



## ASSESSMENT OF LIVELIHOOD DIVERSIFICATION ACTIVITIES AMONG WOMEN CROP FARMERS IN GOMBE STATE, NIGERIA

<sup>1</sup>Tata, L. A., <sup>2</sup>Abu, I. A., <sup>3</sup>Garba, A and <sup>4</sup>Abdullahi, S.

<sup>1</sup>Department of Agricultural Economics and Extension, Faculty of agriculture Federal University of Kashere, Gombe State

<sup>2</sup>Department of Agricultural Extension, Faculty of Agriculture, University of Maiduguri, Nigeria

<sup>3</sup>Department of Agricultural Economics and Extension, Federal university Duste, Jigawa State

<sup>4</sup>Department of Agricultural Extension and Rural Development Abubakar Tafawa Balewa University Bauchi, Bauchi State

\*Corresponding author email address: [libnahtata@gmail.com](mailto:libnahtata@gmail.com)

GSM: +2348024690008

### ABSTRACT

The study examined the livelihood diversification activities among women crop farmers in Gombe State, Nigeria. A multi-stage sampling procedure was used in selecting 416 respondents. Data were collected using structured questionnaire and analyzed using descriptive statistics. The result revealed that mean age of the respondents was 34 years. Majority (76.2%) of the respondents were married with a mean household size of 4 persons. The result also showed that 44.2% of the respondents had secondary education while more than half (56.3%) had a mean farm size of 1.6ha. Majority (77.4%) of the respondents moderately diversified their livelihoods. Fashion designing (2.40), sales of provision (2.37), water, vegetables and bakery (2.39) were recorded to be the major types of livelihood diversification as indicated by mean values. The study concluded that women crop farmers in the study area moderately diversified their livelihood activities. In view of that the study recommended that, women crop farmers should be properly empowered by stakeholders, private and non-governmental organizations on ways to increase income and exposure to more diversification opportunities.

**Keyword:** Diversification, Farmers, Households, Livelihood and Women

### INTRODUCTION

Livelihood is a process whereby people make use of the resources that provide them the capability of building a satisfactory means of living (Food and Agricultural Organization, FAO, 2017). Diversification is defined as the series of economic activities an individual gets involved in with shares in the overall economic activity (Olajide *et al.*, 2022). Livelihood diversification is therefore a process of combining both agricultural and non-agricultural activities to survive and improve the standard of living (Martin and Lorenzen, 2016; Pritchard *et al.*, 2019). Debele and Desta (2016) categorized livelihood diversification into on-farm and off-farm activities. On-farm activities concern engaging in multiple crops and livestock production practices simultaneously. While off-farm diversification is an approach of generating extra income from other non-farm sources to supplement household agricultural income (Losch *et al.*, 2010). Off-farm activities mostly engaged in by farm households include wage employment, trading in charcoal, petty trading, agro-processing and all forms of artisanal jobs among others alternatives. Livelihood diversification plays a crucial role in promoting economic growth and reducing rural poverty in developing countries (Loison, 2015). Furthermore, the prevalence of non-agricultural activities in rural households' dates back in time with studies over several decades highlighting the increasing importance of non-agricultural income to rural households.

Women are key partners in economic and social development and according to Okere and Shittu (2013), women comprise an average of 43% of the agricultural labor force of developing countries. In fact, in many countries they are the backbone of local and national food security and a critical force in reducing poverty, malnutrition and hunger, and in promoting development (Okere and Shittu, 2013). Their activities are associated with



subsistence system of production. Rural women's needs for agricultural technologies, labor-saving agricultural equipment and modern means of communication have to be addressed as well as the valuing and accounting of their non-monetized contribution to the economic survival of family and national development. Farming households get their income from farm produce which is not enough to meet their basic needs due to various factors like diseases and natural disasters (Adeomi *et al.*, 2022). These consequences of unpredicted natural disasters and shocks in agriculture drives farming households to diversify their means of livelihood (Olajide *et al.*, 2022). Households across the developing countries are trying to diversify their livelihood activities to secure them from risks and cope with economic and environmental shocks (Baird and Hartter, 2017).

Rural economies of developing countries are high dependent on agriculture which is prone to shocks such as weather and natural disasters and financial risks (Reddy, 2015). In the event of a shock to the agricultural sector, livelihoods of agriculture-dependent communities are severely affected (Abid *et al.*, 2016; Imran *et al.*, 2018). Despite the significant roles of women in building the economy, most development literature has neglected their perception on livelihood diversification strategies. From the studies already carried out by some researchers on livelihood there is none with particular interest on the analysis of livelihood diversification strategies among women crop farmers especially in Gombe State.

The broad objective of the study was to examine the livelihood diversification strategies amongst women crop farmers in Gombe State, Nigeria. The specific objectives were to; describe the socio-economic characteristics of women crop farmers and identify the types of livelihood diversification activities engaged by women crop farmers.

## MATERIALS AND METHODS

### The Study Area

The study was conducted in Gombe State, Nigeria. The State is located in North-East Nigeria. It lies between latitude 9° 3'N and 12° N and longitude 8° 45'E and 9° 3'E (GMSG (2016)). It covers a land area of about 20,365 square kilometers. It has a projected population of 3,960,100 in 2022 using 3.3% annual growth rate as reported by NBS (2022). 1,123,157 are female while 1,230,722 are male, National Population Commission, NPC (2006). Major crops grown are maize, guinea corn, millet, cotton, groundnut and cassava, Gombe State Government, GMSG (2016). Livestock rearing include poultry, sheep, goat cattle among others, GMSG, (2016). Major agricultural business activities include fruits and vegetable selling, oil milling, farming, petty trading, tailoring among others. The climate is characterized by wet and dry seasons. The wet season starts from April / May and ends in November. The average rainfall of the study area is 850mm, GMSG (2016). The city averages a yearly temperature of 30.54 °C (86.97 F). Gombe is endowed with both human and natural resources, most of its inhabitants are commercially oriented. Ethnic groups comprises of Fulani, Hausa, Tangle, Tera, Waja, Cham, Dadiya, Tula, Jara, Kamo, Kanuri, Pero people.

### Sampling Technique and Sample Size

A multi-stage sampling procedure was used for the study. In the first stage, two wards from the 11 Local Government Areas in Gombe State were purposively selected based on agrarian communities of women crop farmers. In the Second stage, two groups of women crop farmers were randomly selected from each of the selected LGA making a total of 22 groups and in the final stage, 70% respondents each from the selected 22 groups of women crop farmers were randomly selected to make a total of 416 respondents as sample size.

### Data Collection

Data were collected using structured questionnaires



### Analytical technique

Descriptive statistics such as frequency distribution, percentage were used to analyze the data.

### Descriptive Statistics

**Percentage:** this was calculated by dividing the frequency of that particular value by the total number of respondents interviewed multiplied by hundred during the period of this study.

**Mean:** this was simply calculated by the adding up the number of responses and divide by the number of observations. It is also known as the average value.

**Standard deviation:** it describes how scattered the values of the respondent surround the mean derived.

## RESULTS AND DISCUSSIONS

### Socio-economic Characteristics of Respondents

The result from Table 1 revealed that 35.1% of the respondents were within the age of 28-37 years while 26.9%, 20.7%, 13.9% and 3.4% were within the age bracket of 38-47, 48-57, 18-27 and 58 and above years respectively with the mean age of 34 years. This implies that most of the women crop farmers were within their youthful age and belong to the active labor force and are expected to take appropriate decision towards livelihood diversification of on-farm and off-farm activities. This result also corroborates with the findings of Babatunde and Qaim (2009) who reported that a household with more economically active adults, are likely to have more livelihood sources. This can influence diversification in income-generating activities and savings pattern. The result also reveals that majority (76.2%) of the respondents were married, while 13.2%, 5.8% and 4.8% of the respondents were single, widowed and divorced respectively. This implies that married farmers believe more in diversification of livelihood sources. This implies that married farmers have additional household responsibility which will definitely encourage income/livelihood diversification. It is expected that married women will engage in more income-generating activities than other categories of women, because of their responsibilities married as indicated by Amaza *et al.* (2019). The findings from the study also indicated that 41.3% of the respondents had a household size of 1-3 persons, while 33.4%, 20.9%, 4.1 and 0.2% had a household size of 4-6, 7-9, 10-12 and 13 and above persons respectively with a mean household size of 4 persons per household. This necessitates the need to have more than one source of income in order to cater for the needs of members of households. This is also in-line with the findings of Etuk *et al.* (2018) who reported that about half (46.7%) of the farmers had family of 4-7 persons per household with an approximated mean of five persons per household. This indicates that the respondents have a relatively large household size.

The result also reveals that 44.2% of the respondents had attended secondary education, while 35.8%, 7.2%, 6.5%, and 2.6% of the respondents had attended tertiary, primary, adult and literacy and Qur'anic education respectively. Only 3.6% had non-formal education in the study area. This implies that most of the respondents had attended one form of education or the other which attributes to the need to diversify their income through application of knowledge and technology to improve their living standards in the study area. This finding is in line with that of Etuk *et al.* (2018), who reported that, more than fifty percent had Senior Secondary School Certification Examination (SSCE) level of education, indicating that most of the respondents were literate. The result further shows that more than half (56.3%) of the respondents had a farm size of less than 1ha, while 25.7%, 12.5%, 4.8% and 0.7% of the respondents had a farm size of 1-2ha, 5-6ha, 7 and above ha and 3-4ha of land respectively with a mean farm size of 1.62ha. This shows that the study area is inhabited by small scale farmers. The implication of this distribution is that most of the farmers are expected to engage in off-farm wage employment and/or off-farm self-employment in order to cater for their



household members. Hence diversification of income/livelihood sources is enhanced by small scale production. Thus, it ran consistently to the findings of Fabusoro *et al.* (2010) who reported that majority of Nigeria's food is produced by small scale farmers who cultivate small plots of land of 0.1-2.0 hectares with crude implements and depend on rainfall rather than irrigation system.

**Table 1: Socio-economic characteristics of respondents**

Variable (n= 416)	Frequency	Percentage	Mean
<b>Age (years)</b>			
18 – 27	58	13.9	4
28 – 37	146	35.1	
38 – 47	112	26.9	
48 – 57	86	20.7	
58 and above	14	3.4	
<b>Marital Status</b>			
Single	55	13.2	
Married	317	76.2	
Divorced	20	4.8	
Widowed	24	5.8	
<b>Household Size</b>			
1-3	172	41.3	4
4-6	139	33.3	
7-9	87	20.9	
10-13	17	4.1	
14 and above	1	.2	
<b>Educational Level</b>			
Primary education	30	7.2	
Secondary education	184	44.2	
Tertiary education	149	35.8	
Adult and Literacy	27	6.5	
Quranic education	11	3.6	
No education	15	2.6	
<b>Farm Size(ha)</b>			
Less than 1	234	56.3	1.6
1-2	107	25.7	
3-4	3	0.7	
5-6	52	12.5	
7 and above	20	4.8	

Source: Field Survey, 2023.

### Types of Livelihood Diversification Activities

Different scholars Hilson, (2016); Sherren *et al.* (2016) mentioned several types of livelihood diversification activities. Mainly there are four distinct livelihood strategies, namely: on-farm agricultural production, unskilled on-farm or off-farm, wage employment and non-farm earnings from trade, commerce and skilled employment. The components of rural livelihood diversification are also classified by sector as farm or non-farm, by function as wage employment or self-employment or by location as on-farm or off-farm (Loison, 2015). The result from Table 2 shows that food vendor (2.24), operation of grinding machine (2.20), Artisan (2.29), agro-processing (2.32), weaving/knitting (2.32), hair salon (2.35), civil service (2.33), fashion designing (2.40), sales of provisions (2.37), sale of water (2.39), sale of vegetables (2.39), locally made cosmetics (2.44), bakery (2.42) and livestock keeping (1.87) were the major types of livelihood diversification engaged by the respondents as indicated by the respective mean values of the respondents in the study area. This study conforms to the research carried out in Indian Bengal Delta by Haynes (2018), it was reported that women had a wide variety of livelihood activities in relation to family needs and in the midst of hazards,



they showed resilience to the environment and to the social pressure they faced. Molnar *et al.*, (2018) also indicated multi-activities including gardening, processing non-timber forest produce, herbal medicine, collecting wide fruits and trading on fire woods among others, whereas, women were more into grocery, food processing, poultry, vegetable gardening and bakery. Oladimeji *et al.* (2019) reported that public servants have been diversifying into poultry production, fish farming, and crop production among others.

Furthermore, the study is in agreement with the assertion of Godfrey *et al.* (2022) that farmers in the study area engaged in trading, transportation, agro-processing, hair saloon, tailoring, civil service, artisans, lease/financial services and fishing. This finding agree with Onuwa *et al.* (2021) who reported similar livelihood diversification activities among smallholder farmers. This implies that there are different aspects of life which respondents were engaged with for livelihood diversification in the study area which helps to increase their income and improve their standard of living in the study area. Similar finding was reported by Ibrahim *et al.* (2019) that food vendor was among the highly diversified income source in North central Nigeria followed by daily paid labor.

**Table 2: Distribution of respondents based on the types of livelihood diversification activities**

<b>Types of livelihood diversification</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Decision</b>
Food vendor	2.24	0.71	Engaged
Operation of grinding machine	2.20	0.69	Engaged
Artisan	2.29	0.79	Engaged
Agro- processing	2.32	0.76	Engaged
Weaving/knitting	2.32	0.77	Engaged
Hair saloon	2.35	0.76	Engaged
Civil service	2.33	0.81	Engaged
Fashion designing	2.40	0.75	Engaged
Sales of provisions	2.37	0.80	Engaged
Sales of locally made cosmetics (pomade, soap)	2.44	0.75	Engaged
Sales of water	2.39	0.79	Engaged
Sales of vegetables	2.39	0.77	Engaged
Bakery	2.42	0.74	Engaged
Livestock keeping	1.87	0.69	Engaged

**Source:** Field Survey, 2023

**Extent of Livelihood Diversification**

The result from Table 4 shows that majority (77.4%) of the respondents had moderately diversified their livelihood source, while 15.1% and 7.5% did not and had highly diversified their source of livelihood respectively. This implies that most of the respondents had different sources of income and it is clear that the majority of farming households had a moderate level of diversification. It should be noted that diversification in the context of this study means having other sources of livelihood in addition to the existing farming. Furthermore, the result shows that the majority of farming households do not depend on one source of livelihood. This strategy is adopted to ensure income security and reduce poverty. This security mechanism works on the basis that when the sale or production levels in one enterprise fail, the proprietors are able to switch to the other enterprise. The result is in line with studies conducted by Okere and Shittu (2013) and Idowu *et al.* (2014) where the majority of farming households moderately diversify their sources of livelihood. The results disagreed with Amurtiya *et al.* (2016) that about 12% of the respondents have a highly diversified income source, while about 15% do not diversify their income at all. Further, respondents with low and average level of income diversification constituted about thirty-one and forty two percent of the respondents respectively.



**Table 4: Distribution of the respondents according to extent of livelihood diversification**

Extent of livelihood diversification	Frequency	Percentage
Highly diversified	31	7.5
Moderately diversified	322	77.4
Not diversified	63	15.1

Source: Field survey, (2023).

## CONCLUSION AND RECOMMENDATIONS

The study concluded that, majority of the farmers in the study area have diversified their livelihood activities. The major types of livelihood diversification include fashion designing, sales of provision, sales of water, sales of vegetables and bakery. The study recommended that; in view of that the study recommended that women crop farmers should be properly empowered by stakeholders, private and non-governmental organizations on ways to increase income and exposure to more diversification opportunities

## REFERENCES

- Abid, M., Schilling, J., Scheffran, J., Zulfqar, F. (2016). Climate change vulnerability, adaptation and risk perceptions at farm level in Punjab, *Pakistan Science Total Environment*, 547:447–460.
- Adeomi, D. T., Fadju, D. T., Oseni, R. O. and Ogunya, L. (2022). Socio-Economic Factors Influencing Livelihood Diversification Among Rural Farming Households in Southwest Nigeria: A Fractional Response Model Approach. *Scientific Papers Series Management, Economic Engineering in Agricultural and Rural Development*. 22(4)21-30.
- Amaza, P. S., Umeh, J. H. and Adejobi, A. O. (2017). Determinants and Measurement of Food Security in Nigeria: Some Empirical Policy Guide. Contributed Poster prepared for presentation at the International Association of Agricultural Economists Conference, Gold Coast, Australia.
- Amurtiya, M. (2015). Effect of Livelihood Income Activities on Food Security Status of Rural Farming Households in Yola South Local Government Area. M.Sc. Thesis, Department of Agricultural Economics and Extension Modibbo Adama University of Technology, Yola.
- Babatunde, R. O. and Martin, Q. (2009). Patterns of income diversification in rural Nigeria: determinates and impacts. *Quarterly Journal of International Agriculture*. 48(4):305- 320.
- Baird, T. D. and Hartter, J. (2017). Livelihood diversification, mobile phones and information diversity in Northern Tanzania. *Land Use Policy*, 67: 460–471.
- Etuk, E. A., Udofe, P. O. and Okon, I. I. (2018). The determinants of livelihood diversification among farm households in Akamkpa Local Government Area, Cross River State, Nigeria. *Agrosearch*, 18(2):101-112.
- Fabusoro, F., Omotayo, A. M., Apantaku, S. O. and Okuneye, C. (2010). Forms and determinants of rural livelihoods diversification in Ogun State, Nigeria. *Journal of Sustainable Agriculture*. 34(4):417-438.
- Food and Agricultural Organisation, FAO, (2017). Women and Food Security, FAO Programme.
- Godfrey, O. Sambo M., Chizoba, C., and Cosmas, A. (2022). Socioeconomic Determinants of Livelihood Diversification Among Arable Crop Farmers in Shendam, Plateau State, Nigeria. *Agricultural Socio-Economics Journal* 22(4):301-309.
- Gombe State Government Diary (GMSG, 2016). Gombe State Government Official Diary, Ministry of information, Gombe state, Nigeria. Pp3.
- Hilson, G. 2016: Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: A Critical Overview. *The Extractive Industries and Society*, 3: 547–563.
- Haynes, M. C. (2018). The role of livelihood activities and income portfolios in shaping women’s perception of wellbeing and adoption choices in Indian Bendal Delta. University of Southampton. Generic. [www.press.soton.ac.uk](http://www.press.soton.ac.uk).
- Ibrahim, S. S., Ozdeser, H. and Cavusoglu, U. (2019). Vulnerability to recurrent shocks disparities in gendered livelihood diversification in remote areas of Nigeria. *Environmental Science and Pollution Research*. Retrieved from <http://doi.org/10.1007/s11356-018-3854-5> on 21 may, 2024.
- Idowu, A. O., Ambali, O. I. and Onasanya, A. S. (2014). Living condition, livelihood and crop diversification among rural farm households in Remo Division of Ogun state, Nigeria. *Asian Journal of Agricultural Extension, Economics and Sociology*. 3(6): 619-629.



- Imran, M., Ali, A., Ashfaq, M., Hassan, S., Culas, R. and Ma, C. (2018). Impact of Climate Smart Agriculture (CSA) Practices on Cotton Production and Livelihood of Farmers in Punjab, Pakistan. *Journal of Sustainability*, **10**(6):201-211
- Loison, S. (2015). Rural livelihood diversification in sub-Saharan Africa: a literature review. *Journal of Developmental Studies*, **51**(9): 1125–1138.
- Losch, B., Fréguin-Gresh, S. and White, E. (2010). *Structural Dimensions of Liberalization on Agriculture*, (2010), Washington D.C.: World Bank.
- Martin, S. M. and Lorenzen, K. (2016). Livelihood Diversification in Rural Laos. *World Development* **83**: 231-243.
- Molner, A., White, A and Khare, A. (2018). *Forest rights and asset-based livelihoods: Catalyzing rural economies and forest conservation through policy reform and collect action*. In Moser, C and Dani A.A (edited). *Assets, livelihoods and social policy*. Pp 257-274. The World Bank Washington, D.C. retrived from [www.worldbank.org](http://www.worldbank.org). o 29<sup>th</sup> January, 2023
- National Bureau of Statistics (2022). Statistical report on women and men in Nigeria.
- NPC (2006). National population commission census report. Abuja: National Population Commission.
- Okere, C. P. and Shittu, A. M. (2013). Patterns and determinants of livelihood diversification among farm households in Odeda Local Government Area, Ogun State. *Nigeria Journal of Economics*. **1**(1):13-23.
- Olajide, B. R and Ogundele, E. O. (2022). Contribution of livelihood diversification to Household Food Security Among Rural Dwellers in Osun State. *Nigerian Journal of Rural Sociology*, **22**(1):22-27
- Olademeji, Y. U., Abdulsalam, Z., Damisa, M. A. and Ajao, A. M. (2019). Determinants of income diversification of public servants' households to agricultural activities in Kwara State, Nigeria. *Somaru Journal of Agricultural Education (SJAE)*. **7**(1): 23-28.
- Onuwa, G.C., Asogwa, B.C., Abu, O., and Ademiluyi, I.O. (2021). Determinants of Off-Farm Investments among Farm Households in Benue State, Nigeria. *Journal of agricultural economics, extension and science (jaees)*. **7**(3): 154-170.
- Pritchard, B., Rammohan, A. and Vicol, M. (2019). The importance of non-farm livelihoods for household food security and dietary diversity in rural Myanmar. *Journal of Rural Studies*, **6**(1):89–100.
- Reddy, K. E. (2015). Some agricultural risks in India. **International Organization Scientific Research Journal of Humanities and Social Science** **20**:45–48
- Sherren, K., Loik, L., Debner, J. A. (2016). Climate adaptation in 'new world cultural landscapes: The case of Bay of Fundy agricultural dykelands (Nova Scotia, Canada). *Land Use Policy*, **51**: 267–280.