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Livelihood Structure and Composition of Farming Households in Southeast Nigeria: The Sustainable Livelihood Approach

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ABSTRACT
The aim of the study was to examine the structure and composition of the livelihood of farming households in Southeast Nigeria. Primary data were utilized in the study, and were collected with the aid of a structured questionnaire administered to 360 farm households through a multistage random sampling technique. The data were analyzed using descriptive statistics and composite livelihood index. Results showed that natural assets had the highest index (0.415), while human capital had the least index (0.069). About 52% and 42% of the farmers had experienced communal conflicts and the occurrence of natural disasters, respectively. Further results showed that the average age and household size of the farmers were 56 years and 8, respectively, while their average level of education and farming experience were 8 years and 18 years, respectively. The farmers had an average farm size of 1.4 ha with majority (69%) of them cultivating on communal lands. The average farm income of the farmers was N348,600.00 per annum. The study recommended for policies that will strengthen the human, physical and financial assets of the farmers.
Keywords: Sustainable Livelihood, Farming Households, Southeast Nigeria

INTRODUCTION

There are over 950 million people in the Sub-Saharan Africa (SSA) region accounting for about 13% of the world population, and this has been projected to increase to about 22% or 2.1 billion by 2050 (OECD/FAO, 2016). Livelihood conditions of these people in the region are generally poor, rural and insecure. Strong evidence indicates that an increasing number of people in the world are suffering from hunger, under-nourishment and chronic food deprivation, which reached about 820 million people in 2018 compared to 804 million in 2016 (FAO, IFAD, UNICEF, WFP and WHO, 2019). The evidence further showed that

even though the highest number of these people (> 513 million) live in Asia, SSA region has the highest rate (22.8%) of hunger and under-nourishment in the world, accounting for over 239 million hungry people. The situation is worse in Nigeria with the largest number of poor people in the world. This underscores the enormity of the challenge of achieving the sustainable development goal (SDG) of zero hunger target by 2030.

In the region, agriculture is the predominant livelihood activity contributing immensely to food provision, employment opportunities, income generation and foreign exchange earnings. On the average, agriculture contributes about 15% of total GDP in the region, ranging from below 3% in Botswana and South Africa, through about 20% in Zambia and Nigeria, to more than 50% in Chad (OECD/FAO, 2016). Agriculture employs more than half of the total labour force, at least half of which are women (IMF, 2012; FAO, 2015). Also, within the rural population, agriculture provides a livelihood for multitudes of small-scale producers. This is particularly important because smallholder farms constitute approximately 80% of all farms in the region, employing about 175 million people directly (Alliance for a Green Revolution in Africa, 2014). In addition, more evidence indicate that 10% to 25% of urban households depend on agriculture as their primary source of livelihood (OECD/FAO, 2016), and that the number of people engaged primarily in the sector has increased over time (Yeboah and Jayne, 2015).

Paradoxically, agriculture has contributed more to poverty, than any other sector in the region. For instance, in Nigeria, several reports have shown that the highest incidence of poverty is among agricultural households (Adepoju & Oyewole, 2014; Babatunde, 2008). These poor households are the poorest of the poor in the country. According to the Word Bank (2000), poor households are not only poor, but also, they suffer from vast inequality in incomes, in assets (including education and health status), in control over public resources, and in access to essential services as well as pervasive insecurity. As such, the entire livelihood of these people are shrouded in poverty, deprivation and insecurity. It is not surprising therefore that violent crimes such as armed robbery, cultism, kidnapping, suicide bombing and terrorism are so prevalently persistent in the country.

According to Chambers and Conway (1992), a livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shock, maintain or enhance its capabilities and assets, while not undermining its natural resource base. Concerted efforts of governments and development partners at hunger and poverty eradication, and improved livelihood conditions in the country, require proper understanding of the livelihood of the poor, to achieve the desired result. The sustainable livelihood (SL) provides a holistic framework for effective livelihood analysis, by showing the dynamic linkages and interrelationships among the various capabilities, assets and activities required for a means of living (Carney, 1999; DFID, 1999; Sukendra, 2010). There are five components in the sustainable livelihood framework: poverty identification (analysis), livelihood assets, service providers and enabling agencies, vulnerability context, and livelihood aspirations and opportunities (IFAD, 2015).

Poverty analysis involves the identification and personalisation of poverty, rather than its generalization in terms of "communities" or "the poor". It focuses on how different individuals and households within communities, or different groups of poor people have different livelihood conditions. Gender, age, ability, history, personal-ethnic-class/caste

background and locations (agro-ecological zones) are the characteristic features used in identifying poor individuals and households. Livelihood assets are the building blocks of livelihood. People with different characteristics will have access to different sets of livelihood assets and resources which they can use to create a viable livelihood for themselves and their families (DFID, 2015). These include human (e.g. good health, education and skills), natural (e.g. land, water and forest), social (e.g. kinship and family ties, formal and informal networks and connections), physical (e.g. infrastructure, tools and technology such as roads, hospitals, seeds and fertilizer) and financial assets (e.g. wages, savings and remittances).

Farmers, beyond their livelihood assets depend on different service providers (e.g. schools, hospitals and banks) for other goods and services that they need for their livelihoods. The way these service providers function will depend on the resources made available to them and the sets of norms, rules and regulations that govern their actions. These are established by enabling agencies (public or private), which establish the "rules of the game" in society (DFID, 2015). The effectiveness or otherwise of these service providers and enabling agencies will have a strong impact on the livelihood outcomes of the poor. Furthermore, vulnerability context refers to those factors that affect farmers' livelihoods which cannot be realistically changed or influenced, and as such, have to be addressed or adapted to. These include shocks (e.g. natural disasters, episodes of unrest, violence or insecurity, and episodes of disease, injury or deaths), seasonality (e.g. prices, employment, output) and trends (e.g. increasing population, technological change and climate change).

The aspirations and opportunities available to farmers will be affected by their characteristics, their assets, the support they receive from service providers and enabling agencies, and their vulnerabilities. This will strongly influence the kinds of changes in their livelihood patterns which they are willing or unwilling to consider, and where their priorities will lie. It will ultimately determine the actions (strategies) they will take in order to secure a livelihood for themselves and their families, and the outcomes (results) of these actions. The study therefore investigated the livelihood structure and composition of farming households in southeast Nigeria, using the sustainable livelihood approach.

METHODOLOGY

This study was carried out in southeast region of Nigeria, located East of River Niger, between longitude 6-8° East of the Greenwich Meriden and latitude 5-7° North of the Equator on a landmass of 28,987 sq km (National Bureau of Statistics [NBS], 2011). The region is made up of five states, 95 local government areas and 19 agricultural zones. The vegetation of the area is mainly tropical rainforest with porches of savannah vegetation. It has two distinct seasons in a year: rainy and dry seasons. The rainy season lasts between April and October with a break in August usually referred to as the 'little dry season or August Break', while the dry season lasts from November to March. Agricultural production is the predominant livelihood activity in the region, especially in rural areas, which is being undertaken be farm families on small scale basis.

Multistage random sampling technique was used to select 360 farmers. Firstly, three states were randomly selected in the region, followed by another random selection of two agricultural zones from the selected states, respectively. Thereafter, two communities were randomly selected from each of the selected agricultural zones, from each of which 15 farm households were randomly selected. The study utilized primary data, which were

collected with the aid of a structured questionnaire administered to the farm households. The questionnaire sought information on the farmers' livelihood conditions such as their characteristics, assets and resources, service providers and enabling agencies, vulnerabilities, and aspirations and opportunities. The data were analysed using descriptive statistics such as frequency distribution, mean and composite index. The composite index was obtained through ranking by the farmers on a scale (0 - 9), the contributions of the various livelihood assets to their entire livelihood and wellbeing, measured using various indicators (Table 1).

Table 1: Indicators of the livelihood assets of the rural farm households

Type of asset	Measuring indicators
Human capital	Level of education
	Marital status
	Household size
Natural capital	Access to farmland
	Access to forest resources
	Access to natural water supply
Social capital	Membership of farmer groups
	Membership of social groups
	Membership of religious groups
Physical capital	Access to road infrastructure
	Access to market
	Access to public power supply
Financial	Farm income
	Non-farm income
	Remittances

The composite index was specified in Equation 3.1 as modified from Su and Shang (2012).

$$\mathrm{C} \qquad \mathrm{I} = \sum \frac{r_i}{R} \qquad (1)$$

where:
CI = composite index
r_i = ranking of an indicator of a particular livelihood asset
R = ranking of indicators of all the livelihood assets

RESULTS AND DISCUSSION

Basic characteristics of the rural farm households

The basic characteristics of the rural farm households is shown in Table 2. It shows that majority of them were males. This implied that the farmers were better equipped to provide livelihood for their families, as males appear to be more adventurous and physically stronger than females in the conduct of farming activities, and also, benefit more from the distribution of communal assets. However, with the age of a higher proportion of them ranging from 51 - 60 years, it infers that the farmers were getting older. Older farmers are risk averse, and are also unlikely to adopt modern innovations or adapt to changing climatic conditions. This imposes serious implications for increased agricultural production, thereby limiting their livelihood options and conditions.

Table 2: Frequency distribution of the rural farm households according to their characteristics (N = 348)

Basic Characteristics		Frequency	Percentage	Average
Sex of household head:	Male	310	89.08	
	Female	38	10.92	
Age of household head:	< 30	21	6.03	
	31 - 40	52	14.94	56
	41 - 50	97	27.87	
	51 - 60	146	41.96	
	> 60	32	9.20	

Multiple responses; Source: Field survey, 2017

Livelihood assets of the rural farm households

The livelihood assets of the rural farm households is shown in Figure 1 and table 3. The pyramid of the livelihood assets of the farmers showed that it was predominated by natural assets, followed by social and then financial assets. Human assets was the least developed followed by physical assets. Natural assets such as land, water resources and forests are God-given and freely available, as the farmers have no hands in their creation. This could have informed its largest contribution to their livelihood. However, these natural assets are finite in supply and are therefore subject to over-exploitation and exhaustion. This is unlike the human assets, which although inexhaustible, made the least contributions to their livelihood. This is largely because human assets are not freely acquired, but requires trainings and commitment of resources to develop, which the farmers had not done. This is evident as a large majority of them had only elementary education (76%), and were married (83%) with large (6 - 10 members) household size (67%). These greatly hinder the ability of the farmers to provide appropriate and adequate livelihood for their households.

Table 3: Frequency distribution of the rural farm households according to their livelihood assets (N = 348)

Livelihood assets		Frequency	Percentage	Average
Human Assets				
Household size:	1 - 5	87	25.0	
	6 - 10	233	66.95	**7.82**
	> 10	28	8.05	
Level of education:	1 - 6 years	262	75.86	
	7 - 12 years	77	22.13	**8.32**
	13 - 18 years	7	2.01	
Marital status:	Married	289	83.04	
	Single	28	8.05	
	Widowed	31	8.91	
Natural Asset				
Size of farmland:	< 1ha	191	54.88	
	1 - 3ha	149	42.82	**1.40**
	> 3ha	8	2.30	
Land tenancy:	Communal/family land	240	68.96	
	Personal/inherited land	77	22.13	
	Rented land	31	8.91	
Source of drinking water:	Streams	146	41.95*	
	Rain water	108	31.03*	
	Bole holes & wells	323	92.82*	
Access to forest/forest resources:	Yes	150	43.10	
	No	198	56.90	
Forest products	Fruits	172	33.07*	
	Firewood	246	47.31*	
	Wild animals	34	6.54*	
Physical Assets				
Access to road	Yes	136	39.1	
	No	212	60.9	
Access to market:	Yes	198	56.90	
	No	150	43.10	
Source of light in the house:	Kerosene lamp	233	66.95*	
	Rechargeable lamp	49	14.08*	
	Public power supply	146	41.95*	
Social Assets				
Membership of social organizations		285	81.90*	
Membership of religious organizations		z24	93.10*	
Membership of cooperative societies		94	27.01*	
Financial Assets				
Annual farm income:	₦50,000 - ₦300,000	150	43.10	
	₦301,000 - ₦500,000	181	52.01	**₦348,600.25 p. a**
	> ₦500,000	17	4.89	
Annual non-farm income:	₦20,000 - ₦150,000	230	66.09	
	₦151,000 - ₦400,000	118	33.91	**₦187,323.10 p. a**

Access to remittances:	Local remittances	108	31.03
	Foreign remittances	24	6.90

*Multiple responses; Source: Field survey, 2017.

Education and trainings bring about desirable changes in behaviour. This enhances the undertaking of well-calculated risks, adoption of innovative technologies and cultivation of improved crop and livestock varieties, and further widens the scope of livelihood activities/choices, thereby increasing the households' resources. However, marriage comes with responsibilities, which is further compounded by large average household size. The more the number of people in a household, the higher the level of resources (including time) required in taking appropriate care of them.

Furthermore, physical assets of the farmers made the least contributions (0.106) to their livelihood, besides their human assets. Physical assets comprise of such infrastructural facilities as access roads, electricity supply, adequate security, etc. These facilities are required for a meaningful livelihood, and they also support and encourage the development of productive activities. However, there is always a bias against rural areas in the location and provision of these amenities, and these could have accounted for the findings of the study.

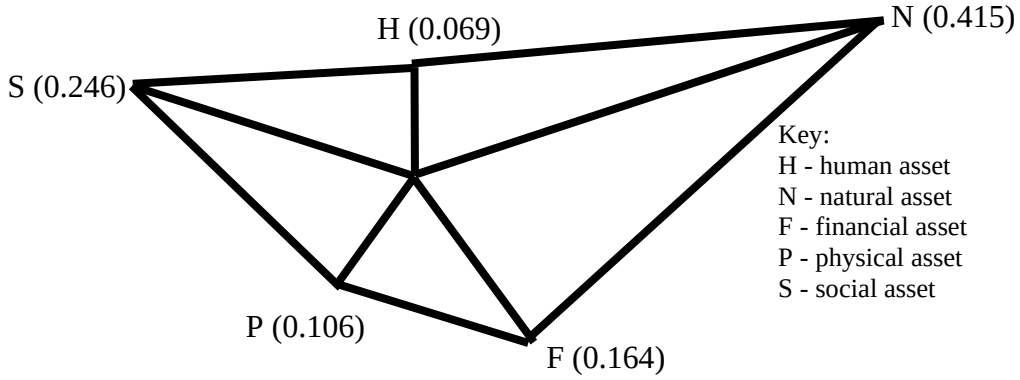

Figure 1: Pyramid of the livelihood assets of the rural farm households; Source: Field survey, 2017.

Service Providers and Enabling Institutions around the rural farm households

Table 4 shows the service providers and enabling institutions around the rural farm households. It showed that four institutions and service providers were identified, and in all of them, large majority of the farmers had no access to them. No sector of the economy works in isolation. It requires that services of other sectors and institutions, both public and private to effectively operate. Most of the public institutions and agencies help in providing rules and regulations that will ensure the environment is conducive for meaningful productive activities. They also provide social amenities and facilities that enhance the livelihood of people. However, most of these facilities are lacking in rural areas. Only about 48% of the farmers had access to health care centre. This implies that there are no appropriate framework for the effective management of farmers' health in rural areas. Worse still, about 69% and 87% of the farmer had no access to extension services and microfinance banks, respectively, while about 92% of them had no access to

commercial bank. All these negatively affect farmers' productivity and livelihood, and also serve as a disincentive to agricultural production.

Table 4: Frequency distribution of the rural farm households according to their access to service providers and enabling institutions N = 348

Service Providers and Enabling Agencies		Frequency	Percentage (%)
Access to extension services:	Yes	108*	31.03
	No	240*	68.97
Access to medical facilities e.g. health centre:	Yes	167*	47.99
	No	181*	52.01
Access to microfinance bank:	Yes	45*	12.93
	No	303*	87.07
Access to commercial bank:	Yes	28*	8.05
	No	320*	91.95

*Multiple responses; Source: Field survey, 2017.

Vulnerability context of the rural farm households

The vulnerability context of the farmers is shown in Table 5. It shows that the environment of the farmers was full of so many uncertainties, ranging from the occurrences of communal conflicts, natural disasters such as erosion and flooding, to the outbreak of crop, livestock and human diseases. Majority of the farmers (52%) had experienced communal conflicts. Communal conflicts lead to the destruction of live and property. These obstruct livelihood activities, threaten good livelihood conditions and entrench hunger, poverty and malnutrition. Also, the occurrence of natural disaster does not help in any way, to enhance livelihood. This raises serious concern as a reasonable proportion of the farmers (41%) had experienced one natural disaster or the other.

Table 5: Frequency distribution of the rural farm households according to their vulnerability context

Vulnerabilities	Frequency	Percentage
Occurrence of communal conflicts over the use of natural resources	181*	52.01
Occurrence of natural disasters e.g. erosion, flooding	146*	41.95
Occurrence of crop disease outbreak	45*	12.93
Occurrence of livestock disease outbreak	29*	8.33
Occurrence of human disease outbreak	87*	25.0

*Multiple responses; Source: Field survey, 2017.

Aspirations and opportunities available to the rural farm households

The aspirations and livelihood opportunities (strategies) available to the farmers is shown in Table 6. The farmers had low life aspirations, which were evidenced in their livelihood opportunities, comprising farming, on-farm employment, off-farm employment, trading and artisan. These livelihood opportunities consisted mainly of primary or manual-labour-related activities that required little or no skills and trainings. This is expected considering their poorly developed human capital (Figure 1). Table 6 showed that virtually all the respondents (98%) were farmers, which is their primary livelihood activities. Their farming activities are usually carried out on small scale basis involving 1-3ha of farm land,

using mainly family labour and traditional farming techniques and inputs. This results in low productivity of the farmers, and consequently, a very poor livelihood. As a result, they strive to improve their livelihood conditions through the development of other livelihood strategies, otherwise known as livelihood diversification. This is in line with the report of FAO and World Bank (2001) which showed the immense contributions of livelihood diversification to the eradication of poverty among farmers in developing economies (Saha and Bahal, 2010). In this regard, about 67% of the farmers were engaged in off-farm paid labour, 52% in on-farm paid labour, 45% in trading, while the least proportion of them (33%), were artisans.

These livelihood activities are not well valued and rewarded in the society. As a result, farmers spend all their lifetime struggling to meet the basic needs of the society - food, clothing and shelter. Regrettably, majority of the farmers will be unable to meet the nutritional and developmental needs of their households, thereby, resulting in widespread malnutrition, under-development, increase in violent crimes and insecurity, and a vicious cycle of poverty.

Table 6: Frequency distribution of the rural farm households according to their aspirations and opportunities available to them

Livelihood strategies	Frequency	Percentage
Farming	341*	97.99
On farm paid labour	181*	52.01
Off farm paid labour	233*	66.95
Trading	157*	45.11
Artisan	115*	33.05

*Multiple responses; Source: Field survey, 2017.

CONCLUSION

The structure and composition of the livelihood farming households in southeast Nigeria is poor and insecure, as it is highly skewed towards natural assets. Their human assets are so poorly developed that their livelihood activities revolve around farming, on-farm and off-farm paid employments, trade and artisan, requiring little or no skills and training. The natural assets are fixed in nature, and are subject to diminishing marginal returns, in addition to their being threatened by over-exploitation and extinction. This is further worsened by the high vulnerability of their environment, coupled with their limited access to service providers and enabling institutions in the society. This has great implications on increased food insecurity and poverty in the country, as agriculture is highly reputed for its highest contributions to poverty in the sub-Saharan African region.

The study therefore recommends the strengthening of the human, physical and financial assets of the farmers through:

i. improvement in the level of education, skills and trainings of the households.
ii. encouragement of younger people to join agricultural production.
iii. provision of adequate infrastructural facilities, enabling institutions and service providers in the rural areas.
iv. improvement in the security of farmers' land tenancy.
v. provision of financial empowerment to the farmers through soft loans, grants and subsidies.

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