

ANALYSIS OF NON-FARM INCOME AMONG HOUSEHOLDS IN JALINGO EXTENSION BLOCK OF TARABA STATE, NIGERIA

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Received 15th July, 2015 Accepted 24th August, 2015

Abstract

This study was designed to analyze non-farm income among households in Jalingo Extension Block of Taraba State, Nigeria. The specific objectives were to identify the types of non-farm activities engaged in by the respondents, determine the proportion of non-farm income in the overall household income of respondents and analyze the determinants of non-farm income. Data were collected from 158 respondents using structured questionnaire and analyzed using descriptive statistics and multiple regression. The results showed that most of the respondents were young (87.99%), married (88.61%) and with a fairly large household size averaging 9 persons per household and were mostly headed by males (86.71%). Educational analysis of respondents indicated that most of the respondents (89.87%) were educated. The study also revealed that over 79% of the households in the study area engaged in one type of non-farm activity or another and this accounted for over 72% of the total household income generated by sampled households. This emphasizes the importance of non-farm activities. Result of the regression analysis showed that the coefficients of skills, credit access, assets and education were positive and significant with an adjusted R^2 value of 0.54 showing that the model was able to explain about 54% variation in non-farm income. This indicates that any increase in the value of the coefficients of these variables have higher likelihood of influencing the household non-farm income positively. The main constraints faced by the households were poor asset base and inadequate credit facilities. The study recommends that government should intensify efforts at enhancing human capital development through skills acquisition programmes and make credit available and accessible to households in Jalingo Extension Block of Taraba State, Nigeria.

Keywords: Non-farm income, household, constraints

Introduction

Agriculture, though the main source of income and employment in most rural areas in developing countries, the rural non-farm sector has gained increasing importance over the past decades. One important pathway towards livelihood sustainability involves avoidance of long-term dependence on only one or two income sources (Block and Webb, 2001). At the start of the new millennium, roughly 25% of rural full time employment and 35% - 40% of rural income were attributed to the rural non-farm economy in the developing countries (Haggblade *et al.*, 2002). Farming remains important but rural people are looking for diverse opportunities to increase and stabilize their incomes given the seasonality of farming, particularly where irrigation is not well developed. Individuals in developing countries often rely on various sources of monetary incomes. (Leibbrand *et al.*, 2000, Glick, 1999).

In Nigeria, off and non-farm incomes represent an important element in the livelihood of the poor. In several areas the population density and the depletion of natural resources are such that agriculture cannot possibly remain the only, or even the main, source of income. Haggblade (2005) remarked that although agriculture remains the backbone of most rural economies, given the scale of rural non-farm earnings, the simplistic notion of rural economies as being purely agricultural is clearly obsolete. In fact, available statistics show that in many areas, own crop production is no longer the main source of income of rural households. It is therefore essential for stakeholders in the development initiative to be more interested in what could make non-farm activities more profitable and sustainable. Perhaps this could be achieved through the analysis of non-farm activities among farm households and better coordination of planning and implementation across the boundaries of occupational groups.

In many developing countries including Nigeria, a large number of the population resides in rural areas, and this population continues to grow at a substantial rate. Given the limit to arable land, such growth rates in the rural labour force will not be productively absorbed in the agricultural sector (Marsland *et al.*, 2000).

The changing socio-economic, political, environmental and climatic factors in Nigeria have continued to aggravate the living conditions of most households especially those living in the rural areas. Consequently, poverty tends to be on the increase in most rural areas due to increases in population and fall in income from farming activity. In many rural areas, agriculture alone cannot provide sufficient livelihood opportunities. Rural non-farm activity has shown potential in reducing rural poverty (Ellis, 1998, Barrett and Reardon 2000, and Reardon *et al.*, 2000). This puts the spotlight on the rural non-farm sector as a potential vehicle for rural development.

Non-farm activities have become an important component of livelihood strategies among rural households in Nigeria. Alimba (1995) observed that the non-farm economic activities which are common in rural Nigeria are petty trading (food stuff sales, fruit sales, provision sales etc), dress making, palm wine tapping, craft making (wood and calabash carving, carpentry, pot making, leather works and weaving). Other non-farm activities that are gaining prominence in rural Nigeria are welding, hair salons, and auto repairs etc. These non-farm activities provide employment options outside the farm, reduce rural-urban migration, promote income distribution and diversification and intersectional linkages capable of leading to a vibrant rural economy. These activities enable the farmers handle the problems arising from seasonality of agricultural production as it concerns labour, output and income (Islam, 1997; Federal Ministry of Agricultural and Rural Development, FMARD, 2001; Eboh, 2002; Eboh and Ocheoha, 2002; Nwaru, 2005).

The objective of this paper is to analyse non-farm livelihood income among households in Jalingo Extension Block of Taraba State, Nigeria by describing the socio-economic characteristics, types of non-farm activities engaged in and determine the proportion of non-

farm income in the overall household income in the area.

For a long time lack of understanding the key income sources of poor people has sometimes led to the inadvertent misdirection of poverty reduction policies to the rural non-poor. It follows that the incorporation of livelihood criteria that capture the diversity of income sources could result in projects that are more attuned to the livelihood strategies of the poor and which, therefore, are more accurate in reaching them. But official data often gives little indication of households' and individuals' sources of livelihood because of the informal nature of many activities, sensitivities about providing information on income, and a tendency for surveys to neglect secondary sources of employment or income.

This paper will therefore provide insight into the nexus of non-farm income. Gaining a good understanding of the reasons for participation in off-farm activities and the determinants of the levels of income achieved in these activities, as well as constraints to households participation in these off-farm activities, is essential for the design of the new approach to rural development and is thus the focus of this study.

Methodology

The Study Area

The study was conducted in Jalingo Extension Block of Jalingo Local government area of Taraba State, Nigeria. The State has an estimated land area of about 54,428 km² and lies between latitudes 6°25'N and 9°30'N and between longitudes 9°30'E and 11°45'E of the Greenwich meridian, with a population of about 2,294,800 million, (National Population Commission, NPC, 2006).

The major occupation of the people of Taraba State is agricultural production. Other livelihood activities such as pottery, cloth weaving, dyeing, mat making, carving, embroidery and blacksmithing are also carried out in various parts of the State. (Taraba State Diary, 2011). The target population for this study was all households in Jalingo Extension Block of Taraba State.

Sampling Technique

A multi-stage random sampling

technique was used. Four (4) out of the eight (8) cells in Jalingo block were randomly selected in the first stage which include Kona cell (Janbandu, Kona town, Mayodasa and Nukkai), Abbare-Yelwa cell (Kishaba-Sambe, Yelwa and Kishaba), Barade cell (Magami, Sabon-layi and Tudun-wada) and Kachalla cell (Wuro-Sembe and Sabon-Gari). Twelve villages were randomly selected from the cells in proportion to size. Finally, a total of 158 household heads were randomly selected and interviewed.

Analytical Technique

Statistics such as means, percentages and multiple regression analysis were used in determining the relationships. Four functional forms of regression equations were ran (Linear, Exponential, Semi-log and Double-log). The semi-log was the lead equation chosen on the basis of R^2 , F-value, number of significant

variables and a-priori expectations. The explicit regression function used was:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, u) \dots\dots\dots (3.1)$$

where: Y = Total non-farm income (Naira), X_1 = Market distance (kilometres), X_2 = Age of household head (years), X_3 = Household size (Number of people), X_4 = Years of formal education of household head (years), X_5 = Cooperative Membership (Dummy: yes=1, No=0), X_6 = Household access to credit (Dummy: yes=1, No=0), X_7 = Total non-farm skills being utilized (Numbers), X_8 = Household assets (value of assets), u = Stochastic error term.

Results and Discussion

Socio-economic characteristics of respondents

An investigation into the socio-economic characteristics among households in the study area showed that, majority (88.61%) of the respondent were married with an average age of 45 years while over 87% of the respondents were between 30-59 years indicating an active working age.

Table 1: Socio- economic Distribution of Respondent

Variable	Frequency	Percentage (%)	
<u>Age (ranges in years)</u>			
20-29	4	2.53	Mean = 45yrs
30-39	47	29.75	
40-49	53	33.54	
50-59	39	24.68	
60 and above	15	9.49	
Total	158	100	
<u>Gender</u>			
Male	137	86.71	
Female	21	12.29	
Total	158	100	
<u>Marital Status</u>			
Married	140	88.61	
Single	10	6.33	
Divorced	3	1.90	
Widowed	5	3.16	
Total	158	100	
<u>Household Size</u>			
1 – 5	42	26.58	mean = 9 people
6 – 10	67	42.41	
11 – 15	34	21.52	
16 and above	15	9.49	
Total	158	100	
<u>Educational level</u>			
Non formal	16	10.13	
Primary	35	22.15	
Secondary	72	45.57	
Tertiary	35	22.15	
Total	158	100	

Source: Field survey, 2013

Table 2: Distribution of Respondents Based on Secondary Occupation

Occupation	Frequency	Percentage (%)
Farming/livestock rearing	33	20.89
Salary job (Private/Govt.)	64	40.51
Artisan (tailoring, mechanic, hair dressing, etc)	19	12.03
Trading (petty traders)	5	3.16
Private business (transport, rentals, restaurant, etc.)	35	22.15
Wage earners	2	1.27
Total	158	100
Farming	33	20.89
Non farming activity	125	79.89
Total	158	100

Source: Field survey, 2013

Headship of household in the area was predominately male. This agrees with the findings of Oluwatayo (2009) that there were more male-headed households in rural Nigeria than female-headed households. The size of the household ranged from 5 persons to over 16 with an average of 9. This is large, capable of increasing household demand and expenditure. Hence, the reason for households in the study area participating in non-farm livelihood income activities to raise the living condition of households and reduce poverty. Majority (90%) of the respondents are literate and could be employed in other lucrative jobs other than farming to diversify their income sources. The study also found that the respondent participated in more than one income generating activity. 89% of the respondents were into farming activities while 79.11% were into one none-farm activity or the other.

Table 4: Results of the Regression Analysis of Non-farm Income Determinants

Variables	Linear	Exponential	+Semi-log	Double-log
Constant	-43343.024 (-0.529)	2.545 (4.900)***	-264036.6 (-1.107)	0.913 (0.591)
Market distance	3345.431 (0.481)	-0.006 (-0.134)	24638.604 (0.538)	-0.143 (-0.482)
Age	855.088 (0.568)	0.026 (2.746)***	162475.02 (1.120)	2.029 (2.161)**
Household size	496.404 (0.128)	-0.011 (-0.441)	-16171.477 (-0.216)	-0.115 (-0.237)
Education	5938.752 (2.079)**	0.029 (1.607)	30657.096 (2.107)**	0.115 (1.226)
Cooperative membership	-82361.335 (-2.542)**	-0.094 (-0.460)	-43049.872 (-2.718)***	-0.093 (-0.910)
Credit access	159655.23 (3.342)***	0.325 (1.073)	83299.434 (3.626)***	0.172 (1.158)
Skills	-23847.115 (-1.731)*	0.199 (2.277)**	8882.793 (7.824)***	0.433 (3.042)***
Household assets	2018.807 (1.379)	0.009 (0.918)	117026.35 (2.244)**	0.360 (1.066)
R ²	0.498 (49.8%)	0.11 (11.0%)	0.545 (54.5%)	0.131 (13.1%)
F – ratio	2.833 ***	2.292 **	4.352 ***	2.811 **
SE	0.21299	1.05435	2932.26965	1.0415

Source: Field survey, 2013, *** Significant at 1%, ** Significant at 5%, * Significant at 10%, + Lead equation, SE (standard error).

Proportion of Non-farm Income in Overall Household Income

The total household income of respondent tells us the total amount earned by respondents both from farm and non-farm income. The study found that 72.39% of the total income was earned through non-farm activities while the remaining 27.61% was earned through farming activities. This confirm that non-farm income is an important income generating activity in rural livelihood diversification.

Table 3: Proportion of Non-farm Income in Overall Household Income

Occupation	Mean income/ respondent/year (₦)	Percentage (%)
Farming	253,988.60	27.61
Non-farming	665,884.10	72.39
Total	919,872.70	100.0

Source: Field survey, 2013

Result of Multiple Regression Model

The result showed the semi-log function as the best fit function, based on economic, econometric and statistical criteria. The coefficient of multiple determination (R²) with value of 0.54 shows that the model was able to explain about 54% variation in non-farm income. F value of 4.352 which is significant at 1% is showing the goodness of fit of the model. Out of the eight (8) variables included in the model, five (5) were significant at different probability levels. These were educational level (X₄), cooperative membership (X₅), credit access (X₆), skills (X₇) and household assets (X₈).

The coefficient of skills was positive and significant at 1% level showing that as the number of skills acquired increases, income from non-farm activities also increases. This agrees with the findings of Khatun and Roy (2012) who said this is so because most non-farm activities are skilled based, acquiring these skills increases the possibility of getting non-farm jobs to generate non-farm income. Access to credit also had a positive effect on non-farm income at 1% level of significance, showing that providing credit to households will improve their livelihood via non-farm activities.

The value of physical assets owned by a household was found to have a significant and positive effect on non-farm income indicating that, the more the asset of the household, the more the income earned through non-farm activity, this is probably because household asset can be invested in non-farm activity to generate non-farm income. Educational level was found to be positive and statistically significant at 5% level. As elsewhere in Nigeria, in the study area too education is an important barrier to entry in non-farm sector, particularly for white collar and professional jobs as reported by Sanusi (2011) that the highly educated persons can diversify their livelihood options through opting for salaried jobs, self employment activities, etc., whereas low educated and illiterate persons engage themselves in wage earnings (farm work). Therefore investing in education and increasing access to higher education will help

the rural households in getting better alternative income.

The coefficient of household size was negatively related to non-farm income even though it is not statistically significant. This implies that large-sized households are liable to have low non-farm income, which could be due to the unhealthy competitions associated with population growth. Cooperative membership turned out to be negatively related to non-farm income at 1% level of significance.

The relationship between non-farm income and age was positive but not statistically significant. Khatun and Roy (2012) explained this in two ways: first, experience increases with age, consequently, experienced persons have more prospects of getting jobs in the non-farm sector. The second explanation is that we have taken the age of family-head alone and out of 158 samples interviewed, most of the household heads were middle aged and this is a period where dependent needs is greater. Market distance was also not significant but positively influenced non-farm income, and this could be attributed to the fact that majority of those interviewed resided near market places.

Major Constraints to Respondents' Participation in Non-farm Livelihood Activities

Non-farm livelihood activity is an important survival strategy for the rural households in developing countries.

Table 5: Distribution of Constraints to Respondents' Participation in Non-farm Activities

Constraints	Frequency	Percentage (%)	Rank
Inadequate or poor assets/capital base	138	20.75	1
Inadequate credit facilities	121	18.20	2
Lack of awareness of training schemes	113	17.00	4
Fear of taking risk	83	12.48	6
Lack of infrastructure/communications	115	17.29	3
Road and transport problems	95	14.29	5
Total	665*	100	

Source: Field survey, 2013

*Multiple responses

However, there are several constraints to successful non-farm livelihood activity. Identification of constraints for a particular place is crucial for future policy formulation. This study identified some of the socio-economic, technological, institutional and policy constraints to livelihood diversification into non-

farm activities in the study area. The study found the major constraints to the opportunities in the non-farm sector. Among these poor asset base was ranked first then followed respectively by inadequate credit facilities, lack of infrastructure, lack of awareness of training

schemes, transportation problem and fear of taking risk.

Conclusion and Recommendations

It was concluded that most of the respondents were young, married with a fairly large household size headed by males that were educated. Over 79% of the households in the study area engaged in one type of non-farm activity or the other and this accounted for over 72% of the total household income generated by sampled households. This emphasizes the importance of non-farm activities.

The result of the regression analysis, concluded that the households in the study area have more of the non-farm income when they have higher education and better skills, some assets and access to credit facilities. The scope of non-farm income also gets boosted when they have more experience (age) and close to urban markets. The constraints faced by households were poor asset base, inadequate credit facilities, lack of basic infrastructure, lack of awareness, training and poor transport facilities.

Based on the findings, it is recommended that Government should encourage appropriate policies that will promote education, also non-governmental organizations should also intensify efforts at enhancing human capital development (through skills acquisition programmes). Having established from the study that respondents with better skills can get good non-farm jobs to generate non-farm incomes education is an important variable in determining the participation of people in non-farm activities as it relaxes the entry barriers to different remunerative non-farm activities, particularly salary jobs. Since inadequate credit facilities and poor access to institutional credit are overwhelmingly acknowledged as important constraints inhibiting participation in non-farm activities, government need to revamp the rural financial system through appropriate policies that will make credit available and accessible to people in the State.

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