

Rural Households' Livelihood Strategies in Kebbi State, Nigeria

T.A. Manga¹, B.Z. Abubakar², *A.A. Barau², U.H. Iya⁴

¹Department of Agricultural Economics and Extension,
Federal University of Agriculture,
Zuru,
Nigeria.

²Department of Agricultural Extension and Rural Development,
Usmanu Danfodiyo University,
Sokoto,
Nigeria.

³Department of Agricultural Economics and Extension,
Kebbi State University of Science and Technology,
Aleiro,
Nigeria.

Email: akilu.barau@udusok.edu.ng

Abstract

This research studied rural livelihood strategies in Kebbi state, Nigeria. Stratified proportionate sampling was used to select 343 respondents, from whom data collected were analysed using descriptive statistics and multinomial logit regression. Based on the socioeconomic characteristics of the respondents, results revealed that the mean age of the respondents was 43 years, the majority of whom were male and married with an average household size of 12 people. Most of the respondents did not go through formal education and their mean annual income and farm size were ₦1,137,629.50 and 3.34 hectares, respectively. Results on livelihood strategy revealed that the majority (64%) of the respondents combined agricultural activities with other non-farm activities. Results from the multinomial logit model results revealed 7 (age, household size, years of education, access to credit, annual income, participation in social organization, and farm size) out of 11 factors as significant predictors of livelihood strategy in the study area. Thus, livelihood is moderately diversified among the rural households of Kebbi State with households having more than one income source. Also, diverse income sources provide relief to rural households as it increases their total income where the majority of the rural households combine both agricultural and non-farm activities livelihood strategies. Policymakers should therefore give due attention by incorporating projects and/or any interventions that will target and engage rural household heads in the study area in income-generating activities that would augment present earnings.

Keywords: Households, Livelihood Strategy, Multinomial Logit Regression, Rural

INTRODUCTION

Livelihoods are both the activities that define how people can live and the resources that ensure their standard of living (Mutenje *et al.*, 2010). It refers to a means of living or survival. It encompasses everything that people do for a living, including the resources that enable them to create a life that they find fulfilling, the risk factors they must take into account when managing their resources, and the institutional and policy framework that either supports or impedes their efforts to live a viable or better life (Ellis & Freeman, 2004). The nature of these livelihood activities depends on the availability of assets, resources, labour, skills, education, social capital, seasonality, agro climate/agroecology, and gender (Ali, 2005; Okali, 2006; Porter *et al.*, 2007; Akinwale, 2010). Thus, the basis of a livelihood strategy is the asset position of the households at a given time (Ellis, 2000). However, access to assets can be influenced by processes, policies, and institutions.

The commonly obtained livelihood strategy in rural areas of developing countries is agriculture. It absorbs a huge rural labour, and generates a significant share of GDP in addition to its central role in achieving food security (Hazell, 2011; Boto & Mofolo, 2014). Therefore, in line with augmenting agricultural productivity, looking for other ways out has been put forward as an equally potent strategy for addressing household food security (Stifel, 2010; Asmah, 2011; Maharjan, 2014). As such, there are two views on why rural households expand their livelihood options beyond agriculture (Loison, 2015). In line with this, it is asserted that the development of non-farm livelihood strategies from a predominantly agrarian economy into a diversified economy improves the standard of living and opens up new opportunities. Conversely, Ellis & Freeman (2005), ascribed the development of non-farm livelihood strategies as signs of a troubled agricultural sector that is losing its standing. In Sub-Saharan Africa, widening means of living is viewed as a response to the failure of agriculture to provide a sufficient livelihood for a substantial proportion of rural dwellers (Ellis & Allison, 2004; Maharjan, 2014). Yet, with the rising population and prevailing hunger, agriculture remains a vital option for living in SSA (Koira, 2015).

The roles played by agriculture remain significant in the Nigerian economy, despite the strategic importance of the oil sector. Agriculture provides the primary means of employment and accounts for more than one-third of the total Gross Domestic Product (GDP) and labour force (Ismaila *et al.*, 2010). However, Nigeria's agricultural sector is bedevilled by problems such as soil infertility, shortage of infrastructure, insecurity, seasonality, uncertainty risk etc. Thus, rural households are forced to develop strategies (diversification, intensification and migration or moving out of farming) to cope with increasing vulnerability related to agricultural production (Ellis, 2000). In other words, the state of affairs in rural areas has detrimental effects on welfare and exposes the people living there to a number of risks that endanger their livelihoods and existence. As a result of this, off-farm and non-farm activities have become an important component of livelihood strategies among rural households in Nigeria.

"Livelihood strategies are a combination of activities that people choose to undertake to achieve their livelihood goals (Alinovi *et al.*, 2010)." The three core livelihood strategies according to Ellis (2000) are agricultural intensification, livelihood diversification and migration. Agricultural intensification entails the deliberate use of every available factor of production towards increasing production. On the other hand, diversification involves expansion by way of broadening the scope of investments in the offered variety of goods and services. Income diversification, on the other hand, deals with an increase in the number of income sources or creating balance among the different income sources. In relation to rural areas, income diversification is the expansion to non-farm livelihood income sources. Also,

migration constitutes an important component of livelihood strategies among rural households. Rural households use migration as more than just an income generation activity, but a means to escape from the inadequacies in rural areas. Mostly, what is earned from migrants' travels is sent back to home in rural areas in the form of remittances to the remaining members of the households or for savings.

A household's livelihood choice is dependent on a number of factors such as its resource endowment, assets and educational level. In addition, factors that influence livelihood choices at the household level include its makeup, perception of risk, and options available to it (Boomsma *et al.*, 2013). Currently, there is growing evidence that rural households in Nigeria participate in diverse livelihood strategies away from purely crop and/or livestock production towards non-farm and off-farm activities that are undertaken to broaden and generate additional income for survival and cope with different livelihood shocks, trends, and seasonality associated with agricultural production (Bryceson, 2000); Davis *et al.*, 2010). Though, there are a number of livelihood studies done in the world (Yizengaw *et al.*, 2015; Temesgen *et al.*, 2016; Berlie, 2015), only a few have been done in Nigeria in relation to factors that could influence the choice of livelihood strategies with no enough information on exiting livelihood strategies and its determinant. This could be due to the disparity in the effect of factors affecting livelihood strategies at different locations with different livelihood outcomes (Temesgen *et al.*, 2016). Additionally, there is a dearth of literature on the livelihood strategies engaged by the rural households of Kebbi state and the factors determining the choice of the livelihood strategies adopted in the area. It is against this backdrop that, this research examined the rural households' livelihood strategies in the study area.

METHODOLOGY

Study Area

Kebbi State located in Northwest Nigeria, occupies 36,800 square kilometres out of the total landmass of Nigeria. It is bordered by Sokoto State to the northeast, Zamfara State to the east, Niger State to the southern, and Niger Republic to the west. The state is located within latitude 10° 05' to 13° 27' N and longitude 3° 35' to 6° 03' E. Rainfall in the state averages between 400 and 800mm per annum with mean annual temperature varying from 21°C to 38°C (KBSG, 2008). According to NPC (2006), Kebbi state has an estimated population of 3,662,103 people. Kebbi state is agriculturally viable; having vast arable land, river Niger and tropical climate. Agriculture remains the major employer and backbone of the state's economy. Crops produced in the area include among others millet, guinea corn, maize, cassava, potatoes, rice, beans, vegetables, wheat, soybeans, ginger, groundnuts, mango, cashew, guava, and pawpaw are produced in the state.

Sampling Procedure and Sample Size

Stratified proportionate sampling was used in the research to select the required sample. Therefore, the state was stratified based on its four agricultural zones (Argungu, Bunza, Zuru, and Yauri). Two Local Government Areas were selected from each of the agricultural zones and two villages were selected from each of the local government areas selected. Respondents were selected proportionate to the number of farmers in the selected villages from a population of 2,400 registered farmers in the zones. That gave a sample size of 343 respondents that served as the study sample.

Data Collection and Analysis

The primary data for the research was collected with the aid of an interview schedule, secondary information was sourced from relevant documented literature. Data analyses were

carried out using descriptive (frequency, mean and per cent) and Multinomial Logistic Models.

Models Specification

Multinomial Logistic Model

One of the underlying motivations for a household's alternative livelihood strategies is to maximize utility from the expected earnings of a particular strategy (Eneyew & Bekele, 2012). The model determining the choice of the probability that the household chooses alternative livelihood strategy set a , is the multinomial logit (MNL) if the sets are not ordered (Ying & Warren, 2010). The model exhibits a superior ability to predict livelihood diversification and pick up the differences between the livelihoods strategies of rural households Keane (1992) and Chan (2005). However, for one to use MNL the households have to be clustered into different categories and the basic assumption is that households in a given category participate in some given livelihood strategies, and hence, cannot participate in strategies that are chosen by households in another category Brown *et al.* (2006).

Therefore, the MNL was used to examine factors determining the respondents' choice of livelihood strategy. Thus:

Dependent variable

Y_i = Livelihood strategies of the respondents:

Y_1 = agriculture strategy;

Y_2 = non-farm strategy;

Y_4 = mixed strategy (agriculture and non-farm strategy)

The explanatory variables include:

X_1 = Age (Continuous)

X_2 = Gender (Dummy)

X_3 = Household size (Continuous)

X_4 = Years of Education (Continuous)

X_5 = Access to credit facility: (Dummy)

X_6 = Access to extension agents: (Dummy)

X_7 = Good road to urban center: (Dummy)

X_8 = Leadership of social organization: (Dummy)

X_9 = Farm size (Continuous)

X_{10} = Income: Total Annual income (Continuous)

X_{11} = Member of social organization: (Dummy)

RESULTS AND DISCUSSION

The Socio-economic Characteristics of Respondents

The socio-economic characteristics of the respondents are very important as they determine the choice of livelihood strategy adopted and the overall outcome of the diverse livelihood activities (Abiodun *et al.*, 2019). These characteristics (age, gender, household size, marital status, level of education, annual income, and farm size) were considered very important variables that are related to decision-making when it comes to livelihood choices.

Age: The rural areas relied more on farming which is traditional in nature, and relied on rudimentary implements, powered by human muscle. It then means that very old farmers will be less productive than the younger farmers unless they have enough resources to employ labour (Cornelius & Ngeria, 2011). Also, the young members of the rural households will be

more willing to diversify into more lucrative income-generating activities. Based on the age distribution shown in Table 1, the result reveals that the mean age of the respondents was 42.67 years, while 29.74% of them were within the age range of 30 – 40 years. The average age of the respondents implies that the rural households were more willing to diversify into other income-generating activities because they were economically active and energetic to engage, it also implies that diversification of income is common among the young rural households who are more energetic and could afford to take the risks associated with income diversification. This result is in agreement with Abiodun *et al.* (2019) who reported that the mean age of 44.58 years and that sampled respondents are economically active and energetic to engage in agricultural production as well as other livelihood activities.

Gender: The distribution of the respondents' gender revealed that the majority (78%) of the respondents were men, while 22% were women. This result agrees with Lawson (2010) who carried out similar research and stated that most of the rural households were men and concluded by saying that rural Nigeria is a patriarchal society with men dominating the households; hence they are burdened with the responsibility of catering for the welfare of their family.

Marital Status: The ability of the households to supply the needed labour in the rural farm depends to a large extent on the marital status of the households. Table 2 indicates that the majority (92%) of the respondents were married. This result is contrary to Cornelius & Ngeria (2011) who in their research reported that the majority of the respondents were single.

Level of Education: Education may be able to raise the qualities of skills of man and lead to more productive performance. The relevance of the literacy level of rural households lies in the improvement of their productivity, production efficiency and subsequently higher levels of income that leads to increased savings that translate into diversification of income strategies for the substance of livelihoods (Cornelius & Ngeria, 2011). World Bank (2008) noted that people with higher education are more likely to participate in wider employment opportunities offered by the non-farm and urban sectors. However, the inability of rural households to attain a higher education may be attributed to financial difficulties and participation in family farm and/or non-farm livelihood activities. Therefore, low educational attainment in rural areas adversely affects agricultural production as well as other non-farm livelihoods.

Educational attainment by the respondents showed a majority (63.56 %) had no formal education, while 8.75% completed only secondary education. This result implies that rural households are likely to depend on the customs and traditions of the rural areas which may reduce the chances of their households meeting their needs from non-activities like government work. It is likely that these groups of households are more likely to be pushed into activities than being pulled by their returns that scarcely meet the household needs. This result contradicts that of Abiodun *et al.* (2019) who carried out similar research and reported that the majority of the respondents are literate with at least a primary school education.

Annual Income: The majority (83.96%) of the respondents had a monthly income greater than ₦200,000.00. The mean annual income of the respondents in the study area was ₦1,137,629.504, and this indicates that the respondents' diversification efforts have helped in overcoming the risks that are associated with Agriculture. This result is against Aruwajoye & Ajibefun (2013) who reported a lower mean annual income and concluded that despite the respondents' diversification efforts, the outcome has been majorly for survival rather than coming out of poverty.

Farm Size: Based on farm size, 38.19% of the respondents had farm sizes less than 2 hectares, and those with no farmland constituted 6.4%, while a typical respondent had 3.34 hectares. By implication, most respondents are subsistence-oriented farmers. So, income diversification may likely help raise their standard of living.

Table 1. Distribution of the respondents based on socio-economic characteristics (n = 343)

Socio-economic characteristics	Frequency	Percent
Age (Years)		
Less than 20	7	2.04
21 - 30	66	19.24
31 - 40	102	29.74
41 - 50	90	26.24
≥ 50	78	22.74
Mean	42.67	
Gender		
Men	268	78.1
Women	75	21.9
Household size		
1 - 3	18	5.25
4 - 6	57	16.62
7 - 9	74	21.57
≥ 10	194	56.56
Mean	11.85	
Marital status		
Single	16	4.7
Married	315	91.8
Widowed	15	3.5
Level of education		
No formal education	218	63.56
Primary school education	57	16.62
Secondary school education	30	8.75
Tertiary education	38	11.07
Annual income (₦)		
Less than 50,000	13	3.79
50000 - 100000	10	2.92
100000 - 150000	26	7.58
150000 - 200000	6	1.75
≥ 200000	288	83.96
Mean	1137629.504	
Farm size		
No farmland (Ha)	21	6.13
Less than 2	131	38.19
2 - 4	119	34.69
4 - 6	39	11.37
≥ 8	33	9.62
Mean	3.34	

Livelihood Strategies of the Respondents

Results in Table 2, followed the clustering of livelihood strategies based on sectors and through which the rural households were clustered into agriculture, non-farm and those who pursue both agriculture and non-farm livelihood strategies, with each having specific livelihood activities depicted. Agricultural livelihood strategies constitute 32% of the sample, these groups of respondents are those who make their livelihood from both crop production and animal husbandry activities. 5% of the respondents were those involved in non-farm livelihood strategies. The non-farm livelihood strategies category consists of households whose main living is based on activities outside agriculture, in the study area this includes: handicraft activities such as weaving, spinning, carpentry, house mudding, poet making, and remittance), petty trade of grains, fruits and vegetables, selling of drinks, trading of small

ruminants and remittance transfers within the country, in addition to this, this cluster also comprises rural households who derive their living from formal employment in the study area, get transfers in the form of pension and remittance. While 64% of the respondents make up those involved in mixed (agricultural and non-farm activities) livelihood strategies. These are the households that diversified their means of living across sectors. Thus, they straddle between opportunities than those confined to only one sector like agriculture, they are the rural households who cultivate crops, raise livestock, and undertake at least one of the non-farm livelihood activities identified under this cluster.

Therefore, this result reveals that the majority (64%) of the respondents adopted the agriculture and non-farm combination as a strategy. This finding corroborates that of Abiodun *et al.* (2019) that the majority of rural households are found in farm and nonfarm mixed strategies and that adopting a combination of livelihood strategies is easier than resolving to switch between either. This finding also corroborates the findings of Adepoju & Obayelu (2013) who reported that a diverse income portfolio creates more income and allows an even distribution of income.

Table 2: Distribution of the respondents based on their livelihood strategies

Livelihood strategies	Frequency	Percent
Agriculture only	109	31.7
Non-farm	16	4.7
Both agricultural and non-farm	218	63.6
Total	343	100

Factors Influencing the Choice of Livelihood Strategies by the Respondents

Based on the result produced by the MNL model, age, household size, years of education, access to loans, annual income, membership in social organizations and farm size were the main factors influencing rural households' choices of livelihood strategies. The MNL model analysis shows that farm size was related to rural households choice of livelihood strategies of non-farm activities. Age, household size, years of education, access to loans, income, and participation in social organization were related to rural household choice of livelihood strategies of mixed strategy (Table 4). Therefore, compared with farming households, less farm size was the factor that promoted rural households to choose a non-farm strategy. Less age, access to credit, more family size, years of education, income and participation in social organization were the factors that contributed to making rural households move to mixed strategy relative to agricultural strategy.

Age of Household: This variable was found to negatively relate to farmers' decision to diversify to mixed strategy, which implies that households participated in mixed strategy at a decreasing rate as their ages increased. From the result, it can be seen that a year increase in the age of a rural household is associated with a decrease in the possibility of involvement in mixed strategy. That is, the older they get the less their possibility to engage themselves in mixed strategy. The possible reason is that the older a rural household is the less energetic and the more they realize that involvement in mixed strategy which requires a lot of stress cannot provide them with needed security; therefore the better they either diversify or stick to farming. The results agree with Lemi (2005) but oppose Barrett *et al.* (2001); Adugna (2008); Bekele & Rajan (2017); Gagabo (2014) where the ages of rural households were found to positively influence households' decision to diversify into other sources of income than farm strategy alone.

Household Size: This also relates to the choice of rural households with regards type of livelihood strategy they adopt. Table 4 shows that the coefficient of household size was positive and significant with regards to mixed livelihood strategy. Therefore, keeping the influence of other factors constant; the likelihood of households' choice of mixed livelihood strategy choice increased as the number of the families increased by one unit. Specifically, an increase in the size of a household results in choosing a mixed livelihood strategy more likely, since household size is synonymous with dependency ratio, increased household size will make the household pursue diverse income sources so as to be able to meet the food needs of the family. In other words, an additional family member decreases the odds of working only on farming. This finding is similar to that of Valdivia & Quiroz (2001); Bezemer & Lerman (2003); Khan (2007).

Education (years): This variable also relates to mixed livelihood strategy. The coefficient of years of education was positive and statistically significant under the mixed livelihood strategy. This result shows that a change in the educational status of the rural household from non-educated to educated results in more likelihood of adoption of mixed strategy. The reason being that an educated household is believed to have a better understanding of how to combine several livelihood alternatives.

Access to credit service: Access to credit has a significant and negative association with the likelihood of choosing a mixed livelihood diversification strategy. Keeping all other variables in the model constant, the likelihood of choice of mixed livelihood strategy for those households who have access to credit service decreased, relative to the base agriculture only. This negative impact may be attributed to the fact that credit use allows farmers to follow agricultural intensification by accessing farm inputs which in turn improves productivity. Additionally, it also implies that the formal and informal credit facilities that are available for rural farmers are a very important asset in rural livelihoods not only to finance agricultural inputs activities but also to protect the loss of crucial livelihood assets such as cattle due to seasonal food shortage, illness or death (Lemma, 2003). The result of the research, therefore, strongly suggests that households' access and use of credit would play an important role in promoting agricultural development rather than diversification. The result is also in agreement with that of Holden *et al.* (2004); Brown *et al.* (2006); Eshete (2007) who in their studies reported that the incentives for accessing credit in rural areas accelerate agricultural production.

Farm size: The coefficient of farm size was negative and statistically significant. This implies that an increase in the hectares of land cultivated by the rural household decreases the likelihood of engaging in a non-farm livelihood strategy. The results suggest that rural households with more land tend to follow agricultural intensification rather than diversifying from agriculture as large farm size is typical of agrarian rural households (Regassa, 2016). On the other hand, the probability of diversifying livelihoods decreases by increasing land size as farmers with more land are supposed to stay on farm since land stimulates farming. Therefore, for a predominant farmer a large farm size will make the rural household specialize in agriculture strategy which is crop farming and livestock rearing, this is because the land is an important factor in agriculture. This result is in line with Abiodun *et al.* (2019) reported that landholdings per capita were negatively correlated with diversification into non-farm occupations.

Income: The income variable was positive and significantly related to households' choice of mixed livelihood strategy. That is, a unit increase in the income of rural households in the study leads to an increase in the likelihood of engaging in mixed strategy. This implies that

households with large total annual incomes are more likely to diversify their livelihood strategies into mixed livelihood strategies. This result shows that those rural households with low income are less likely to diversify livelihood strategies into mixed livelihood strategies.

Membership in social organization: This variable was the positively related choice of mixed livelihood strategy. This means the households that participate in the social organization will diversify to a mixed strategy since cooperatives promote access to social capital in which agriculture/non-farm options are gained. Culturally appropriate forms of social capital also appear to have the potential to aid rural income generation and reduce vulnerability to income shocks. As group discussants revealed, cooperation in the form of credit unions, self-help unions, and IFAD farmers unions, have positive effects on the income-generating capacity of their members and, through production linkages, on the wider local economy in the study area. The result is in line with that of Warren (2010); Bezemer & Lerman (2002) who agreed that households who participate in cooperatives will diversify livelihoods into farm and non-farm since cooperatives promote access to social capital in which non-farm options are gained.

Table 3: Multinomial logit results on factors influencing rural households' choice of livelihood strategy

Explanatory variables	Non-farm strategy		Mixed strategy	
	Coefficient	P-value	Coefficient	P-value
Age	0.056	0.614	-0.033	0.012
Gender	-32.883	0.989	-0.154	0.007
Household size	-0.084	0.412	0.069	0.008
Years of education	0.291	0.270	0.080	0.007
Access to loan	-12.052	0.994	-0.608	0.073
Access to extension ag	-1.268	0.411	-0.429	0.253
Good road to urban center	-19.102	0.990	0.024	0.951
Membership in social organization	30.870	0.989	-0.211	0.528
Farm size	-3.013	0.004	-0.067	0.318
Total income	0.000	0.260	0.000	0.000
Member of social org	4.368	.	1.374	0.001

Constraints to Livelihood Strategies of the Respondents

The key constraint faced by the respondents was inadequate asset/capital, which was ranked 1st and it was followed by Lack of access to formal loans (72.9%) which was ranked 2nd. These two constraints are in consonance with Tripathy (2009) who reported that finance is one of the most powerful constraints faced by rural households in accessing livelihood options in general, but it is more powerful with respect to accessing non-farm activities, Hajdu (2011) who found out that lack of money for entrepreneurship, lack of free apprenticeship as well as effects of AIDs are major constraints affecting young people's prospects of succeeding in their livelihood ventures, and Shehelia (2012) who identified that inadequate finance, less availability of agricultural inputs, poor infrastructural facilities and social insecurity as the constraints facing livelihood activities of rural women. The result is also in consonance with Sikwela (2013) who stated that rural households lack financial resources to boost their productivity. Hofs *et al.* (2006) stated that the level of intensification and management of resources required to achieve a good return from production can be achieved when adequate financial resources are available. According to Boomsma *et al.* (2013) and Gradl *et al.* (2012) inputs such as fertilizers and improved seeds, and improved animal breeds are often inaccessible to the smallholder in sub-Saharan Africa. These agricultural inputs are not prioritized and make up a small part of smallholder expenditure due to constraints in access to credit and other financial resources (Aliber & Hart, 2009). Access to credit for crop and livestock production is vital for smallholder farmers to produce a marketable surplus (Barrett,

2008). Access to credit is limited for most smallholder farmers due to the lack of documentation reflecting legal ownership of the land they have access to, which is a usual requirement to access agricultural loans from financial institutions (Gradl *et al.*, 2012). Access to savings and credit can improve the resource-poor base of farmers within the rural communities (Gradl *et al.*, 2012). Babatunde & Qaim (2009), Khatun & Roy (2012) and Demissie & Legesse (2013) identify credit as an important factor in this regard.

The emphasis on funds shows that the financial capability of the respondents could determine their adopted income diversification options. Households have to inevitably take up activities with low entry barriers in terms of technical skills and capital/equipment as some livelihoods have funds and property rights as barriers to entry. These constraints pose a serious threat to the expected outcome of households' livelihood diversification efforts. The results of this study contradict those of Fabusoro *et al.* (2010), Khatun and Roy (2012), Babulo *et al.* (2008), and Mutenje *et al.* (2010) who reported in a similar study that limitations of suitable land for agricultural production has been an area of interest in income diversification.

Table 4: Distribution of the respondents based on constraints to diversifying livelihood strategies

Constraints	Frequency	Percent	Ranking
None	13	3.8	7 th
Inadequate asset/capital	343*	100	1 st
Lack of access to loan	250*	72.9	2 nd
Poor access to electricity	37	10.8	5 th
Poor road	25	7.3	6 th
Low market demand for goods and services	66	19.2	3 rd
High cost of land	45	13.1	4 th
High cost of business premises	9	2.6	8 th
Migration	5	1.5	9 th

Note: *multiple responses

CONCLUSION

Rural households in Kebbi State are involved in different livelihood strategies; including both agricultural and nonfarm activities. The major influencing factors in choice of livelihood strategies among rural households are age, household size, years of education, access to credit, annual income, participation in social organization, and farm size. Hence, to improve and develop livelihood strategies government should support and acknowledge non-farm livelihood strategies as a part of job creation efforts, instead of only subsidizing inputs for agriculture-based livelihood strategies for the rural people.

REFERENCES

- Abiodun, T. C., Olutumise, A. I., & Ojo, S. O. (2019). Evaluation of choices of livelihood strategy and livelihood diversity of rural households in Ondo State, Nigeria. *Journal of Social Sciences and Humanities*, 5(1), 17-24.
- Adepoju Abimbola, O., & Obayelu Oluwakemi, A. (2013). Livelihood diversification and welfare of rural households in Ondo State, Nigeria. *Journal of Development and Agricultural*, 5(12), 482-489.
- Adugna, E. (2008). Livelihood strategies and food security in Wolayta, Southern Ethiopia: The case of Boloso Sore district. An MSc thesis Submitted to the School of Graduate Studies of Haramaya University.

- Akinwale, A. A. (2010). Livelihoods and environmental challenges in coastal communities of Nigeria. *Journal of Sustainable Development in Africa*, 12(8), 79-88.
- Ali, A. (2005). Livelihood and food security in rural Bangladesh: The Role of Social Capital. Wageningen University and Research.
- Alinovi, L., D'errico, M., Mane, E., & Romano, D. (2010). Livelihoods strategies and household resilience to food insecurity: An empirical analysis to Kenya. *European Report on Development*, 1(1), 1-52.
- Alobo Loison, S. (2015). Rural livelihood diversification in sub-Saharan Africa: a literature review. *The Journal of Development Studies*, 51(9), 1125-1138.
- Aruwajoye, A. S., & Ajibefun, I. A. (2013). Assessment of livelihood strategies among households in forest reserve communities in Ondo state, Nigeria. *International Journal of Scientific & Engineering Research*, 4(7), 1650-1655.
- Asmah, E. E. (2011). Rural livelihood diversification and agricultural household welfare in Ghana. *Journal of Development and Agricultural Economics*, 3(7), 325-334.
- Barrett, C. B., Reardon, T., & Webb, P. (2001). Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. *Food Policy*, 26(4), 315-331.
- Bekele, S., & Rajan, D. S. (2017). Rural household livelihood strategies choices: The case of Humbo Woreda, Wolaita Zone, Southern Nation Nationalities and Peoples Regional State Ethiopia. *Journal of Economic Sustainable Development*, 8(3), 69-85.
- Berlie, A. B. (2015). Non-Farm and Off-Farm Activities in Achieving Livelihood Security in the Amhara Region: Case Study of Lay Gayint District. *Journal of Agriculture and Environmental Sciences*, 1(2), 36-56.
- Bezemer, D. J., & Lerman, Z. (2002). Rural livelihoods in Armenia: the centre for agricultural economic research. The Department for Agricultural Economics & Management Discussion Paper No, 4.
- Boomsma, M., Mur, R., & Mangnus, E. (2013). African Agribusiness Supplier Development Programme (AASDP) Toolkit: Growing Inclusive Agri-food Value Chains Benefitting African Farmers and SMEs.
- Boto, I., & Mofolo, L. (2014). Realizing the Promise of Agriculture for Africa's Transformation. In Brussels Rural Development Briefings: A Series of Meetings on ACP-EU Development Issues.
- Brown, D. R., Stephens, E. C., Ouma, J. O., Murithi, F. M., & Barrett, C. B. (2006). Livelihood Strategies in the Rural Kenyan Highlands. *African Journal of Agricultural and Resource Economics*, 1(311-2016-5503), 21-36.
- Bryceson, D. F. (2000). *African peasants' centrality and marginality: rural labour transformations*. Disappearing Peasantries, pp. 37- 63.
- Cornelius, K. O., & Ngeria, N. (2011). Analysis of Rural Livelihood Income Strategies among Farm Households in Imo State, Nigeria.
- Davis, J., & Pearce, D. (2001). The Non-agricultural Rural Sector in Central and Eastern Europe.
- Ellis, F. (2000). The determinants of rural livelihood diversification in developing countries. *Journal of Agricultural Economics*, 51(2), 289-302.
- Ellis, F., & Allison, E. (2004). Livelihood diversification and natural resource access. Overseas Development Group, University of East Anglia.
- Ellis, F., & Freeman, H. A. (Eds.). (2004). *Rural livelihoods and poverty reduction policies*. Routledge Publishers.
- Eneyew, A., & Bekele, W. (2012). Determinants of livelihood strategies in Wolaita, southern Ethiopia. *Agricultural Research and Reviews*, 1(5), 153-161.
- Eshete, B. (2007). *Livelihood Strategies of Smallholder Farmers and Income Poverty in draught prone areas: The case of Gena-Bosa woreda*. SNNPRS. Dire Dawa: Haramaya University.

- Gagabo, T. (2014). Analyzing the determinants and the effects of income diversification in rural Ethiopia. International Social Science Publishers
- Greene, W. H. (2003). *Econometric analysis* (4th edition). International edition, New Jersey: Prentice Hall, 201-215.
- Hazell, P. (2011, January). Five big questions about five hundred million small farms. *In Conference on New Directions for Smallholder Agriculture* (pp. 24-25).
- Holden, S., Shiferaw, B., & Pender, J. (2004). Non-farm income, household welfare, and sustainable land management in a less-favoured area in the Ethiopian highlands. *Food Policy*, 29(4), 369-392.
- Keane, M. P. (1992). A note on identification in the multinomial probit model. *Journal of Business & Economic Statistics*, 10(2), 193-200.
- Kebbi State Government (KBSG), (2008). The diary of Kebbi State of Nigeria. Land of Equity Government Press Birnin-Kebbi pp. 1-4.
- Khatun, D., & Roy, B. C. (2012). Rural livelihood diversification in West Bengal: determinants and constraints. *Agricultural Economics Research Review*, 25(1), 115-124.
- Koira, A. K. (2015). Africa Agriculture Status Report 2015: *Youth in Agriculture in Sub-Saharan Africa*. Alliance for a Green Revolution in Africa (AGRA).
- Lemi, A. (2005). *The dynamics of livelihood diversification in Ethiopia revisited: evidence from panel data*. Available at SSRN 817104.
- Lemma, T. (2003). Diversity in livelihoods and farmers strategies in Hararghe highlands. Eastern Ethiopia, University of Pretoria, South Africa.
- Maharjan, K. L. (Ed.). (2014). *Communities and Livelihood Strategies in Developing Countries*. Springer.
- Mutenje, M. J., Ortmann, G. F., Ferrer, S. R. D., & Darroch, M. A. G. (2010). Rural livelihood diversity to manage economic shocks: Evidence from south-east Zimbabwe. *Agrekon*, 49(3), 338-357.
- Okali, C. (2006). *Linking livelihoods and gender analysis for achieving gender transformative change*. FAO LSP WP, 41.
- Oni, O. A., & Fashogbon, A. E. (2013). Food poverty and livelihoods issues in rural Nigeria. *African Journal of Agricultural and Resource Economics*, 8(311-2016-5562), 108-135.
- Porter, G., Blaufuss, K., & Acheampong, F. O. (2007). Youth, mobility and rural livelihoods in sub-Saharan Africa: Perspectives from Ghana and Nigeria: Poverty, development and livelihoods. *Africa Insight*, 37(3), 420-431.
- Regassa, D. T. (2016). Rural livelihood strategies and Household food security: The case of farmers around Derba cement factory, Sululta Worenda Oronia Regional state. *Journal of Agricultural Economics and Rural Development*, 4(2), 423-435.
- Stifel, D. (2010). The rural non-farm economy, livelihood strategies and household welfare. *African Journal of Agricultural and Resource Economics*, 4(311-5532), 82-109.
- Valdivia, C., & Quiroz, R. (2001). *Rural livelihood strategies, assets, and economic portfolios in coping with climatic perturbations: A case study of the Bolivian Andes*. Social Organization and Land Management Session, Integrated Natural Resource Management for Sustainable Agriculture Forestry and Fisheries, pp. 28-31.
- Warren, P. (2002). *Livelihood diversification and enterprise development. An initial exploration of concepts and issues*. LSP Working Paper (FAO).
- Ying, S., & Warren, F. K. (2010). *Multinomial logit models*. Chapter Presented at SUGI, 20, 665-680.
- Yizengaw, Y. S., Okoyo, E. N., & Beyene, F. (2015). Determinants of livelihood diversification strategies: The case of smallholder rural farm households in Debre Elias Woreda, East Gojjam Zone, Ethiopia. *African Journal of Agricultural Research*, 10(19), 1998-2013.