, 2013).

On the reliability of livelihood and income sources of respondents, the result shows that livestock farming, trading, and fish farming are highly reliable with 45.9%, 48.3%, 46.7% respectively. While crop farming, civil service, and agro-processing were reliable income sources with 46.6%, 50%, 55% respectively. On the other hand, bank loan and artist are not reliable income sources. On the livelihood strategies used by the respondents, 77 (64.3%) among them combined off-farm, on-farm and bank shares all together as livelihood sources.

The result of the analysis on the extent of income inequality on table 4 shows that, income is unevenly distributed and is unequal, as a Gini ratio of 0.795 was obtained for the study area indicating that greater proportion of the respondents were in low income groups with about 28% earning income of 60,000 and below and a very high level of inequality in the income distribution. This is compared with Gini coefficients of 0.449 and 0.488 for southeast Nigeria and Nigeria in general respectively as reported by NBS (2005) and Aigbokhan (2008). This shows that Niger state has done well in addressing the income inequality among populace however, the gap between the rich and the poor is still very wide.

The Simpson's index of the study area and the index of diversity was 0.76 as shown on table 5 indicating that diversification was high as respondents adopted multiple income sources.

Furthermore, with a large number of working age adults, it is likely that the household members are specialize individuals, who rear livestock, grow crops, engage in fish farming and at the same time are civil servants. (Minot 2006). However, so many reasons could bring about the diversification, which include the following in order of importance as shown on table 6; large family size, limited income from the primary occupation, limited financial power and availability of off-farm opportunities.

Table 1. Socio-economic characteristics of Respondents

Variables	Frequencies	Percentage (%)
Age		
Less than 25	15	12.5
26-30	20	16.7
31-40	10	8.3
36-40	9	7.5
Above 40	66	55.0
Total	120	100
Mean	41.43	
Gender		
Male	90	75
Female	30	25
Total	120	100
Household size		
Less than 5	67	55.8
5+6-10	39	32.5
11-15	11	9.2
16-above	3	2.5
Total	120	100
Mean	5.71	
Educational status		
Primary	5	4.2
Secondary	34	28.3
Tertiary	69	37.5
None	12	10
Total	120	100

Source: Field survey, 2014

Table 2. Income distribution of respondents in the study area

Income	Frequencies	Percentages (%)
Less than 60,000	35	28.3
60,001-150,000	27	22.5
150,001-210,000	14	11.7
210,001-300,000	14	11.7
300,001 above	31	25.8
Total	120	100
Mean	218,247.67	

Source: Field survey, 2014

Table 3. Livelihood strategies adopted by respondents

livelihood strategy	Frequencies	Percentage (%)
On-farm	23	19.2
Off-farm	16	13.3
Bank shares	4	3.3
All above	77	64.3
Total	120	100

Source: Field survey, 2014

Table 4. Gini coefficient of respondents

Income	Frequencies	Proportion (X)	Total income	Proportion (Y)	∑Xy
Less than 60,000	35	0.29	24,700,187	0.21	0.061
60,001-150,000	27	0.23	24,685,354	0.21	0.048
150,001-210,000	14	0.12	23,009,686	0.20	0.024
210,001-300,000	14	0.12	21,728,136	0.19	0.023
300,001 above	31	0.26	22,428,136	0.19	0.049
Total	120	1.02	116,551,498	1.00	0.205

Source: Field survey, 2014

$G = 1-\sum xy$

$1-0.205 = 0.795$

Table8. Simpson's Index of Diversity of Respondents

Income	Frequencies	Proportion (p_i)	Simpson's ($\sum P_i$)	Index
Less than 60,000	35	0.3	0.09	
60,001-150,000	27	0.2	0.04	
150,001-210,000	14	0.1	0.01	
210,001-300,000	14	0.1	0.01	
300,001 above	31	0.3	0.09	
Total	120	1	0.24	

Source: Field survey, 2014

Simpsons index of diversity (1-D)
= 1 - 0.24 = 0.76

Table9. Reasons for diversification

Variables	Yes (%)	No (%)
Large family	36.7	63.3
Limited income from primary occupation	59.2	40.8
Limited returns from agriculture	42.5	57.5
Available off-farm opportunities	55.8	44.2
Limited financial power	72.5	27.5
Fun of it	33.3	66.7

Source: Field survey, 2014

The result of the Tobit estimates of the determinants of livelihood diversification shows that owing a land had a positive relationship with diversification (Table 7), as respondents with land had more income sources. Availability of non- farm opportunities were also positively significant to diversification, as respondents move away from agriculture and ventured in to other fields, so was their income sources increasing and it implies that more income would be generated when respondents engaged in non-agricultural activities.

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