



Analysis of Livelihood Diversification Strategies Among Settled Agropastoralists in Northeastern Nigeria

¹Hyelni David, ²Adunni Sanni, ²Henry Egwuma, ³Emmanuel Kehinde

¹Dept. of Agricultural Economics and Extension, Federal University Gashua, Nigeria

²Dept. of Agricultural Economics, Ahmadu Bello University, Zaria, Nigeria

³Dept of Agricultural Extension, Ahmadu Bello University, Zaria, Nigeria

Introduction

Livelihood diversification is the process by which rural families engage in diverse income-generating activities to survive and raise their living standards.

Due to persistent pressures on pastoralism systems, such as increased agricultural activities, increasing population, climate change, desertification, and government policies, has coerced pastoralists to moving into agropastoralism.

Agropastoralism is a long-standing custom that integrates crop production and livestock production and is practiced amongst settled, nomadic, and transhumant communities.

→This paper identified livelihood diversification strategies adopted by settled agropastoralists, their levels of income diversity, and factors influencing their choice of livelihood diversification strategies.

Methods

- The study was conducted in Gombe State, Nigeria. It is located in the Northeastern part of Nigeria.
- Data were collected from 316 randomly selected agropastoralists across 18 communities within the State using computer-based questionnaire via Open Data Kit.
- Descriptive Statistics, Simpsons Index of Diversification (SID), and Multinomial Logit (MNL) regression were used for data analysis.

Results

- The agropastoralists in the study area were involved in three main livelihood strategies; on-farm, non-farm, and off-farm activities.
- About 52% of the agropastoralists were engaged in only on-farm activities, while 30% and 10% combined on-farm + off-farm and on-farm + non-farm activities respectively. Only 8% practised a combination of the three livelihood strategies (Fig. 1).

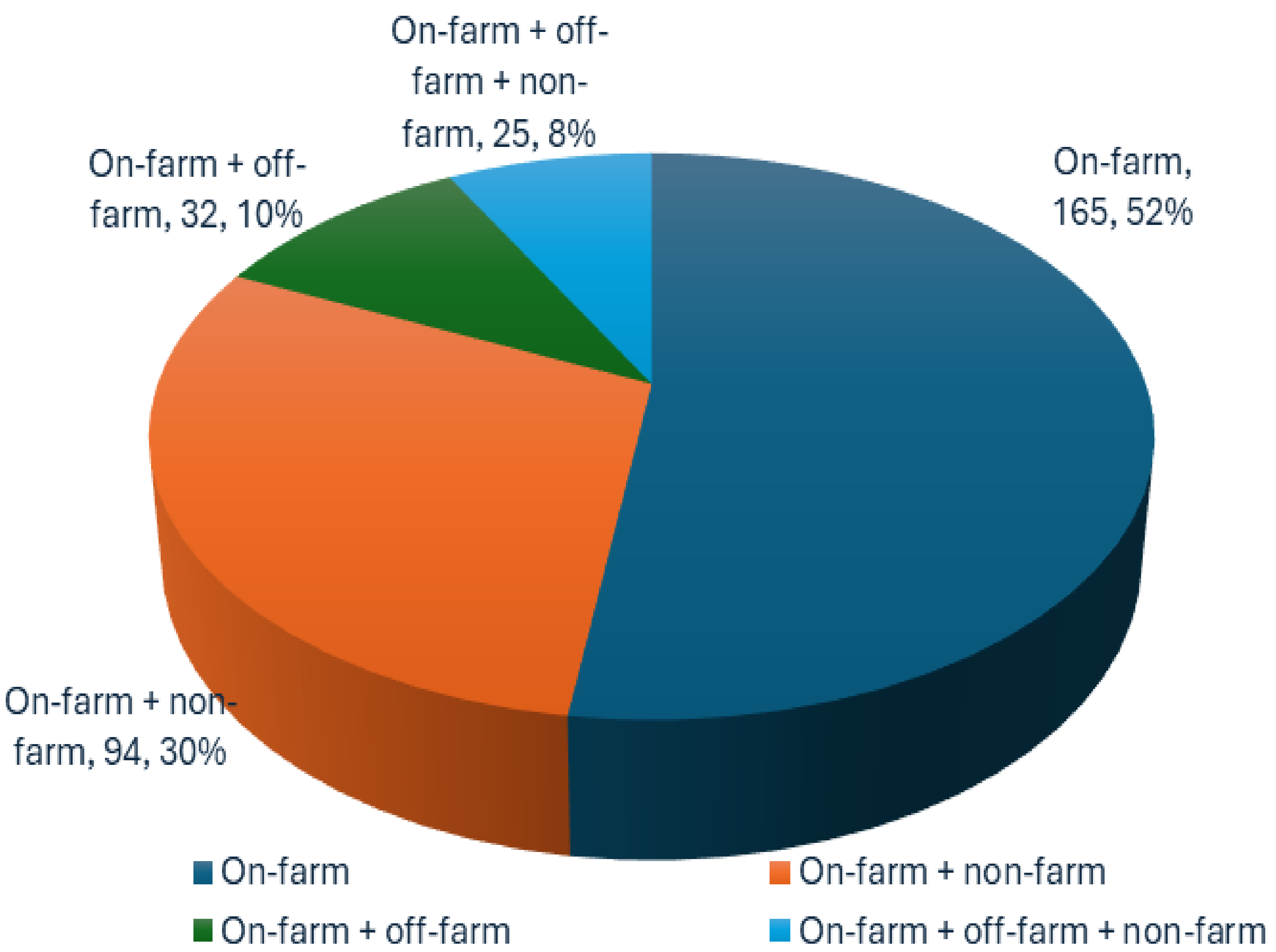


Fig 1: Choice of livelihood diversification strategies adopted by the agropastoralists

- The level of income diversity across on-farm activities was 35.1%, while income diversities for on-farm + off-farm, and on-farm + non-farm were 43.4%, and 52.9%, respectively. The combination of three livelihood strategies exhibited the highest level of income diversity (59.2%) (Tab. 1).
- MNL analysis showed that sex, age, education, period of residence, dependency ratio, extension contacts, cooperative membership, and access to credit had a significant influence on agropastoralists' choice of livelihood diversification strategies (Tab. 2).

Tab. 1: Level of income diversity in livelihood strategies

Income diversity livelihood strategies	Index Range	Freq.	%	Mean
On-farm activities				
High diversity	0.72-1.00	104	32.9	0.86
Medium diversity	0.42-0.64	111	35.1	0.53
Low diversity	0.00-0.36	101	32	0.18
Total		316	100	
On-farm+off-farm				
High diversity	0.71-1.00	59	18.7	0.86
Medium diversity	0.40-0.68	137	43.4	0.54
Low diversity	0.00-0.38	120	38	0.19
Total		316	100	
On-farm+non-farm				
High diversity	0.71-1.00	42	13.3	0.86
Medium diversity	0.40-0.68	167	52.9	0.54
Low diversity	0.00-0.38	107	33.9	0.19
Total		316	100	
On-farm+off-farm+non-farm				
High diversity	0.74-1.00	187	59.2	0.87
Medium diversity	0.42-0.68	128	40.5	0.55
Low diversity	0.11-0.38	1	0.3	0.25
Total		316	100	

Note: low diversity as $SID < 0.4$, medium diversity as $0.4 \leq SID < 0.7$, and high diversity as $SID \geq 0.7$

Tab. 2: Multinomial Logit analysis showing factors affecting livelihood diversification among agropastoralists

Variables	On-farm+off-farm			On-farm+non-farm			On-farm+non-farm+off-farm		
	Coef.	SE	ME	Coef.	SE	ME	Coef.	SE	ME
Constant	22.222	501.897		-2.107	2.882		-17.249	4.81	
Sex	-2.031**	0.980	-0.0633	0.837	0.693	0.082	-1.202	1.201	-0.0190
Marital Status	-11.678	501.882	0.0319	-1.193	0.744	0.007	-0.838	1.963	-0.0478
Age	0.014	0.036	0.0319	0.033**	0.014	-0.031	0.058	0.044	-0.0478
Educational level	1.288**	0.52	0.1857	0.005	0.137	-0.078	1.092*	0.557	0.0585
Dependency ratio	0.012	0.076	-0.0175	-0.042*	0.025	0.014	-0.069	0.086	-0.0075
Credit utilized	3.288***	0.963	0.3291	-0.423	0.604	-0.057	-2.723	2.962	0.0095
Extension contacts	0.005	0.011	0.0084	-0.011***	0.003	-0.006	-0.024**	0.011	-0.002
Cooperative society	0.003	0.013	0.1279	0.002	0.004	0.096	-0.030*	0.018	-0.0094
Land ownership	-0.004	0.5	-0.3861	0.258	0.164	0.073	0.581	0.507	-0.0562
Market access	-0.005	0.02	-0.0347	-0.001	0.006	0.015	-0.006	0.018	0.0081
Period of residence	0.018	0.061	-0.0598	-0.070*	0.04	-0.009	0.032	0.025	0.02
The reference category is: 1 (On-farm only)									
Dependent variable	Livelihood diversification strategies								
Number of observations	316								
LR $\chi^2(39)$	294.33								
Prob > χ^2	0.000								
Pseudo R^2	0.413								
Log likelihood	-209.505								

Note: *** ** and * significant at 1%, 5% and 10% levels of probability
Coef, SE, ME (dy/dx) represents coefficient, standard error, and marginal effect, respectively.

Conclusions

- More than half of the population of agropastoralists in the study area were engaged in on-farm activities as their sole source of household income.
- The study affirms that agropastoralists who engaged in all three activities (on-farm, off-farm, and non-farm) exhibit the highest level of income diversity.
- Livelihood diversification strategies were determined by the age of household head, education status, periods of residence, dependency ratio, extension contacts, cooperative membership and access to credit.