Livelihood Asset and Diversity of Agrarian Communities in Ogun State, Nigeria

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ABSTRACT Considering the livelihoods of agrarian communities, this study examines the effect of rural household assets in livelihood diversity. Simple random sampling technique was used to select 150 households. Data were collected with an interview schedule and analysed with descriptive and logistic regression analysis. Findings show that rural households in Ogun state had a low level of livelihood diversity with the Simpson Diversity Index of 0.30 while their livelihood asset status was constrained with a mean score of 7. The households had an average of 3 livelihood activities and 34.7 percent combined on-farm and non-farm livelihoods. Non-farm livelihoods contribute 58.9 percent of the households' income. Assets have a significant influence on the level of livelihood diversity while age (β=0.065 p<0.05) and total income ((β=0.000 p<0.01) were substantial predictors of livelihood diversity. It is inferred that an improvement in the arrays of assets plays a vital role in livelihood diversity thereby enhance households income and wellbeing.

INTRODUCTION

A livelihood is a means of living and survival for the people with a view of resolving their basic needs of life. It requires intelligent and calculative competencies in combing available assets in different activities to be able to meet their needs and cope with the shock, threat and stress encounter in their livelihood portfolios. The agrarian communities in the rural areas also manipulate their human, financial and social assets with the natural and physical assets available in their environment to create suitable livelihoods for themselves. Bryceson (2000) opines that rural livelihoods are being created from a range of resources or activities. Access to resources and assets by the rural households dictate the kind of livelihoods that can be created and it varies based on location and class categories of the household for livelihoods (Sharma 2016). Literature (such as Carney 2002; Dercon and Krishnan 1996; Ellis 2005; Unni 1996; Tibesigwa et al. 2015) pointed out that livelihoods are widespread and it takes on different nature and contexts. It might mean to use the accumulated assets for activities to spread risk or to cope with temporary crises.

According to Barrett et al. (2001), most of the households especially in the rural area obtain income from several sources instead of using their resources, asset and wealth for a single livelihood activity. This further established that people combine different ranges of activities and choices to attain their goals in livelihood diversity and sustenance. Soosai and Laitha (2019) asserted that livelihood strategies have to do with the way people combine their income-generating activities, how they use their assets, invest it, and manage it among the various livelihoods existing with which individual and households ensure survival. Most studies on the livelihood in rural areas, especially in the developing countries, established that the rural dwellers engaged in more than one livelihood activity to meet their numerous needs (Fabusoro et al. 2010; Little et al. 2001; Murray 2001; Nasa'i et al. 2010; Aromolaran et al. 2016; Khatiwada et al. 2017; Manlosa et al. 2019).

The flow and pattern of the livelihoods in the rural communities are complex and dynamic but depends so much on their asset. Perry (2010) describes that flow of livelihood as the livelihoods ladder, which he reported as a transition that happens when a household or individual builds their asset-base and their position on the ladder as they move up as a result of their asset status but when they subsequently lose their assets, they are faced with the risk of dropping down the ladder. May et al. (2009) opined that the livelihood ladder has five steps and people at the initial step are

struggling to survive, as they might have incurred huge debt with high interest and are very vulnerable to any external shocks while those at the peak of the ladder are the households that have built resilient strategies against livelihood crises and have ranges of livelihood choices. Rahut (2014) opines that the reason rural households widen their household economy prospects are either to survive or to create additional source of income to secure their household livelihoods.

Households will have secured livelihoods when they can acquire, protect, develop, utilise, exchange, and benefit from assets and resources (Ghanim 2000). Households earn from the livelihood activities they carry out both in cash, and kind (Loison 2015). Diversity of livelihoods assets will help the household to create a range of livelihoods choices to enable them to be secured in terms of livelihoods. Yang et al. (2018) also asserted that the selection of livelihood strategy is influenced by household livelihood assets, which determine the diversity of the livelihoods for the sustainable development of the agricultural system. In this view, it is important to investigate the effect the livelihood assets of the rural households that have influencing livelihood diversity of the agrarian communities of Ogun state Nigeria.

Objectives

The specific objectives of the study were to:
- Examine the combination pattern of the livelihood activities
- Determine the status of the livelihood asset in rural households
- Assess the level of livelihood diversity in the study area

Hypothesis

It was hypothesised, among others that livelihoods assets had no significant influence on the level of livelihood diversity.

MATERIAL AND METHODS

Study Area

The study was conducted in Ogun state in the south-western region of Nigeria. Ogun state

is bounded by Lagos in the south, the Atlantic Ocean in the east, Oyo and Osun States in the north, while the Republic of Benin serves as the boundary of Ogun State in the west. Its total land area is approximately 16,406 square kilometres and its lies between latitude 7^0012 and 7^0 as well as longitudes 2^0452 and 3^0552. The population of Ogun state was 3,728-098 people as at 2006 and was projected to have increased to 5,271,700 (NPC 2006). Ogun state annual rainfall is between 1,000 mm to 2,599 mm in the northern and southern parts, respectively. The vegetation ranges from rainforest to derived savannah. Ogun state has the following natural resources including forest reserves, rivers, rock mineral deposits and extensive fertile soil suitable for cultivation. The existence of these resources encourages the rural people of Ogun state to form livelihood activities such as lumbering, sand mining, charcoal making, gravel and rock mining taking the opportunity of the natural resources.

Sampling Procedure and Data Collection

The multistage sampling technique was used to select a total of 150 household heads in the study area. From the four Agricultural Development Programme (ADP) zones, fifty percent of the blocks were selected using the systematic sampling technique to make ten blocks that were selected out of twenty blocks. From the selected blocks, cells were randomly chosen, while village and respondents also were randomly selected also to make the total sample for the study. An interview schedule was used to obtain information from rural households.

Measurement of Variables

The measurement of variables is as follows:
a. Forms of livelihood activities in the study area were categorised into On-farm, Off-farm, Non-farm and Local formal jobs, and were measured at a nominal level using Yes =1 and No = 0
b. Level of diversity was measured with Simpson's Diversity Index. It is a measure of diversity. In an ecosystem, the index can be used to quantify the level of biodiversity in the habitat. Simpson Index

considers various species present in the ecosystem, so also an abundance of the species in the habitat. SDI is originally designed to measure the diversity of a habitat. In this study, however, the number of species was taken as livelihood activities, habitat as the household and the relative abundance was the income obtained from each of the activities. Simpson's Index provided a clear distribution of income obtained from livelihood activities and the value of this index also ranged between 0 and 1 (Fabusoro et al. 2010), and the greater the value, the greater the Simpson diversity. When the value of D is equal to one, this implies that the household livelihood activities were perfectly diversified, but the closer the value is to zero, the more indication that a household is not well diverse, which is likely that they are largely into farming activities.

For further clarification of the Simpson Diversity Index value, it is vital to point out that engaging in several livelihood activities does not necessarily mean higher diversity, it only implies the proportional contribution of each income sources to the level of diversity (Fabusoro et al. 2010).

To use Simpson's Index, the income from each livelihood activity and the total household income from all the activities were computed to generate the proportionate value of ith livelihood activities in the total income, as was used by Joshi et al. (2003), Fabusoro (2005) and Ibrahim et al. (2009).

The formula below was used to compute Simpson's Diversity Index:

Simpson Diversity Index = 1 - $[\Sigma n (n - 1) / N(N - 1)]$

Where,

SDI = Simpson Diversity Index

N = Household total income

n = Income of the ith activities

c. The scale developed by Macqueen (2001) was adapted and utilised to assess the livelihood assets status. The scale measures livelihood assets and their components on a five-point measuring scale for the five categories of livelihood asset, which are scored as unsustainable = 0, constrained=5, sustainable=10, progressive=15 and abundant = 20.

Data Analysis

Data were analysed using descriptive statistics such as frequency counts, percentages, mean and Binary Logistics regression to test the hypothesis.

The Binary Logistic regression model is:

Prob $(Y=1/X) = \ln (Pi/1- Pi) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 \ldots \beta_{14} X_{14}$

Where,

Pi = Probability that rural households livelihood is diverse

Y = 1 if livelihood diversity is high, 0 if livelihood diversity is low

β_0 = constant

X1 = sex (male=1, female=0)

X2 = marital status (single=1, married=0)

X3 = educational status (no formal education=1, primary education=0, secondary education=0, tertiary education=0)

X4 = religion (Islam=1, Christianity=0, traditional = 0)

X5 = membership (member=1, non-member=0)

X6 = household size (measured at interval level as the number of persons living together in a household)

X7 = Active member (active=1, not active=0)

X8 = age (measured at interval level as actual year of the respondents)

X9 = natural assets (measured at interval level as total natural assets score)

X10 = human assets (measured at interval level as total human assets score)

X11 = finance assets (measured at interval level as total finance assets score)

X12 = physical assets (measured at interval level as total physical assets score)

X13 = social assets (measured at interval level as total score assets score)

X14 = total household income (measured at interval level as estimated annum household income)

RESULTS

Rural Household Heads' Socioeconomic Characteristics

The result of the descriptive analysis of the socioeconomic characteristics of the head of households reveals that their mean age was 48 years. 65.3 percent of the respondents were male

while the remaining 34.7 percent were female heads of households. About seventy percent of them were married with a household size of 7 persons. Only 41 household heads out of the total number of respondents sampled had attained secondary education and that is less than thirty percent. The income of the households was estimated on an annual basis and the average income was ₦ 393,060.80 (Table 1).

Table 1: Socioeconomic characteristics of the rural household heads

Variables	Mean	Mode frequency (Percentage)
Age (years)	48 years	98 (65.3%) males
Sex		
Marital status		104 (69.3%) married
Household size	7 persons	41 (27.3%)
Level of education		secondary education
Household income per annum	₦393,060.80	

Combination of Livelihood Activities in the Study Area

The result of the flow, pattern and combinations of the livelihoods in the rural household shows that on the average, the number of livelihood activities in the study area is 3. Figure 1 shows that 49.3 percent of the respondents had two livelihood activities, while 42.0 percent had three livelihood activities. The empirical finding of the study revealed evidence that despite the limited resources and assets, some of the households but very few (1.3%) are still able to engage in 4 livelihood activities and only 7.3 percent had just one livelihood activity.

Entries in Table 2 show the livelihood pattern and the combination indicates that 34.7 percent of the households engaged in on-farm and non-farm livelihood activities, 20.0 percent focused only on the non-farm livelihood, while 12.0 percent combined livelihoods within the portfolios such as off-farm, non-farm and local formal jobs. Even though the local formal job is time demanding, 10.0 percent of the respondents still combined it with an on-farm livelihood. Only two percent of the respondents engaged in on-farm livelihood activities alone while four percent
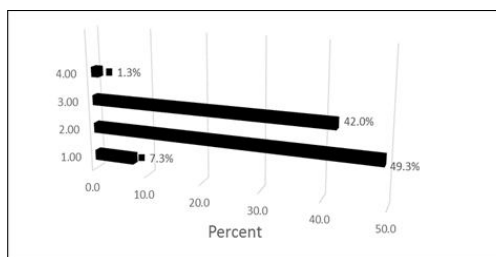
Fig. 1. Number of livelihoods of the rural household in the study area

aggregate their livelihoods portfolio such as on-farm, off-farm and non-farm to earn a living. The result shows that two percent respectively combined on-farm, off-farm and local formal jobs within a livelihoods portfolio as well as off-farm, non-farm and local formal jobs as another category of livelihoods, which reflect their choice of livelihoods combination. In the overall results, Table 2 portrays that more than seventy percent of the households combined on-farm with other livelihoods, while only less than thirty percent were shared among off-farm, non-farm and local formal jobs as livelihoods that are farming activities.

Table 2: Pattern of livelihood combination among rural households

Pattern of livelihood combination	Frequency	Percent
On-farm only	3	2.0
Off-farm only	1	.7
Non-farm only	30	20.0
Local job only	1	.7
On-farm and off-farm	2	1.3
On-farm and non-farm	52	34.7
On-farm and local formal job	15	10.0
Off-farm and non-farm	18	12.0
Off-farm and local formal job	1	.7
Non-farm and local formal job	18	12.0
On-farm, off-farm and non-farm	6	4.0
On-farm, off-farm and local formal job	3	2.0
Off-farm, non-farm and local formal job	3	2.0
On-farm, off-farm, non-farm and local formal job	1	.7

Livelihood Asset Status among Rural Households in the Study Area

The result of the livelihood status in Table 3 indicates the score of the components of

livelihood assets in the rural household. The components include the five livelihood assets, and the result shows that natural assets, which include the availability of land for diversification had a mean score 10 that indicates sustainable on the MacQueen scale while the rest of the components containing mineral, forest, natural water resources had a mean score of 5, which shows that they are constrained. It is only wildlife and medicinal plant varieties that are unsustainable. The aggregate score of the mean adjudged natural asset of the rural household was constrained. In the sphere of the human asset, the level of education, health care services, aspirations and experiences in the livelihood of the rural households were sustainable with a mean score of 10 while labour source was progressive but training and skills in other livelihoods were constrained. With the aggregate mean score of 10, the human asset status is sustainable.

Results in Table 4 show the distribution of rural households based on the status of their assets. More than half (54%) of the households had a constrained livelihood asset status, 27.3 percent of them had a sustainable status of the asset while is only twelve percent of the rural household had a livelihood asset that is of progressive status. None of the households in the study area had their livelihood assets that are of abundant status.

Finally, according to MacQueen (2001), the livelihood status can be determined by assessment of livelihood assets and their components based on a five-point measuring scale of "unsustainable", "constrained", "sustainable", "progressive" and "abundant" livelihoods for the five categories of livelihood assets. Mean scores above 50 will indicate livelihood asset status that is sustainable, while mean scores below 50 depict livelihood assets status that is unsustainable. The mean for the status of livelihood asset of the rural households

Table 3: Livelihood asset status score of the rural households

Livelihood asset component	Livelihood asset status score	Livelihood categorization	Mean score
Natural Asset			
Availability of land for diversification	10	Sustainable	5.00
Mineral resources for livelihood activities	5	Constrained	
Presence of natural water	5	Constrained	
Forest resources	5	Constrained	
Wild life and medicinal plant varieties	0	Unsustainable	
Human Asset			
Level of education	10	Sustainable	10.00
Training and skill in other livelihood	5	Constrained	
Labour source	15	Progressive	
Health care service	10	Sustainable	
Aspiration and experience in the livelihood activities	10	Sustainable	
Financial Asset			
Cash at hand	5	Constrained	3.00
Saving	5	Constrained	
Investment worth	0	Unsustainable	
Credit and loan facilities	5	Constrained	
Remittances and monetary gift	0	Unsustainable	
Physical Asset			
Building and housing	10	Sustainable	8.00
Equipment and machines for livelihood activities	10	Sustainable	
Infrastructure and facilities	10	Sustainable	
Household appliances	5	Constrained	
Transport	5	Constrained	
Social Asset			
Relation of trust and mutual support	10	Sustainable	8.00
Networks and connection	10	Sustainable	
Cosmo politeness	10	Sustainable	
Formal and informal groups	5	Constrained	
Collective representation	5	Constrained	

Table 4: Distribution of rural households by their livelihood asset status

Categories	Frequency	Percentage
Unsustainable	10	6.67
Constrained	81	54.00
Sustainable	41	27.33
Progressive	18	12.00
Abundant	0	0.00

in the study area was 34, which is below 50, and therefore the livelihood asset is unsustainable.

Level of Livelihood Diversity

Results obtained from the Simpson's Index indicate the level of livelihood diversity across the agricultural zones in the study area the average level of the livelihood diversity was 0.29 at Ijebu-ode. The result of livelihood diversity in Abeokuta using Simpson Index was 0.26, and the remaining zones of Ilaro and Ikenne had 0.35 and 0.33, respectively as stated in Table 5. The aggregate mean of the livelihood diversity in the study area regardless of the various zones was 0.30.

Table 5: Simpson's diversity index in agricultural zones in the study area

Ogun State Agricultural Zone	Simpson Index
Ijebu–Ode	0.29
Abeokuta	0.26
Ilaro	0.35
Ikenne	0.33
Aggregate Mean	0.30

Results of the aggregated livelihood diversity in Table 6 show the range and the proportion of the rural households that fall within each range according to the Simpsons' Diversity Index. The Simpson's Index of majority (50.66%) of the rural households' livelihood diversity ranged between 0.00 and 0.40; while 46.67 percent were within the range of 0.41-0.60, only 2.67 percent had a mean score of 0.61-0.80. The finding further shows that the mean of the livelihood diver-

sity was 3.0 and it was categorised as a low level of livelihood diversity in the Simpson Index.

Test of Hypothesis

The result of the hypothesis in Table 7 revealed among others that active membership of an association (β =1.597, $p<0.05$), financial assets (β =-0.232, $p<0.05$) and total household income (β =0.000, $p<0.05$) have a significant influence on livelihood diversity. The result in Table 7 reveals that all other variables included in the model except the significant variables are not significant at 0.05 levels of significances. These variables of sex (β = -0.044, $p<0.05$), marital status (β = -0.179, $p<0.05$), age (β =0.054, $p<0.05$) and education (β =0.028, $p<0.05$) among others though are not significant but contributed to the model by influencing the livelihood asset either directly or inversely to create livelihood diversification in the agrarian communities in the study area.

DISCUSSION

Considering the socioeconomic characteristics of the respondents, more than half of the household heads were male and traditionally, men are the heads of households in southwest Nigeria, they are saddled with the responsibility of providing for the households and they made most decisions in the household. The decision of the household heads can influence the asset and resources utilisation and choice of livelihoods in the households even though other members of the households are carried along in the decision process. This is in agreement with the findings of Awoniyi et al. (2011), which is a similar study revealed that there were more males (78.9%) than females in a diversified income portfolio. Anderson (2017) also opines that the husbands allocated authority to decide for their wives and even when the wives allocate authority, it varies significantly across households in

Table 6: Distribution of respondents by the level of Simpson Livelihood Diversity

Livelihood Diversity	Range	Frequency	Percentage	Mean
Low diversity	0.00 − 0.40	76	50.66	0.30
Moderate diversity	0.41 − 0.60	70	46.67	
High diversity	0.61 − 0.80	4	2.67	

Table 7: Factors influencing livelihood assets and diversity of livelihood activities

Variables	B	S.E	Wald	Df	Sig	Decision
Sex	-.044	.506	.008	1	.930	N.S
Marital	-.179	.527	.115	1	.735	N.S
Education levels	.028	.620	.002	1	.964	N.S
Religion	.877	.482	3.318	1	.069	N.S
Membership	-.459	.671	.468	1	.494	N.S
Active member	1.597	.684	5.452	1	.020	S
Household Size	-.002	.155	.000	1	.990	N.S
Age	.054	.030	3.342	1	.068	N.S
Natural asset	-.047	.081	.326	1	.568	N.S
Human asset	.096	.102	.885	1	.347	N.S
Finance asset	-.232	.085	7.393	1	.007	S
Physical asset	-.047	.107	.193	1	.660	N.S
Social asset	.136	.122	1.247	1	.264	N.S
Total house income	.000	.000	22.404	1	.000	S
Constant	-5.806	2.871	4.091	1	.043	

family, farming and livelihood decisions. The average age of the rural households head in the study area was 48 years, which implies that many of them are still in their active years. Age is important in deciding proper asset allocation and risk-taking when diversifying into other livelihoods. Karen (2013) opined that much older people are more risk-averse than those that are younger when selecting between possible gains, but more risk seeking when selecting between losses. Dorward et al. (2003) reported that most (67.2%) of the household heads were between 41 and 60 years of age with an average age of 47.2 years.

Furthermore, quite a number of household heads had secondary and primary education. This could help them in the choice of livelihood diversification, a proper combination of asset and resources to create sustainable income-generating activities. The education status of the household heads might also influence the level of access to resources available to the households. This concurs with Gordon and Craig (2001) who opined that education increases skill levels and it is needed to harness assets and resources for certain rural non-farm activities and as well adds to efficiency of the selected portfolio. The size of rural households is also one of the important factors required for livelihood diversity, in that the larger the households, the higher their needs and demands, which could probably push them into various livelihood activities that can generate income for the households. The mean income of the household per annum

was ₦393,060.80 and the implication is that an average rural household will probably have about ₦33,000 in a month and that might not be sufficient to cater for the needs of an average households size of seven peoples. Tran et al. (2018) asserted that education has a positive influence on selecting better livelihoods, as revenue, poverty reduction and the percentage of income distribution tend to be higher in the better-off households.

According to the entries in Table 2, many of the rural households are engaged in on-farm and non-farm livelihood activities while only 2.0 percent of them are engaged only in on-farm livelihoods, which are presumed as the primary occupation in agrarian communities. This finding indicates that only very few still depend solely on farming activities only as of the means of earning, as they have diversified into other livelihood activities that can generate more income for them. This finding is in agreement with Gebru's (2018) report that most of the farmers had diversified into off-farm, non-farm or better still combined different income activities. The diversification of the rural households into other livelihoods activities aside on-farm livelihood activities could probably be as a result of increasing human and environmental challenges facing the farming activities in recent times. Dolan (2002), and Newman and Canagarajah (2000) and Reardon (1997) opined that households are diversifying into several other livelihoods besides agriculture whenever their agricultural activities are faced with crises. For the rural people to

strive well in other household livelihoods portfolios they depend on the income from numerous non-farm income sources. Kassie and Aye (2017) also opine that during challenges such as drought facing the livelihoods of farm households, to survive, the households engage in diverse non-farm livelihood activities. There is drastic reduction in the poverty level of households involved in non-farm activities compared to households that merely dependent on agriculture (Newman and Canagarajah 2000).

The pattern of combining livelihood activities in different categories implies that a quite large number of the households combined on-farm and other livelihoods, which is an indication that many have diversified into other income-generating activities rather than farming and these activities include off-farm, non-farm and local formal jobs. An important component of the household livelihoods is agricultural activities, even though, in recent times, new opportunities to earn more income such as off-farm are emerging to contribute to household livelihood portfolios (James Francis, and Turiho-Habwe 2001). Rural household heads that engaged in local formal jobs combined it mainly with either on-farm or non-farm activities, probably due to the small size of their salaries. The availability of these livelihood means made the people diversify more, increase their inflow of income and ultimately have secured livelihoods. Little et al. (2001) opined that despite the African continent being viewed as a region of subsistence farming, non-farm sources still account for almost half (40-45%) of the mean household income, which is becoming significant and cannot be ignored. Khatun and Roy (2016) asserted that in most regions importance of agriculture as a source of livelihood is decreasing and that of the engagement of the farm households in the non-farm sector is rapidly increasing with great variation across different locations.

Rural households are engaged in more than one livelihood activity, to meet their needs. The pattern of the livelihoods that they diversify into is subjected to their assets and resources to obtain more income for the survival of their households. The average number of livelihood activities in the study area is 3. This is similar to the findings of Lay et al. (2009) who reported that rural households had an average of 4.4 livelihood activities while urban households had just 2.9 livelihood activities. The implication is that the asset and resources of the households were shared and spread among the livelihood activities as against intensification in livelihood, which may fail at times due to shocks, threats or stress facing livelihoods. The findings from this study concur with the evidence from studies of Davis et al. (2014), Loison (2015) and Udoh et al. (2017) that diversifying from on-farm to other livelihood activities especially non-farm by the people is not just to increase their earnings and secured their household food supply but it also serves as the strategy to survive the impact of the climate and environment in their livelihoods.

The status of assets available in the households for livelihood diversity is very vital and it determines the numbers of livelihoods that can be created by the assets. Rural households combine different assets as building blocks to create livelihood activities and the diversity enables interwoven income flow, which is considered better than the single inflow of income. The livelihood assets are from different categories such as natural, physical, financial, social and human assets. Each household draws from these assets to create livelihoods strategies to improve their income-generating activities, which will translate to better wellbeing. The status of the assets is important to the kind of livelihood diversity that can be created. Ibrahim et al. (2018) opine that of the various livelihood components, the most complex is the collection of assets out of which people create their living, and livelihood capital ownership was related to achieving sustainable livelihood.

The constrained status of the natural asset as livelihood assets restricts livelihood diversification, and limits livelihood to subsistence levels, thereby contributing less to livelihood diversity. The natural assets, which include land, water, mineral, forest and wildlife resources, are supposed to be available in abundance in the rural communities because that is the main location for agricultural activities, but this asset is constrained. This suggests that natural assets that the rural households could have used to diversify into several agricultural-related activities such as farming, fishing selling of forest resources for survival due to the poor accessibility to these assets has limited what they can

diversify into to earn income. This constrained natural asset is the basic fundamental asset on which other assets are built upon to create livelihoods, especially their farming activities. Liu et al. (2018) opine that natural assets and material assets are a crucial necessity in agricultural production efficiency, and their status is of unavoidable importance to the farm household's livelihood strategy that is to engage in agricultural activities. The financial asset was adjudged seriously constrained, and it is considered as very important in livelihoods transformation and diversification. The implication is that it will also affect other livelihood assets that will require financial resources. Funding is the main challenge experienced in expanding business activities in the rural area by various categories of entrepreneurs (Rahman et al. 2000; Momen and Begum 2006; Afrin et al. 2008). Diversification may be deprived by the restricted capacity to tackle incomplete or weak financial systems which give strong inducements to the selection of livelihood portfolio that can stabilise consumption and inflow of income to the household (Barret et al. 2001; Kassie 2016). The physical and social assets of the households had an aggregate mean of 8, which indicates that the assets were constrained. Transport was adjudged to be constrained and that will affect the movement of goods and produces to market and input/raw materials to the livelihood activities centre thereby affecting the cost of the commodities and income flow to the households. Dorward et al. (2001) reported that certain assets, especially the larger and more productive assets such as steers, beehives, shops and trucks, are held only by the better off, their human asset changes, and those that have more skills and higher-earnings are found in better-off families.

In the rural communities, the people tend to cooperate, pool their resources together and give moral support for a member of their community. This social asset could encourage building of relational trust and mutual support, formal and informal social groups as well as strong social networks that can compensate for constraints to livelihood diversification and improve the assets of rural households to achieve livelihood security. Education combined with influence and exposure can improve successful organisation in collective action (Meinzen-Dick et al. 2000). An individual's capacity to reciprocate on social networks as an asset depends on their position in the community wealth ladder. Differences in the household's assets create uneven access to the social capital and to other livelihood capitals among the households (Endris et al. 2017).

Overall, the livelihood status of the rural household is constrained, which implies that it is restrained and limited, and in most cases the people did not have access to the resources and even when they have access, the assets are not in a form that can adequately support the diversification of the livelihoods. The constrained status of the livelihoods asset will affect the household's ability to diversify into different livelihood activities that could have helped them earn more income and influence the household livelihood security. Once the household cannot cope due to the status of their livelihood assets, the capacity to resist livelihood shock and stress will be limited and that keeps the households in poverty. This was also asserted by de Janvry and Sadoulet (2000), Hoddinot et al. (2000) and Ellis (2005) that the poor use a variety of assets and activities when seeking sustenance and improvement for their wellbeing and the lack of assets could be an important symptom and cause of poverty within the rural household.

Entries in Table 5 indicate the different indices of livelihood diversity across the agrarian communities in the Ogun state agricultural zones. The livelihood diversity indices in Ogun state agricultural zone was generally low, although it differs across the zones, and some zones are more diverse than others. For instance, Ilaro and Ikenne zones' livelihood were more diverse than that of Abeokuta and Ijebu-Ode zones. In the case of Ilaro zone, it is located along the border of Nigeria and Benin Republic, which could have facilitated trading activities across the border that could have contributed to their livelihood diversity and income generation. The trade-facilitating infrastructure at the border promotes trading activities especially due to long delay of vehicles for checking while moving in and out of border towns. Hence, trade facilitation initiatives are possible to interrupt livelihood activities at the border (Jouanjean et al. 2015). The location of the Ilaro zones could

also help to ascertain social assets that can give the people access to resources across the border to create some livelihood activities. The seasonal and cyclical complexity of livelihood strategies is recognised in the livelihood approach, which could be used to improve rural development policy and practice that will better livelihood diversity of the rural people (Carney 2002; Allison and Ellis 2001).

Based on the result, the Simpson Diversity Index categorised the level of livelihood diversity in the rural households into three as high, moderate and low level of livelihood diversity. More than half of the respondents had a low level of livelihood diversity, which ranges between 0.00 and 0.40. This implies that most of them had a constrained and unsustainable livelihood asset, which has prevented them from diversifying their assets into livelihoods by which they can earn more income thereby enhance their level of living and aid them out of poverty. The statuses of the asset have a lot of influence on the level of livelihood diversity, the more and better the asset of the household the more likely that the household will have more capacity to diversify into other livelihood activities. This concurs with Gebru (2018) that households that diversified into several livelihood activities are better than those that did not in terms of their asset base, which makes them less vulnerable. It is only a few of the households that can be pointed to as households with high livelihood diversity. This implies that only very few can boast of standard and quality livelihood assets that are abundant, which can be combined to diversify into several livelihood activities. Ahmed (2018) opined that a higher quantity of household assets could prompt the household to act more securely in the context of vulnerability. The mean of the livelihood diversity, which is 3.0, further suggested that the level of diversity in the study area is low and it indicates that the household is not livelihood secured. The poor rural households are likely to have a few assets and it will affect their diversification, and an asset-rich household will have better advantage, as there is the tendency that the poor may participate more in low-income activities while the rich engage in higher-income activities that generate higher income. Therefore, rural households with more assets have a well-diversified livelihood, and such households are more secured than households with low livelihood diversity that has fewer assets. The relatively poor and the relatively rich households have a higher share of nonfarm income (highly diversified), while the middle-income households are less diversified. When the household is a very low-income level, the survival strategies are always their focus, but as soon as their incomes grow they will start to diversify to seek additional incomes to cope in case of livelihood shock and stress (Loison 2015).

Test of Hypothesis

The result of the hypothesis reveals that being an active member of an association or social group as a significant factor, which influences the contribution of livelihoods assets to livelihood diversity. The active membership of a group could give an individual access to certain assets and opportunities that could boost their livelihoods. It can also aid the collective representation, mutual support and connections, which is of an advantage in social assets for livelihood portfolio. Livelihood diversity is significantly influenced by total household income. The total household income will determine the kind of asset the household can own or rent and this could affect the extent of diversification. The implication is that an increase in the household's income, better their livelihood asset and the higher are the livelihoods diversity of the households. The financial asset was also significant and the implication is that funds are very vital in the livelihood diversity. The importance of the financial asset cannot be ignored because with funds one can obtain most of the other required assets that can be used to create livelihood diversity for the benefit of the rural households.

CONCLUSION

The study concluded that rural household heads were young and within their economic active years, the household size was quite large and had an average of three livelihood activities. The livelihood activities created by the available assets, fell between on-farm and nonfarm livelihood combination patterns. Many of the assets used by the rural households for live-

lihood activities were adjudged to be constrained, while just a few were sustainable and progressive and none of the livelihood assets was abundant. The status of livelihood assets of the rural households in the study area was generally unsustainable, and therefore their level of livelihood diversity was low. Financial assets, being an active member of an association and household income were important variables that influence the level of livelihood diversity in the study area. The households that were highly diverse in their livelihoods had more and better assets while those that were less diverse had unsustainable and constrained asset for their livelihoods.

RECOMMENDATIONS

It is therefore recommended that the Department of Cooperative Services in the State Ministry of Community Development and Cooperatives should sensitise the rural people on the importance of cooperative societies, encourage more rural people to join and they should participate actively in the cooperative relevant to their livelihood. This will allow them to use collective representation to access resources and assets that can be utilised for the improvement and diversification of their livelihoods. Access to credit facilities specifically for rural people is recommended, and the Ministry of Agriculture and Rural Development, private and public extension services and other Non-Governmental Organisations should be encouraged to link the rural people to other sources of funds and interventions for their livelihood. Also, Extension Agencies should look into packaging training and innovation for other livelihoods that farm households diversify into, which are off- and non-farm but encourage them to use the earnings from others sources to improve on-farm livelihood activities. Communities should obtain communal assets, which are commonly using it for their livelihood activities but an individual cannot afford. This will strengthen the rural households in the agrarian communities to harness their livelihood assets to create sustainable livelihood diversity.

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