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Contributions of Non-Farm Activities in Combating Rural Unemployment in Ondo State, Nigeria

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ABSTRACT

This study investigated the contributions of non-farm activities in combating unemployment in rural areas of Ondo-east local government area of Ondo state, Nigeria. The multi-stage sampling technique was employed to select one hundred and forty-five smallholder farmers in the study area. The primary data for the study were collected with the aid of structured questionnaire. Descriptive statistics- frequency distribution and percentages were used to analyse the socio-economic variables and the Tobit model was used to analyse factors influencing smallholder participation in non-farm activities. The results of the socio-economic characteristics showed that, the mean age of respondents was 45.7 ± 4.2 years, 62.7% were male while 57.3% were married with 8.2 ± 3.9 members per household and 58.6% had primary education. The mean year of experience was 13.3 ± 5.2 years. Tobit model revealed that, age, education, wage earned, access to credit and distance were the significant variables influencing participation in non-farm activities. Non-farm activities help to reduce unemployment, supplement farm income, provide a safety net and alleviate poverty among households. The study recommended that improved access roads, access to credit and education should be provided to boost participation in non-farm activities.

INTRODUCTION

Non-farm activities have become an important component of farming household livelihood strategies in the rural areas of developing countries (Ibekwe *et al.*, 2010). Rural smallholder farmers suffer from disguised unemployment due to the seasonality of farm operations. Studies have shown that agriculture provide food, income and employment for the population; however, it cannot adequately provide employment opportunities for the growing population. This not unconnected with the declining farm size, environmental degradation, agricultural risks and other challenges facing the sector thus leading to unemployment. Unemployment is a state in which the supply of labour is greater than the available demand for labour or opportunities to absorb labour. Reddy *et al.* (2009) reported that smallholder farmers only worked between 100 and 200 days per annum and become idle and helpless for the rest of the year. Smallholder farmers suffer from disguised unemployment which leads to low economic position, hence diversification of income sources and employment is important. The relevance of the non-farm sector to rural development, poverty alleviation and household income share cannot be over emphasised in developing countries (Jonasson, 2005; Lanjouw, 2007).

Several scholars, Damte, (2002), Benedito *et al.* (2011), Bernardin, (2012) and Maertens, (2009) have defined non-farm activities. Non-farm activities include all activities carried out off one's own farm, regardless of sectoral, functional or spatial classification (Keija, 2008). Non-farm activities are the alternatives or opposite of farm activities. It entails all activities undertaken by rural households that are not related with agricultural production and non-farm activities can be divided into self employment and wage employment. Non-farm activities provide employment opportunities for labour in rural and urban areas of developing countries. That is, it helps to absorb the growing labour population, slows down rural-urban migration, promotes equitable distribution of income and contributes to poverty alleviation among households. According to Islam (1997), non-farm activities help to reduce poverty and inequality through the provision of employment and income for the marginal farmers who cannot obtain enough income and sustenance from agriculture. Moreover, during agricultural slack seasons, non-farm employment, however low the wages may be, supplements the income of farmers. Keija (2008) reported that non-farm activities provide a way of offsetting risks and uncertainties associated with fluctuations in agricultural income. The behaviour of rural households in diversifying their sources of income and employment is important in determining the contributions of non-farm sector in rural development (Keija, 2008; Adepoju and Oyewole, 2014). Non-farm activities have become a surviving strategy for most rural farming households (Babatunde and Qaim, 2009).

Scholars such as; Anim, (2011), Adewumi *et al.*, (2013), Ibekwe *et al.*, (2010) have documented in

many rural areas of Africa and Nigeria in particular, the contributions of non-farm activities on the economy of farming households. Gordon and Craig (2001) submitted that non-farm activities absorbs labour, offers more remunerative activities to supplement income and offers income potential during agricultural off-season or when farm fails. According to Adewumi *et al.* (2013), citing Nicodemo (2007); that involvement of rural farming households in non-farm activities exhibit higher potentials for reducing rural unemployment thus increasing households' income. Gordon and Craig (2001) opined that non-farm employment plays a potential and significant role in reducing rural poverty. However, there are little empirical studies to understand the contributions of non-farm activities in combating unemployment in the rural areas of Ondo State. From the foregoing, this study seeks to analyse the contributions of non-farm activities in combating rural unemployment and determine factors influencing smallholder farmers' participation in non-farm activities in Ondo-East Local Government Areas of Ondo State, Nigeria.

MATERIALS AND METHODS

Study area

The study was carried out in Ondo-East Local Government Area (LGA) of Ondo state, Nigeria which consists of 74,758 people (National Population Commission, 2006). The study area covers the tropical rainforest with temperature range of 21°C to 33°C with average humidity. The study area experiences seven months of rainfall of between 1100mm and 2300mm per annum and five months of dry season. Ondo-East LGA favoured the cultivation of arable crops such as maize, yam, cassava, and plantain, cocoyam among others and cash crops like cocoa, kola, oil palm and other tree crops. The study area is also blessed with economic trees such as mahogany, black and white afra and mineral resources like bitumen, crude oil, kaolin and clay. The LGA is primarily occupied by the Yorubas with farming as a major occupation; however they also engaged in petty trading and other economic activities to improve their livelihoods.

Sample and Sampling techniques

The multi-stage sampling technique was employed for the study. The first stage entailed the random selection of twenty rural communities in the study area. The second stage comprised of the random selection of seven households from each LGA. The third stage entailed the random selection of farming households from each rural community based on probability proportionate to the size of the communities. A total of one hundred and forty-five (145) respondents were selected for the study.

Data collection and analytical technique

The primary data for the study were collected using structured questionnaire. Data were elicited on the socio-economic characteristics, non-farm activities engaged in, and income realised by respondents, among others. Descriptive statistics such as frequency distribution, percentages and summary statistics (mean and standard deviation) were used to analyze the socio-economic characteristics and other variables. The Tobit model was used to analyse factors influencing smallholder farmers' participation in non-farm activities. Tobit model was used because it can measure the probability of participation in non-farm sub-sector. Tobit regression model is a good model that can be used to identify factors influencing participation in non-farm activities. Moreover, it can measure the parameters of the conditional probability of participation in non-farm activities on the explanatory variables and the effect of the marginal changes in the explanatory variables.

The model for the Tobit regression used in this study is implicitly expressed as:

$$Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, \dots, X_n, u) \dots \dots \dots 1$$

Where:

Y = Probability of participation in non-farm activity

X₁ = Age (years)

X₂ = Gender (1 if male, 0 if otherwise)

X₃ = Marital status (1 if married, 0 if otherwise)

X₄ = Education level (No. of years spent schooling)

X₅ = Household size (Number of persons)

X₆ = Years of experience (years)

X₇ = Farm size (hectares)

X₈ = Wage paid (₦) in non-farm activities

X₉ = Access to credit (1 if Yes, 0 if otherwise)

X₁₀ = Farm income (₦).

X₁₁ = Distance to urban / market centre (Km)

u = Error terms.

RESULTS AND DISCUSSIONS

The result (Table 1) showed that 62.7% of the smallholder farmers were male while 37.7% were female. This is in line with Keija (2008) that more male household heads were involved in non-farm activities than women. Also Mitra (1993) assessed the role of women in the non-agricultural sector and found that

the proportion of women was much lower than men in both non-agricultural and rural non-farm sectors. This is contrary to the findings of Newman and Canagarajah (1999) in Ghana and Uganda that female participation in non-farm work is more than male. On age, the result showed that 75.8% of the smallholder farmers were between 31 and 50 years of age. The mean age was 45.7±4.2 years which implied that the smallholder farmers were economically active. This finding is in agreement with Smith (2000) that it is generally the younger and economically active household members who migrate in search of non-farm income-earning opportunities. The result also showed that 8.3%, 8.9% and 6.9% were less than 31 years, between 51 and 60 years and greater than 60 years, respectively. The marital status of the respondents revealed that 57.9% were married while 29.7% and 12.4% were single and widowed/divorced, respectively. This finding supported that being married demand for more responsibilities and income to cater for the family members. On household size, 51.7% had between 5 and 9 members per household while 29.7% and 18.6% had less than 5 members and greater than 10 members per household, respectively. The average household size in the study area was about 8.±4 members which showed a fairly large size. However, the larger the household size the better because more available labour will be supplied for non-farm activities only if the household consisted of more adult members otherwise more burden will be encountered.

The educational status of the respondents revealed that 58.6% had secondary education while 28.3% had primary education. Tertiary education accounted for 5.5% and 7.6% had non-formal education. This supports the assertion by Gordon and Craig (2000) and Keija (2008) that better educated individuals are more likely to migrate out of the farm for non-farm employment opportunities. Moreover, Islam (1997) opined that primary education enhances productivity of the workforce while secondary education stimulates entrepreneurial activity. The occupation of respondents revealed that 60.0% were into farming while others were engaged in petty trading (17.2%) and artisans accounted for (13.8%). On the year of experience on major occupation, 52.1% had between 10 and 15 years while 33.5% had greater than 15 years and those with less than 10 years accounted for 12.4%. The mean year of experience was 13.2±5.3 years. This supported the fact that the more experience you have in an occupation the better for you.

Table 1: Socio-economic characteristics of respondents n = 145

Variables	Frequency	Percentage (%)
Sex		
Female	54	37.3
Male	91	62.7
Age (Yrs)		
<31	12	8.3
31-40	61	42.1
41-50	49	33.8
51-60	13	8.9
>60	10	6.9
Mean (SD)		45.7±4.2
Marital status		
Single	43	29.7
Married	84	57.9
Widowed/Divorced	18	12.4
Household Size (No.)		
<5	27	18.6
5-9	75	51.7
>10	43	29.7
Mean (SD)		8.2±3.9
Education attainment		
Tertiary education	8	5.5
Secondary education	85	58.6
Primary education	41	28.3
Non-formal education	11	7.6
Major occupation		
Farming	87	60.0
Civil service work	13	9.0
Petty trading	25	17.2
Artisans	20	13.8
Years of experience (Yrs)		
<10	21	14.5
10-15	76	52.4
>15	48	33.1
Mean (SD)		13.2±5.3

Source: Field Survey, 2016. Mean (SD) = Mean (Standard Deviation)

Table 2 showed that 31.7% of the respondents reported that it helped to absorb excess rural labour. This concurred with the submission of Gordon and Craig (2001). The result also showed that 22.8% of the respondents reported that it promotes the development of entrepreneurs in the rural areas while 17.2% and 16.6% respectively indicated that non-farm activities help to supplement household income thus help to

guide against liquidity constraints and alleviate poverty among the households. Moreover, 7.6% and 4.1% posited that non-farm activities promote the development of cottage industries and ensure food security. This finding is in line with Keija (2008) and Woldehana and Oskam, (2001) that non-farm activities help to guide against agricultural production shock thus acting as safety net.

Table 2: Contributions of non-farm activities in rural areas n = 145

Variables	Frequency	Percentage (%)
Absorb labour	46	31.7
Supplement income	25	17.2
Promote cottage industries	11	7.6
Develop entrepreneurs	33	22.8
Ensure food security	6	4.1
Alleviate poverty	24	16.6

Source: Field Survey, 2016

Tobit analysis of factors influencing participation in non-farm activities

The result of the Tobit regression model (Table 3) showed the sigma (δ) was 1.214; likelihood ratio chi-square was 54.33 and p -value was 0.000. The Pseudo R^2 was 0.5048 while the log likelihood was -231.9359. This implied that the model as a whole fits significantly with the variables as good predictors of participation in non-farm activities. The result showed that out of the 11 variables that were hypothesized to influence participation in non-farm activities, seven variables were found significant. The significant variables were; age, marital status, education, farm size, wage paid, farm income, and distance to urban centres. Age has a positive sign of coefficient at 1% level of significance. This implied that as household head advances in age, participation in non-farm activities increases by 0.001. The implication is that at advanced age, individual household heads tend to participate more in non-farm activities. This is not unconnected with the quest to earn more income to meet the need of the family. Similar results were reported by Amsalu (2013) and Matshe and Young, (2004). However, contrary to Chinwuba (2015) who found that the older the farmer, the less the probability of him/her to participate in non-farm activities.

Marital status showed a positive sign of coefficient at a 1% level of significance relative to participation in non-farm activities. This implied that as being married increases, the tendency to participate in non-farm activities increases by 0.055. This is similar to the findings of Kimhi (1997) who found that farm couples are more likely to engaged more in non-farm activities when there are more able adults that can work on the farm in the household. This is contrary to the findings of Keija (2008) that being married reduces participation in non-farm activities due to the various

household chores performed by women at home. Education has positive coefficient at 10% level of significance which implied that a unit increase in years of completed education increases the likelihood that the household head will look for additional source of income outside agriculture by 0.7. This is consistent with Mathenge and Tschirley (2010) that returns on education are higher in the non-farm labour market than on the farm, suggesting the more educated an individual is, the more the likelihood to participate in non-farm activities.

The result on farm size revealed a negative coefficient at 5% level of significance. This implied that a unit increase in the farm size will result in a decrease in the probability of participating in non-farm activities by -0.011. This conforms to the *a priori* expectation that as land size increases, farmers tend to participate less in non-farm activities. Similar findings were reported by Babatunde and Quaim (2010). On wage paid to labour, result showed a positive coefficient of significant at 5%. This implied a unit increases in wage paid will increase the likelihood of household head engaging in non-farm activities by 0.015. This is in line with the findings of Bagamba *et al.* (2009). Farm income showed a negative sign of coefficient and significant at 1%. This implied that a unit increase in farm income will lead to a decrease in the probability of participating in non-farm activities by -0.005. This is in agreement with the findings of Chinwuba (2015) and in line with *a priori* expectation that as income from farm increases, participation in non-farm activities reduces. Distance to urban centre showed a negative coefficient but significant at 1%. This implied that a kilometre increase in distance to the urban centre leads to a decrease in the likelihood of household heads participation in non-farm activities by 0.006. Similar result was reported by Sanchez (2005).

Table 3: Tobit analysis of factors influencing participation in non-farm activities

Variable	Coefficient	Standard Error	T	P>/t/	Marginal Effect
Constant	2.433	1.201	0.657	0.000***	
Age	0.079	1.052	0.56	0.006***	0.001
Gender	-0.545	1.939	-0.28	0.779	-0.046
Marital status	0.723	0.229	0.31	0.002***	0.055
Level of Education	0.198	0.785	0.25	0.088**	0.007
Household size	1.524	0.885	1.72	0.801	1.352
Years of experience	0.046	0.511	0.91	0.113	0.010
Farm Size	-0.293	0.903	-1.24	0.032**	-0.011
Wage paid	0.013	1.765	0.45	0.028**	0.015
Access to credit	-0.053	1.715	0.61	0.040	0.687
Farm income	-0.136	1.235	-1.06	0.004***	-0.005
Distance to city	-0.061	0.673	-0.58	0.000***	-0.006
Loglikelihood =	-231.9359	Prob>chi2=0.000	Obs =	145	
LRchi2= 54.33	Pseudo R ²	= 0.5048			

Source: Field Survey, 2016 * ** and *** significant @ 10%, 5% and 1%.

CONCLUSION AND RECOMMENDATIONS

Non-farm activities have become an important component of farming household livelihood strategies

for combating poverty and unemployment among smallholder farmers in rural areas. The study examined the contributions of non-farm activities in addressing unemployment in rural areas of Ondo-east local government area of Ondo state. The result showed that 62.7% were male, the mean age of respondents was 45.7±4.2 years, and 57.9% were married while 58.6% of the respondent had secondary education. The result of the Tobit regression revealed that age, education, wage earned and distance to urban centres among others were the significant variables influencing smallholder participation in non-farm activities. The study recommends that policy that would stimulate the youth in the rural areas should be developed to check rural – urban migration of youths, smallholder farmers should be given access to credit and education and training should be provided for the rural dwellers.

REFERENCES

- Adepoju, A.O. & Oyewole, O.O. (2014). Rural Livelihood Diversification and Income Inequality in Akinyele Local Government Area, Ibadan, Oyo State, Nigeria *Journal of Agricultural Sciences*, 59(2): 175-186.
- Adewunmi, I.O., Ojiako, I. A. and Omotoyole, A. I. (2013). Participation and Wage of Rural Female Headed Households in Nigeria Non-Farm Employment *European Scientific Journal* (9)13:194-219.
- Amsalu, B. Getnet, K., Kassa, B. and Chaurasia, S. P. R.(2013). Off-farm Labour Supply Decision of Adults in Rural Ethiopia: Double Hurdle Approach. *Journal of Agricultural Economics and Development* 2(4): 154-165.
- Anim, F. D. K. (2011). Factors Affecting Rural Household Farm Labour Supply in Farming Communities of South Africa. *Journal of Human Ecology*, 34(1): 23-28.
- Babatunde, R.O. and Qaim, M.(2009). Patterns of income diversification in rural Nigeria: Determinants and impacts. *Quarterly Journal of International Agriculture*, 48(4), 305-320.
- Babatunde, R.O. and Qaim, M. (2010). Non-farm Labour Market Participation in Rural Nigeria: Driving forces and Household Access. Contributed Paper for the 5th IZA/World Bank Conference: Employment and Development Cape-Town, South Africa May 3, 4th, 2010.
- Bagamba, F., Burger, K. and Kuyvenhoven, A. (2009). Determinant of Smallholder Farmer Labour Allocation Decisions in Uganda, IFPRI Discussion Paper 00887, Environment and Production Technology Division.
- Benedito. C., Langyintuo, A. and Darnhofer, I. (2011) The role of non-farm income in coping with the effects of drought in southern Mozambique. *Agricultural Economics*, 1(42): 701-713.
- Bernardin, S. (2012) Non-farm income diversification in rural Ghana: Patterns and determinants. *African Development Review*, 24(3): 233-244.
- Damte, A. (2002) Farm Households Labour Supply to Non-farm Activities in Ethiopia MSc Thesis submitted to the School of Graduate Studies, Economics Department, Addis Ababa University, Addis-Ababa. 1- 45.
- Chinwuba, I. P. (2015). Determinants of Participation in Nonfarm Economic Activities in South East Nigeria: A Tobit Analysis Approach; *Journal of Biology, Agriculture and Healthcare* www.iiste.org. 5(2): 102-108.
- Davis, B., Winters, P., Reardon, T. and Stamoulis, K. (2009). Rural nonfarm employment and farming: household level linkages. *Agricultural Economics* 20(2):119-123.
- Gordon, A. and Craig, C. (2001). Rural non-farm activities and poverty alleviation in sub-Saharan Africa. Social and economic development department Natural Resources Institute. Policy Series. P. 14
- Haggblade, S., Hazell, P. and Reardon, T. (2007). *Transforming the rural non-farm economy*. John Hopkins University Press Baltimore.
- Ibekwe, U.C., Eze C.C., Ohajianya, D.O., Orebiyi, J.S., Onyemauwa, C.S. & Korie, O.C. (2010). Determinants of non-farm income among farm households in South East Nigeria. *Researcher, Academia Arena*, 2(7), 1-4.
- Idowu, A., Aihonsu, J., Olubanjo, O. and Shittu, A. (2011). Determinants of Income Diversification amongst Rural Farm Households in Southwest Nigeria *Economics and Finance Review* 1(5): 31 – 43.
- Islam, N. (1997). The Non-farm Sector and Rural Development Food, Agriculture and Environment Discussion Paper, No. 22 Washington, DC: *International Food Policy Research Institute*.
- Keija, D. (2008). Employment and Income Diversification in Rural Uganda: Evidence from the 1999/2000 National Household Survey. Thesis Presented for the Award of the Degree of Doctor of Philosophy in the School of Economics University of Cape Town.
- Kimenju, S. C. and Tschirley, D. (2008). Agriculture and Livelihood Diversification in Kenyan Rural Households Tegemo Institute of Agricultural Policy and Development, Nairobi, Kenya.
- Matshe, I. and Young, T. (2004). Off-farm Labour Allocation Decisions in Small Scale Rural Households in Zimbabwe *Agricultural Economics*, 30 (3): 175-186.
- Maertens, M. (2009) Horticulture exports, agro-industrialization and farm-nonfarm linkages with the smallholder farm sector: Evidence from Senegal. *Agricultural Economics*, 40(2): 219-229.
- Mitra, A. (1993). Rural non-farm employment, poverty and women *The Indian Journal of Labour Economics* 36(3):455-69.
- National Population Commission (NPC, 2006). Population Census Data Ondo State, Nigeria Federal Republic of Nigeria Official Gazette, National and State Provisional Totals Census

- Federal Government Printer, Lagos, Nigeria 94 (21): 175 – 198.
- Newman, C and Canagarajah (1999). Non-farm Employment, Poverty and Gender Linkages Evidence from Ghana and Uganda *Working paper* Washington DC World Bank.
- Nicodemo, C. (2007). Participation and wage equations for married women in European countries A preliminary paper prepared from University of Tor Vergata, Rome.
- Reardon, T. (1997). Using evidence of household income diversification to inform study of the rural non farm labour market in Africa *World Development*, 25 (5), 735-748.
- Reddy, S. S., Ram, P. R., Sastry, T. V. N. and Devi, I. B. (2009). *Agricultural Economics* Oxford and IBH Publishing Co. PVT Ltd., New Delhi, India
- Sanchez, V. (2005). Determinants of Rural Non-Farm Employment and Incomes in Bolivia. A Thesis Submitted to Michigan State University for award of the Degree of Master of Science Department of Agricultural Economics.
- Woldehanna, T. and Oskam, A. (2001). Income diversification and entry barriers: evidence from the Tigray region of northern Ethiopia *Food Policy* 26(4):351–365

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