
Farm and Non-Farm Income Diversification Activities among Rural Households in Southeast, Nigeria

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Abstract

The study assessed farm and non-farm income diversification activities among rural households in Southeast, Nigeria. Purposive and multi-stage random sampling techniques were used to collection data from three hundred and sixty (360) rural households using structured interview schedule. Means, percentage and frequency count were used to analyse the objectives of the study. The result showed that 82.5 % of rural households diversified their income sources into other non-farm activities as against 17.5% that depended solely to farm activities. Further analysis indicated that 64.4 % of the rural households engaged in crop production, 46.9 % practiced livestock production, 5% were into collection of forestry products, 13.1 % engaged in farm products processing while 23.3 % engaged in storage and marketing of agricultural products. However, the various non-farm activities diversified into by the households were: petty trading (53.53 %), storage and marketing of agricultural commodities (31.31 %), sale of landed property (15.82 %), agricultural wage labour (16.84 %) and hire purchase (9.09 %). Others included rental services (19.52 %), transportation (example taxis, motorcycle and tri-cycle business) (21.21 %), craftsmanship (13.46 %) and civil/public service jobs (28.28 %). The study recommended that government should improve rural infrastructures like good road network, electrification, potable water, telecommunication service, and affordable healthcare system since they are important for enhancing socio-economic activities. It is also recommended that government should initiate policy for reducing risk and uncertainties inherent in agricultural activities in order to encourage farmers to remain in the business of farming.

Keywords: Diversification, economic activities, rural households, livelihood, South East Nigeria

Introduction

Nigeria is mainly characterised by rural settlement with high poverty index (Olowa, 2012). To this effect, agricultural activity remains the major occupation of the people. However, agriculture alone cannot reduce the high level of poverty; hence, non-farm activities are equally imperative. In many instances, expansion in rural non-farm employment is very much linked to expansion in agricultural sector because agricultural sector remains the largest supplier of intermediate production inputs to other economic sectors (Briones, 2017). Odoh (2015) opines that agriculture influences non-farm activity because farm labour can be deployed to non-farm sector for production, processing, distribution and marketing. However, as globalization and urbanization proceed, expansion in rural non-farm sector continues to rise independent from agriculture (FAO, 2017). In the light of the foregoing, Estruch and Grandelis (2013) proposes an integrated approach for promoting farm and non-farm activities that will foster a more viable rural sector. Recent development resulting from the change in the socioeconomic, political environment and the climate conditions in Nigeria just as in many less developed nations of the world have worsened the living conditions of many rural households, prompting rural dwellers to switch over to alternative economic activities as a risk minimization strategy.

The risk minimization motive of income diversification was justified by Benmehaia and Brabez (2016) that if the profits from agricultural activities are negatively correlated with each other, it is possible to reduce the variability (risk) of total income by diversifying the risk to various non-farm activities. Income diversification remains a strategy employ by households to minimise income variability and guarantee potential high income level (Dev, Sultana and Hossain, 2016). Diversification entails the appropriation of production assets among several farm and non-farm income generating activities. According to Wan, Li, Wang, Liu and Chen (2016), diversification refers to the process of creating multiple income sources. In furtherance, the authors maintain that the number of income sources available to farm household at a particular point in time determines the income diversity, whereas the difference in the number of income sources available to a household at a different point in time shows the level of income diversification of the household over the corresponding time. Consequently, households having several income sources are considered as those with higher levels of income diversity. Hence, increasing the number of income sources available to households, overtime leads to increased diversification over time.

Studies indicate that diversification is strategically important to rural communities in Africa (Odoh and Nwibo, 2016; Dev *et al.*, 2016). Khatiwada *et al.* (2017) submit that many of these studies have suggested that historically, large proportion of rural households have diversified their productive assets to accommodate wide range of other economic activities. Meanwhile, there has been increasing empirical evidence that the majority of Africans have diversified their livelihood sources, both on-farm (crop, livestock, fisheries) and off-farm activities or market and non-market activities, as a strategy for mitigating risks inherent in unpredictable agro-climatic and socio-political economic environment (Odoh and Nwibo, 2016; Dev *et al.*, 2016).

Diversification is thus a rational households' response to lack of opportunities for specialisation, which is initially not considered as most favourable choice. To this end, Maniriho and Nilsson (2018) inferred that rural farming households have been found to diversify their income sources thus, allowing them to spread risk and enhance income generation. This is often necessary in agriculture-based peasant economies like in Southeast Nigeria where risks such as variability in soil quality, pests and diseases, price shock, unpredictable rainfall, flood and erosion menace and

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other weather related events have led to low productivity and invariably low income, and which continually trap rural households in a vicious cycle of poverty. However, recent studies have shown that instead of emphasizing specialisation within existing portfolios, upgrading them to increase income could be a more realistic approach that will be more appropriate for poverty reduction (Alkire, Apablaza and Jung, 2014; Williams, 2016). A growing literature on livelihood diversification across the developing world has pointed to the increasing role of non-farm incomes in poverty reduction (Odoh and Nwibo, 2016). Despite these studies, it appears there is paucity of empirically documented studies on farm and non-farm income diversification activities of rural households in Southeast, Nigeria, hence, the need for this study. In order to address this problem, the study set out to address the following research questions; what are the primary economic activities of rural households? What are characteristics of the non-farm activities of the rural households in the area?

Specifically, the objectives were to:

- determine the primary economic activities of rural households; and
- characterise the non-farm activities of the rural households in the area.

Methodology

The study area was Southeast, Nigeria. The area is comprised of five states, namely; Ebonyi, Enugu, Anambra, Imo, and Abia. According to National Population Census of 2006, Southeast Nigeria has a total population of 16.4 million people. With an approximated landmass of 58,214.7 sq. km; the area lies between longitude 60 50I and 80 30I E and latitude 40 30I and 70 5I N. Southeast Nigeria is bordered in the east by Cross-River State, in the west by Delta and River States, in the north by Benue and Kogi States, and in the south by Rivers and Akwa-Ibom States. Situated within the rainforest and derived savannah regions of the country, Southeast Nigeria is characterised by two major seasons: the rainy season which last from April to October with July and September as peaks, and the dry season that starts from November and lasts till March. Atmospheric temperature in the area varies from 180C to 340C within the year. The people of the area are predominantly smallholder farmers growing mainly arable crops like; yam, cassava, maize rice, cocoyam, potato, and few plantation crops like palm tree and cashew. Apart from being agriculturally endowed, the people are into trades and commerce.

The study adopted multistage and purposive sampling techniques for the selection of respondents. The choice of purposive sampling technique was to select states that are more agrarian and to avoid picking states that are contiguous to each other. Three states of Abia, Anambra and Ebonyi were purposively selected from the five states of Southeast, Nigeria. According to ADP record, the selected States have a total of eight thousand, three hundred and forty (8,340) registered farm households in the following order: Abia – two thousand one hundred (2,100); Ebonyi – four hundred and forty (4,440); and Anambra – one thousand eight hundred (1,800).

Furthermore, three agricultural zones in each state were purposively selected to give a total of nine (9) agricultural zones. From each of the nine (9) agricultural zones two extension blocks were randomly selected to give a total of 18 Blocks. From each of the selected blocks, two (2) circles were randomly selected to give a total of thirty (36) circles. From the 36 circles, ten (10) farming households each were randomly selected. Thus, a total of three hundred and sixty (360) farming households were used for the study. Primary data were collected using structured questionnaire administered as interview to each of the household heads. Both descriptive and inferential

statistics were employed to actualize the objectives of the study. Specifically, objectives (i) and (ii) were analysed using descriptive statistics.

Results and Discussion

Economic Activities Engaged in by Farm Households in Southeast Nigeria

The nature of economic activities engaged in by the rural households in South-East Nigeria shows that the majority of them (82.5 %) diversified their income sources into other non-agricultural activities while only 17.5% limited their economic activities solely to agricultural production (Table 1). The vast proportion of farmers that diversified into other economic activities can be ascribed to the limited land mass in South East Zone of Nigeria with the population competing for the little available arable land. Furthermore, Obinna and Onu (2017) opined that the meager income derived from farm enterprises compels households in rural African societies to engage in non-farm activities to supplement income, in order to lessen risk inherent in income from agricultural activities. He went ahead to explain that in places with limited land, the non-farm activities serve as vital economic option for the poor rural households.

Furthermore, Nagler and Naudé (2017) was of the view that the upsurge in non-farm activities is probably due to the renew level of development in rural areas of Nigeria particularly since the advent of democratic governance in 1999, which has brought about significant transformation in social amenities in several rural areas. This has provided favourable economic conditions that increase entrepreneurship opportunities in the rural areas. Consequent upon this, it is sufficing to say that diversification is designed to reduce risk inherent in agriculture as a result of unpredictable climate conditions and incidence of pest and diseases. Seasonal variation in farm production is another risk factor in agricultural activities mainly due to the rain-fed depended nature of Nigerian agriculture. This phenomenon compels farmers to engage in non-farm activities, thereby, suggesting a declining proportion of households who depends solely on farming activities for livelihood and increasing number of households who combined farm and non-farm activities in the study area. The finding suggests that highly to moderately susceptible households combine both farm and non-farm activities so as to ensure steady income flow.

Table 1: Categorization of the rural households into economic activities

Activities	Percentage (n=360)
Farm alone	17.5
Diversified non-farm	82.5

From the analysis in Table 2, 64.4 % of the rural households are engaged in crop production, 46.9 % practice only livestock production, 5 % are involved in collection of forest products, 13.1 % are involved in agricultural products processing while 23.3 % are into storage and marketing of agricultural products. However, individual analysis of these activities reveals that under crop production, 88.7 % of the households are involved in rice production, 71.6 %, 64.2 %, 10.3 % and 2.6 % are into cassava production, yam production, maize cultivation and cocoyam production respectively. From the analysis, it was observed that rice, cassava, and yam are the major crops produced in the area.

Analysis of the livestock sector shows that 98.7 % of the rural households in the area kept small ruminants like sheep and goat, 31.2 % keep poultry, 27.3 % are into fishery production while 11.0 %, 7.1 % and 0.6 % rear cattle, piggery and rabbits respectively. Thus, small ruminants, fishery and poultry production constitute the major livestock produced in the area. Livestock activities provide alternative source of income (savings) as well as protection against crop income failure. This corroborates the finding of Igwe (2013) that only about 45% of rural households in Ebonyi State kept livestock. According to him, these livestock which were kept for traditional and customary reasons also serve as a form of savings and contingency funds particularly due to the non-existence of formal credit institutions in the rural areas.

Analysis of the number of those engaged in the collection of forest products shows that 66.9 % of the households engage in vegetable collection or gathering, 50 % are into the sales of fire wood, 27.8 % and 16.7 % engage in the collection of medicinal leaves and ropes respectively. Hence, gathering of forest vegetable and firewood for sale were the major forestry activities engaged by the smallholder households in the area. The result also showed that rural households in South-East Nigeria engage in the collection of forest products and natural resources.

Individual analysis of the agricultural products processed by the households indicates that 53.3 % of the farmers processed cassava, 42.5 % engaged in paddy rice processing while 27.7 % and 17 % engaged in the processing of palm produce and legumes respectively. This result therefore indicates that processing of cassava and paddy rice grains are the major processing activities of the households in the area. Off-farm processing activities and petty trading provide the households the most viable options for non-farm employment in the study area. Farm processing activities include preparation of rice, cassava, palm oil and wild fruits so as to produce more suitable products which are either sold for income or consumed by household members. Rural areas also offer non-farm activities such as: basket weaving, broom, poultry, palm wine and traditional medicine.

Analysis of storage and marketing of agricultural products indicates that 60.7% of the households engage in the storage and marketing of grains while 54.8% are into roots and tubers as 29.5% and 7.1% engage in nuts and legumes and marketing of palm products respectively. Thus, storage and marketing of grains, roots and tubers, and nuts and legumes are the major storage activities engage by the households.

Analysis of primary farm activities engaged by these rural households show that the major arable crops produced were rice, cassava and yam respectively. This finding is consistent with the findings of Nwibo and Aja (2013) who reported that most entrepreneurs in South East Nigeria who are into arable crop production grow cassava, rice, and yam with negligible production of maize, cocoyam and vegetable.

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Table 2: Primary agricultural activities

Activities	%(n=360)	Nature of Activities	%**	Mean (X̄)
Crop production	64.4	Rice	88.8	47.5
		Yam	64.2	
		Cassava	166 (71.6)	
		Cocoyam	6 (2.6)	
		Maize	24 (10.3)	
Livestock production	46.9	Goat & sheep	98.7	29.3
		Cattle	17 (11.0)	
		Poultry	48 (11.2)	
		Piggery	11 (7.1)	
		Rabbitory	01 (0.6)	
		Fishery	42 (27.3)	
Collection of forest products	18 (5)	Mushroom	0. (0.0)	32.28
		Vegetable	12 (66.9)	
		Firewood	9 (50.0)	
		Rope	3 (16.7)	
		Medicinal leaves	5 (27.8)	
Agricultural products processing	47 (13.1)	Cassava	26 (53.3)	33.87
		Rice	20 (42.5)	
		Legumes	8 (17.0)	
		Palm produce	13 (27.7)	
Storage and marketing of agricultural products	84 (23.3)	Grains	51 (60.7)	38.1
		Palm products	5 (7.1)	
		Roots and tubes	46 (54.8)	
		Nuts and legumes	25 (29.8)	

** Multiple responses obtained
 Figures in parenthesis are in percentages

Non-Farm Activities Engaged by the Rural Households and Average Amount Earned Per Month

The tendency for people to change their occupation or employment at any point in time depends on certain conditions such as skills, level of education, available capital, land availability and personal needs. Empirical studies suggest that not much data are available to distinguish the various changes in livelihood activities engaged in by rural households over the years in Nigeria.

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The result as shown in Table 3 indicates that there have been changes in employment and occupation of the households in South-East Nigeria especially the rural non-farm sector.

Table 3 shows the various non-farm activities diversified into by the households. From the analysis the majority of the households 53.53 % diversified into petty trading like sale of processed farm products, sale of fairly used clothes, restaurants, drinks/water, food vending etc, 31.31 % engaged in storage and selling of commodities like grains, dry legumes and nuts. The result further reveals that 15.82 %, 16.84 % and 9.09 % diversified their income activities into sale of landed property, agricultural wage labour and hire purchase respectively. However, 19.52 %, 21.21 % 13.46 % and 28.28 % engaged in rental services, transportation (example taxis, motorcycle and tri-cycle business), craftsmanship and civil/public service works respectively. These changes in employment were mainly in the rural non-farm sector. The rural non-farm sector represents micro-small enterprises which is the product of economic growth and development in the rural communities. This includes numerous activities in agro-enterprises, agro-processing, small-scale manufacturing industrial, trade, skilled and unskilled services and other opportunities that exist in the rural areas.

Diversification into non-farm activities has been identified as insurance mechanism, as the associated losses may still be lower than those in farm activities (DARD, 2012). Analysis of data as shown in Table 3 revealed that storage, public/civil service, transportation, agricultural wage labour and sales of landed property are the major highly diversified areas. Justifying this result, Davis, Giuseppe and Zezza (2017) inferred that incomes from non-agricultural enterprises and non-agricultural wage labour have accounted for 53 % of the total household income of rural households in Africa. Similarly, Ogbanje *et al.* (2015) corroborated that majority of rural households receive income from off farm sources and self employment activities. These activities, they noted were handicrafts, food processing, shop-keeping and trading on non-agricultural foods. Corroborating further, Batool (2017) stated that most diversified farm families diversify income livelihood mainly into off-farm, self-employment such as engaging in agricultural wage-labour, small manufacturing factories, construction and transportation as a means of shielding themselves from risk and the uncertainties of agricultural production. This finding is an indication that the majority of households in South East Nigeria maintain a good diversified income portfolio.

Table 3: Non-agricultural activities engaged by the rural households and average amounts earned per month

Type of Activities	Percentage*	Average earning/Month (₦)
Sales of landed property	15.82	5,786
Agric wage labour	16.84	889
Off farm processing & petty trading	53.53	12,974
Storage	31.31	8,889
Rental services	19.52	5,792
Transportation	21.21	10,546
Craftsmanship	13.46	8,903
Civil/public service	28.28	9,647

*Multiple responses

Conclusion and Recommendations

The majority of rural households in Southeast Nigeria have diversified their livelihood activities into non-farm. The households diversified into activities such as storage, public/civil service, transportation, agricultural wage labour and sales of landed property. This is indication that income from farm ventures alone is inadequate as such the households have to resort to non-farm activities as a way of augmenting whatever income is gotten from farm. Government should improve rural infrastructures like good roads network, rural electrification, potable water, telecommunication service, and affordable healthcare system since they are important for enhancing economic activities. Government should initiate policy for reducing risk and uncertainties inherent in agricultural activities in order to encourage farmers to remain in the business of farming.

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