Rural Livelihood in South-West Nigeria: Strategies, Assets Ownerships and the Non-Farm Income

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Abstract: The proliferation of Non-farm activities as a source of income to complement the once sole agricultural income in the rural part of Nigeria is an issue that calls for serious policy attention. It has been variously referred to as consumption smoothening measure or coping strategy against agricultural failure among other reasons. However, the fact remain that income from non-farm activities has become an integral part of the rural economy that requires empirical evaluation to enhance the emergence of a comprehensive agricultural and rural development plan in Nigeria. In view of this study assesses the livelihood strategies and the determinants of rural non-farm income in South-West Nigeria using a multi-stage random sample of 300 respondents. Descriptive statistics and multiple regressions were evaluated which confirmed the existence of non-farm activities alongside the farm activities despite the fact the respondents are still in their active working and productive age. Livelihood strategies in the area involve asset ownerships of both livestock and durable household assets. Common non-farm activities in the area are artisan, trade and commerce, etc which are mostly self-supervised and being funded through farm earnings. Non-farm activities have a higher profit level than the farming activities and such factors that determine its level of income are: Gender, household size, years of non-farm experience and exposure. Towards promoting such activities with policy instrument, attention must be paid to female-headed households, training and provision of vital information on highly profitable non-farm enterprises to the ruralites.

Key words: Rural livelihood, strategies, assets ownership, Non-Farm Income (NFI), South-West Nigeria, gender

INTRODUCTION

The economic crises ravaging the rural African populations for the past two decades has negatively affected the small farmers' productivities in the region via the cost of agricultural inputs and other household consumable goods whose prices now rise faster than the corresponding price of the agricultural produce. This cost-price squeeze has created a high risk environment which makes live more difficult for the small scale farmers and has resulted in changes in their livelihood strategies. Such changes were captured along two main lines by Bah (2003), one is the high levels of multi-activity with most households and individuals combining farming with non-farming activities. Moreover considering the prevailing high levels of material uncertainty and risk, rural populations have become more occupationally flexible, spatially mobile and increasingly dependent on non-agricultural income generating activities. Some earlier surveys estimated an average of 40% of African rural household income to be from Non-farm sources (Reardon, 1997; Ellis, 1998) but the more recent De-Agrarianization and Rural Employment (DARE) survey results found a much higher levels of 55-80% range across the continent (Bagachawa, 2000).

The scenario punctuates the age-long model which viewed peasants' households as being dependent only on access to land to be inadequate in describing rural economy and with such an expanding non-farm activities in the renowned agricultural dominated regions, a detail review of current livelihood strategies and the accompanying rural non-farm activities (income) will merit a special place in the rural and urban development strategies.

This study tends to assess the livelihood strategies and the determinants of rural non-farm income in the South-West of Nigeria and it will answer the following fundamental questions, viz what are the various non-farm activities in the study area? What are the livelihood assets possessed in the study area? And what are the determinants of non-farm income in the study area?

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Review of literature: The rural growth literature (Mellor, 1976) first hinted that there is a link between agricultural growth, non-farm activity and reduced rural poverty. Haggblade *et al.* (1989) argued further that for a successful rural development, it is essential to give priority to non-farm activities which will consequently raises both farm and non-farm income. Bardhan (1983) observed a widely different pattern in the regional rural non-farm activities or rural diversification; some arise from local agricultural underdevelopment while others developed as a result of agricultural growth linkage.

Aigbokhan (2000) in his study on Nigeria however, noted that ruralites reverberates between low and medium class but are now becoming permanently abandoned in the low class due to insufficient income from their farms as a result of risks like weather, pests among others. He therefore, concluded by aligning with the view of (Peter *et al.*, 1998) that farm households cope with transitory food insecurity, catering for education, health services and other needs by diversifying their income sources and by selling their assets. Kutengule (2000) also re-assert the fact that growth in non-farm activities in order to diversify rural opportunities and income is the key to poverty reduction for rural Malawians who were beset by small and declining farm sizes.

Cocoa producing areas in Nigeria has shown a remarkable rise in household participation in non-farm activities from an average of 33% in mid 1980s to 57% in 1997 (Bryceson, 2000). The source break down the increment based on income group low income group participation in non-farm activity increases from 35-80%, middle income group jump from 30-50% while the upper income group decline slightly from 33-25%.

According to Barett *et al.* (2001), motives behind income diversification by households and individuals can either be push factors or pull factors. The push factor perspective is a diversification driven by limited risk bearing capacity in the presence of incomplete or weak financial systems that creates strong incentives to create portfolio of activities in order to stabilize income flow and consumption by constraints in labour and land markets as well as climatic uncertainty while the pull factor perspective is when the local engine of growth such as commercial agriculture or proximity to an urban area create opportunities for income diversification in production and expenditure linkage activities.

Empirical studies on the growth linkage between farm and non-farm income varied across the regions in Asia, extra $1 value added in agriculture creates $0.8 additional non-farm income (Bell, 1988) while in Sub-saharan Africa, extra $1 will create $0.5 growth in non-farm income (Haggblade *et al.*, 1989) but Delgado *et al.* (1994) observed higher multipliers for the Sub-saharan Africa countries to range from $0.95-1.90.

Some evidence based studies on the relationship between farm activities, non-farm activities and income inequality also abounds. Kutengule (2000) observed inter-sectorally that income-inequality was lower in agriculture than within non-agricultural sector for most countries. He however, pointed out that agricultural sectors inequality was still higher for the under-developed countries than the developed countries. Following the same trend, Aigbokhan (2000) using Gini-Decomposition showed that non-farm income decreases inequality in Chiweshe near Harare thus, arguing that a substantial part of reduction in inequality arises from greater non-farm incomes at the bottom of the scale thus, poverty is reduced by access to alternative income sources.

The determinants of non-farm income diversification are: seasonality (Alderman and Sahn, 1989), differentiated labour markets (Davies and Hossain, 1997), risk strategies (Ellis, 1998), coping behaviours (Webb *et al.*, 1992; World Bank, 1990; Alderman and Paxson, 1992) and credit market imperfections (Reardon, 1997; Bell, 1988; Barett *et al.*, 2001). However, Ibekwe *et al.* (2010) has captured the determinants of non-farm income among farm households in the South-East of Nigeria to be education of household head, farm size, household size, farm investment and the value of farm output.

MATERIALS AND METHODS

Study area: The study was carried out in Osun state, one of the six states that make up the South-West geo-political zone in Nigeria. Osun state with capital in Osogbo was created in 1991 from the old Oyo state. The vegetation is predominantly rain-forest with agriculture as the primary occupation. The state population as at 2006 census is around 3.5 million which translates into 2.5% of the total Nigeria population. The land is conducive for the cultivation of both cash and arable crops like cocoa, pine-apple, citrus, oil-palm and kola. Osun state was bordered by Oyo, Kwara, Ondo and Ekiti states.

Sampling and data collection: Multi-stage sampling approach was used in the study in which Osun state was chosen out of the six states in the South-West while three local governments were chosen in a random manner out of the 23 LGAs in the state with one LGA from each of the senatorial district in the state. The chosen LGAs were: Ejigbo (Osun west), Ife-East (Osun east) and Ila (Osun central). One hundred farming households were interviewed from each of the LGAs with the aid of well

structured questionnaire to give a representative three respondents. Data obtained included livestock and household assets, socio-economic characteristics information, farming activities and the non-farm activities record, etc.

Analytical tools: Descriptive statistics was used in analysing the socio-economic characteristics and livelihood strategies (assets ownership) of the households in the study area while a multiple regression analysis was adopted following Ibekwe *et al.* (2010) in exploring the determinant of non-farm income in the area. The four functional forms fitted into the model are Linear, Semi-log, Exponential and Double-log functions. The lead equation was chosen on the basis of highest R^2, F-test, number of significant variables and apriori-expectation. The implicit form of the regression equation is as stated below:

$$Y = f (S, F, C, NF)$$

Where:
Y = Non farm income
S = Index of socio-economic characteristics of the households like age, gender, marital status and educational level, etc.
F = Index of farm records
NF = Index of Non-farm record data (years of non-farm activity, source of fund for non-farm activity, etc.)

RESULTS AND DISCUSSION

Socio-economics of the respondents: The result of the respondents' characteristics as shown by the shown in Table 1 reflects that 67% of the respondents are still in their working age bracket (average age in the area is 45.77 years). The area is of fairly high household size (mean = 9.28 and 51% of the households have between 6-15 household members. Only 33% of the sample households were not educated and belong to a balanced community when viewed along Monogamy and polygamy bifurcation (52 and 48%, respectively). About 64% of the sampled households resides in the peri-urban areas and belong to one organisation or the other (80%). The households are mostly male-headed (88%), married (86%) and mostly indigenous to the place (91%).

Non-farm records and activities: The result in Table 2 shows the array of non-farm activities in the area artisan, trade and commerce, transport and others (services, consultancy, etc.). Most of these activities are funded through farm earnings, credits, etc. and these enterprises are supervised mainly through self-supervision or by wife and children. The labour use in the non-farm activity is mainly family labour followed by family and hired labour combination.

Table 1: Socio-economics of the respondents

Variables	Frequency	Percentage	Mean	SD
Age (years)				
<30	42	14	-	-
30-50	171	67	45.77 years	12.51 years
>50	87	29	-	-
Total	300	100	-	-
Gender				
Male	264	88	-	-
Female	36	12	-	-
Total	300	100	-	-
Household size				
<5 people	99	33	-	-
5-15	153	51	9.28	7.30
>15	48	16	-	-
Total	300	100	-	-
Marital status				
Single	30	10	-	-
Married	258	86	-	-
Divorcee	12	4	-	-
Total	300	100	-	-
Education				
No education	99	33	-	-
Primary	90	30	-	-
Secondary	93	31	-	-
Tertiary	18	6	-	-
Total	300	100	-	-
Indigenisation				
Indigene	273	91	-	-
Non-indigene	27	9	-	-
Total	300	100	-	-
Family type				
Monogamy	156	52	-	-
Polygamy	144	48	-	-
Total	300	100	-	-
Residential type				
Rural	108	36	-	-
Peri-Urban	182	64	-	-
Total	300	100	-	-
Organisation membership				
Belong	60	20	-	-
Not belong	240	80	-	-
Total	300	100	-	-

Computed from the field survey; SD: Standard Deviation

Table 2: Descriptive result of the non-farm records

Variables	Frequency	Percentage
Non-farm activities		
Transportation	66	22
Trade and commerce	81	27
Artisan	99	33
Others	54	18
Total	300	100
Non-farm activity capital source		
Farm earnings	141	47
Credit	114	38
Others (Savings, etc.)	45	15
Total	300	100
Non-farm supervision		
Extended family member	9	3
Self-supervision	243	81
Wife and children	36	12
Others	12	4
Total	300	100
Labour source		
Family labour	180	60
Hired labour	30	10
Family and hired labour	90	30
Total	300	100

Computed from the field survey

Table 3: Mean value of farm and non-farm activities indices

Variables	Mean values
Farming activities	
Farm years experience	6.6 ha
Distance to farm	20.3 years
Working days on the farm	3.49 km
Farm income	5.08 days
Farm expenditure	₦105, 077.90
Average profit	₦64, 335.10
Non-farming activities	
Years of experience	17.3 years
Initial capital	₦176, 802.00
Non-farm income	₦251, 695.50
Average profit	₦74, 893.50

Computed from the field survey

Farm and non-farm activities comparison: The result in Table 3 shows that the average farm size in the area is 6.6 ha which reflected the small-holding nature of the farmers and the mean farming experience is 20.3 years which is more than the mean non-farm activity experience (17.3 years). This suggests that farming operations slightly preceded non-farm activity in the area but it is also observed that the profit margin from non-farm activities (₦74,893.50) is greater than the return profit to farming activities (₦64,335.10).

Livestock and asset ownership: Livestock ownership in the area as shown in Table 4 is of the order: Birds (36%), Goats (34%), Sheep (22%), Cattle (7%) and Pig (4%) while the pattern of ownership in the case of durable assets shows Radio (90%), Television (68%), Others (land, etc. is 61%) and Motorbike (54%). Only very few can afford to own such assets like car (27%) and Generator/plant (19%).

Regression result: The lead equation among the four fitted models is the double-log function as it almost has equal R^2 value as the linear function (Double-log R^2 = 0.649 and Linear R^2 = 0.666) but the double-log was chosen to interprete the result for having four significant explanatory variables compared to only one significant variable in the Linear function. As shown in Table 5, the explanatory variables explained 64.9% of the value and changes in non-farm income. A female-headed household increases non-farm income as well as low household size. These can be explained to reflect that male-headed households do not have enough time to supervise non-farm enterprises but focuses on farming activities, since, the culture in this part of the country viewed any male that indulges in non-farm activity as a lazy man and as such not respected in the community. For the household size factor while a larger household size will put the available labour force to farm activity without evaluating the returns to such labour input, a lower household size will critically evaluate the return to its limited labour source in order to make ends meet and will tend to assign its labour to a more profitable activity, of which we have seen that non-farm activity is more profitable than the farming activities as shown in Table 3.

Table 4: Result of the rural livelihood strategies (livestock and durable assets ownership)

Variables	Possessed (%)	Not possessed (%)	Average possessed	Total
Livestock assets				
Birds	108 (36)	192 (64)	11	300
Goats	102 (34)	198 (66)	2	300
Sheep	64 (22)	234 (78)	1	300
Cattle	21 (7)	279 (93)	-	300
Pigs	12 (4)	288 (96)	-	300
Durable assets				
Car	81 (27)	219 (73)	-	300
Motor bike	162 (54)	138 (46)	-	300
Television	204 (68)	96 (32)	-	300
Radio	270 (90)	30 (10)	-	300
Generator/plant	57 (19)	243 (81)	-	300
Bicycle	90 (30)	210 (70)	-	300
Building	126 (42)	174 (58)	-	300
Others (Land, etc.)	183 (61)	87 (29)	-	300

Computed from the field survey. N.B: Average possessed means the average unit of each livestock asset in the study area

Table 5: Regression result dependent variable is the value of non-farm income

Variables	Co-efficient	SE	t-values
Constant	4.207	8.652	0.486
Age X_1	-2.790	1.699	1.642
Gender X_2	-3.908***	1.685	2.319
Marital state X_3	3.006	1.984	1.515
Education X_4	0.701	0.586	1.196
H/hold size X_5	-2.22***	0.415	5.349
Indigenization X_6	1.203	1.230	0.978
Organization X_7	-0.934	0.599	1.559
Farm size X_8	-0.390	0.480	0.813
Farm income X_9	0.698	0.732	0.954
Farm expenditure X_{10}	2.629	3.314	0.793
Non-farm exp X_{11}	1.168***	0.188	6.213
S of Fund NF act X_{12}	0.488	0.512	0.953
Credit X_{13}	0.732	0.614	1.192
Exposure X_{14}	1.482***	1.866	6.794
R^2	0.649	-	-

N.B: *** means the variable is significant at 1% level; Computed from the field survey; SE: Standard Error

Other significant determining factors of non-farming income are non-farm activity experience and having travelled out of the local environment (exposure). Both are positively related with the dependent variable. Which means the more the years of experience in the non-farm activity, the more the income from such while exposure in terms of having travelled out of the locality also improves the level of income accrued to the non-farm activity because such a person will have better information about high-profit activities which is a step ahead of those who permanently resides in the locality. This result is similar to the finding in the South-East Nigeria (Ibekwe *et al.*, 2010) on the value of farm output and household size factors but education, farm size and farm investment were other significant factors in the South-East whereas gender, exposure and non-farm experience completed the list of determining factors in the South-West.

CONCLUSION

It can be evidently inferred from the results that despite the fact that the head of the farming households in the study area are still in their active productive age, non-farming activities have been going along with the farming activities in the area. Aside this livelihood strategy of engaging in both farming and non-farming activities simultaneously, the households also keep both livestock and durable household assets which perhaps may be easily converted to cash in time of difficulties through sales. The average net-return to non-farm activities is greater than that of farming activities and the factors that determine income in the Non-farm activities in the South-West Nigeria are: Gender, Household size, Non-farm activities years of experience and Exposure (having travelled out of the locality). It is therefore, recommended that policies for the promotion of Small and Medium Enterprises (SMEs) in the region should address such factors as training (since years of experience is a factor) and greater emphasis should also be on females (since female-headed households increases non-farm income) while relevant information should be provided (based on exposure).

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