DETERMINANTS OF LIVELIHOOD DIVERSIFICATION AMONG SMALLHOLDER FARMERS IN AKWA IBOM STATE, NIGERIA.

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Abstract
Smallholder farmers in Nigeria face multiple livelihood challenges arising from declining farm productivity, limited access to credit and extension services, and market instability, which compel them to diversify income sources. This study examined the determinants of livelihood diversification among smallholder farmers in Akwa Ibom State, Nigeria. Specifically, it described their socioeconomic characteristics, the extent of involvement in livelihood diversification strategies, and identified the factors influencing diversification strategies. Primary data were collected from 248 respondents selected through a multistage sampling procedure involving 16 Local Government Areas. Data were analyzed using descriptive statistics and multiple regression analysis. Results revealed that 56.86% of the respondents were male, with a mean age of 41.62 years, and most (67.74%) were married. The highest proportion (41.13%) had secondary education, operated on an average farm size of 1.08 ha, and earned less than ₦100,000 monthly. Farmers showed the highest level of involvement in agro-processing ($\bar{x}$= 2.47), small-scale business ($\bar{x}$= 2.37), and livestock production ($\bar{x}$= 2.28). Overall involvement in livelihood diversification indicated that 47.18% of respondents had moderate involvement, while 37.50% recorded high involvement. The regression model (Adjusted R^2 = 0.654; F = 39.28; p < 0.001) showed that sex, household size, education, farm size, income, farm ownership, access to extension, and credit significantly and positively influenced livelihood diversification (p < 0.05), while age, structural/economic, and institutional constraints had negative effects. Perceived benefits strongly motivated diversification (p < 0.01). The study concludes that both socio-economic and institutional factors significantly shape livelihood diversification among smallholder farmers in the State. It recommends strengthening farmer education and capacity-building programs, enhancing technical support through extension services, improving access to credit, and implementing supportive policies to reduce infrastructural bottlenecks and promote high-value diversified activities.

Keywords: Smallholder farmers, livelihood diversification, socio-economic determinants, Akwa Ibom State, Nigeria

Introduction

Agriculture remains a cornerstone of Nigeria's economy, providing livelihoods for a vast majority of the rural population and contributing significantly to food production and employment (Chiaka *et al*., 2022; Kamil *et al*., 2017). However, smallholder farmers, who constitute the bulk of agricultural producers in the country, face persistent challenges that threaten the sustainability of their livelihoods. These include climate variability, market volatility, declining soil fertility, inadequate access to credit, and limited extension support (Mgbenka and Mbah, 2016; Pawlak and Kołodziejczak, 2020). To mitigate these constraints and enhance household welfare, rural farmers have increasingly adopted livelihood diversification as an adaptive strategy involving the pursuit of multiple income-generating activities within and beyond agriculture (Ayele, 2021; Alemu, 2023).

Livelihood diversification has become a central theme in rural development discourse due to its role in reducing vulnerability and enhancing resilience among smallholder households. Studies from Ethiopia and Nigeria have shown that diversification into non-farm and off-farm activities improves income stability, food security, and overall well-being (Mengistu and Belda, 2024; Minyiwab *et al*., 2024; Gani *et al*., 2019). For instance, Ayana *et al*. (2022) found that the extent of livelihood diversification significantly influenced welfare outcomes among rural farmers in Western Ethiopia, while Alamneh *et al*. (2023) observed that households engaging in multiple livelihood strategies experienced reduced exposure to income shocks. Similarly, in Nigeria, Chinalurum *et al*. (2024) reported that socio-economic characteristics such as education, household size, and access to credit were key determinants of diversification decisions among farming households.

Despite the growing evidence on livelihood diversification across different agro ecological zones, variations exist in the drivers and intensity of diversification among regions. The decision to diversify is often influenced by both "push" factors, such as declining agricultural productivity and risk exposure, and "pull" factors, including emerging market opportunities and improved human capital (Akpan *et al*., 2023; Vilakazi *et al*., 2025). These complex interrelationships make it imperative to contextualize the determinants of diversification within specific socio-economic and institutional environments. Studies such as those by Oruonye *et al*.

(2024) and Sallawu *et al*. (2016) emphasized that understanding local-level dynamics is crucial for designing effective policies that promote sustainable livelihoods.

In Akwa Ibom State, where agriculture remains a major livelihood source, smallholder farmers face increasing livelihood insecurity arising from limited access to productive resources, high input costs, and fluctuating market prices (Mboho, 2024; Ekanem and Uloh, 2025). Although the state government has initiated several agricultural development and poverty alleviation programmess, evidence suggests that a large proportion of smallholders still struggle to maintain stable incomes, prompting them to diversify into non-farm activities such as petty trading, artisanal work, and transportation services (Onyim *et al*., 021; Akpan *et al*., 2025). However, empirical understanding of the specific factors influencing these diversification decisions within the local context remains limited. While Etuk (2020) examined gender dimensions of diversification strategies in Akwa Ibom State, and Akpan *et al*. (2023) analyzed income diversification among pumpkin farmers; comprehensive analyses focusing on smallholder farmers' overall livelihood diversification determinants are scarce.

This gap in localized empirical knowledge presents a critical problem, as inadequate understanding of the determinants of livelihood diversification constrains the ability of policymakers and extension services to design context-specific interventions that can enhance rural welfare and resilience. Failure to address this knowledge gap may perpetuate rural poverty, increase vulnerability to food insecurity, and limit the capacity of smallholder farmers to adapt to economic and environmental changes. Therefore, it is essential to examine the determinants of livelihood diversification among smallholder farmers in Akwa Ibom State, with a view to generating evidence-based insights for improving rural livelihood outcomes and guiding sustainable agricultural extension practices in the region.

Objectives of the Study

The broad objective of this study was to examine the determinants of livelihood diversification among smallholder farmers in Akwa Ibom State, Nigeria. The specific objectives were to:

i. describe the socioeconomic characteristics of smallholder farmers in Akwa Ibom State;
ii. assess the extent of involvement in livelihood diversification strategies by smallholder farmers in Akwa Ibom State;
iii. ascertain the factors influencing the livelihood diversification strategies of smallholder farmers in the study area.

Methodology

The study was conducted in Akwa Ibom State, located in the South-South geopolitical zone of Nigeria. The State lies approximately between latitudes 4°32′ and 5°33′ North of the Equator and longitudes 7°25′ and 8°25′ East of the Greenwich Meridian. It is bounded by Cross River State to the east, Abia State to the north, Rivers State to the west, and the Atlantic Ocean to the south. Akwa Ibom State falls within the tropical rainforest belt and is characterized by high rainfall, humidity, and warm temperatures that support diverse agricultural activities such as crop farming, fishing, livestock production, and agro-processing. The State occupies a land area of approximately 7,249 km² and comprises 31 Local Government Areas. A location map of the study area showing the geographical coordinates is presented in Figure 1.

The population for the study comprised smallholder farmers registered with the All Farmers Association of Nigeria (AFAN), Akwa Ibom State Chapter. A multi-stage sampling procedure was employed to ensure representativeness across the diverse agricultural zones of the State while managing the wide geographical spread and large population of smallholder farmers, an approach consistent with similar extension studies (Ajunwa *et al*., 2026; Uko *et al*., 2025; Ifeanyi-Obi *et al*., 2025). In the first stage, sixteen Local Government Areas (LGAs) were purposively selected based on their high concentration of smallholder farmers and agricultural activities. In the second stage, a proportionate random sampling technique was used to select 2% of registered AFAN members from each of the chosen LGAs, resulting in a total of 248 respondents. The choice of a sample size of 248 was guided by the Krejcie and Morgan (1970) sampling table, which provides a statistically valid basis for determining an adequate sample size from a large population, as similarly adopted by Asanwana *et al*. (2025), Obinaju *et al*. (2025) and Nkanta *et al*. (2025) in agricultural extension studies within Akwa Ibom State. This sample size was considered sufficient to ensure representativeness, minimize sampling error, and allow for robust statistical analysis.

Primary data were collected through a structured questionnaire, and was pre-tested to ensure clarity and reliability before full-scale administration. The extent of involvement in livelihood diversification was measured across twelve activities (including crop farming, livestock rearing, agro-processing, small-scale business, and off-farm employment), rated on a three-point Likert scale: 1 = low involvement, 2 = moderate involvement, and 3 = high involvement. The scores were summed to generate an overall diversification index, categorized as low (12–20), moderate (21–28), and high (29–36) levels of diversification.

Data were analyzed using both descriptive and inferential statistics. Descriptive statistics such as frequency counts, means, and percentages were employed to summarize the socioeconomic characteristics of respondents and livelihood diversification strategies. Multiple regression analysis was used to determine the factors influencing

livelihood diversification among smallholder farmers. This analytical tool was deemed appropriate because the dependent variable, livelihood diversification index, was continuous and influenced by multiple independent variables. The use of regression analysis has been supported by similar studies in Nigeria and other developing countries (Chinalurum *et al*., 2024; Uko *et al*., 2025; Etukudo *et al*., 2026), as it allows for assessing the strength and significance of determinants affecting diversification behavior.

Prior to model specification, diagnostic tests confirmed that the assumptions of multiple regression, linearity, independence of errors, normality, and homoscedasticity were met. Multicollinearity was checked using the Variance Inflation Factor (VIF), and all variables were within acceptable limits (<10).

The implicit form of the model is expressed as:

$$Y = f(X_1, X_2, X_3, \ldots, X_{11}) + e \quad (1)$$

While the explicit form is given as:

Where:

Y_i = Livelihood Diversification Index (dependent variable),

X_1 = Sex (1 = Male, 0 = Female),
X_2 = Age (years),
X_3= Household size,
X_4= Education (years of formal schooling),
X_5 = Farm size (ha),
X_6 = Monthly income (₦),
X_7= Farm ownership (1 = Owned, 0 = Otherwise),
X_8= Access to extension services (1 = Yes, 0 = No),
X_9 = Access to credit (1 = Yes, 0 = No),
X_{10}= Structural/Economic constraints score,
X_{11} = Institutional/Support constraints score,
e_i= Error term.

The explanatory variables were selected based on theoretical and empirical evidence linking them to livelihood diversification among smallholder farmers (Etuk, 2020; Akpan *et al*., 2023; Minyiwab *et al*., 2024). These variables capture demographic, economic, institutional, and perceptional factors that influence farmers' decision to diversify income sources, consistent with findings from previous livelihood studies (Ayele, 2021; Sallawu *et al*., 2024; Vilakazi *et al*., 2025).

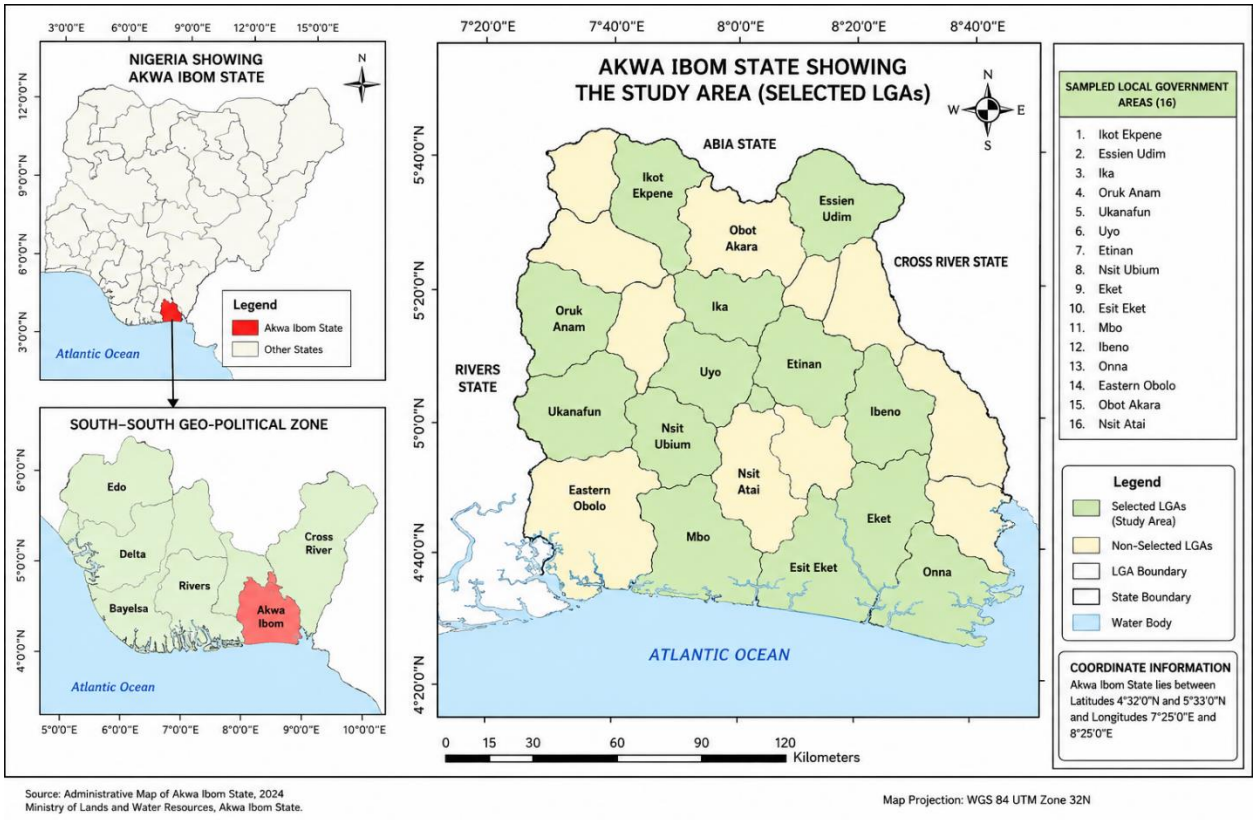

Figure 1: Map of Akwa Ibom State Showing Sampled Local Government Areas

Results and Discussion

Socio-economic Characteristics of Smallholder Farmers in Akwa Ibom State

Table 1 presents the socio-economic characteristics of smallholder farmers in Akwa Ibom State. Findings revealed that a higher proportion (56.86%) of the respondents were male, suggesting that farming activities are male-dominated in the area; while females constituted 43.14%. Most respondents were within the economically active age bracket of 35–44 years (35.48%), with a mean age of 41.62 years, indicating that the farming population is relatively youthful and productive. A greater percentage (67.74%) of the farmers was married, implying stable household structures that may enhance farm labour availability. Christianity was the predominant religion

(95.97%) reflecting the religious composition of the State.

Household size analysis shows that the highest proportion (48.79%) had between 5–8 members, with a mean of 5.82 persons, suggesting a moderate family size that could provide family labour. Regarding education, the highest proportion (41.13%) had acquired secondary education, while only 10.48% had no formal education, indicating that most respondents possess basic literacy. In terms of farm size, slightly more than half (52.00%) cultivated between 1–2 hectares, with a mean of 1.08 ha, showing the small-scale nature of farming operations.

Monthly income data show that 46.77% earned less than ₦1–50,000, while 10.48% earned above ₦150,000, reflecting generally low income levels among the farmers. Farming was the major occupation (71.77%), followed by business or trading (13.71%), suggesting a reliance on agriculture as the primary livelihood source. The highest proportion (30.65%) of farmers, had accrued 6-10 years of farming experience, indicating a relative exposure to farming activities. About three-quarters (75%) owned their farmland, while 50% reported access to extension services, showing an equal split between those reached and those unreached by extension agents.

The socio-economic profile of smallholder farmers in Akwa Ibom State reflects a typical pattern of rural agricultural communities in Southern Nigeria. The predominance of male farmers aligns with the findings of Ekanem and Uloh (2025) and Nkanta *et al*. (2025) who reported that agricultural production in the region remains largely male-driven due to cultural norms that position men as heads of households and principal farm decision-makers. However, the substantial female participation observed suggests that gender inclusivity in agriculture is gradually improving, consistent with the pattern highlighted by Abdul-Gafar *et al*. (2024).

The relatively young mean age of the farmers indicates a productive workforce capable of adopting improved farming and diversification strategies. Similar age trends were reported by Akpan *et al*. (2025) who reported an increasing trend of youth participation in agriculture is due to unemployment in other sectors. The dominance of married respondents corroborates Dimelu *et al*. (2020) finding to the effect that marital status provides social stability and enhances labour supply from family members.

The educational attainment of most respondents suggests that literacy levels among farmers are improving, enhancing their capacity to adopt innovations and diversify livelihood sources. This observation supports Paltasingh and Goyari (2018), who established that education positively influences productivity and efficiency among farmers. The small average farm size reflects the land fragmentation typical of smallholder farming in Nigeria, as reported by Mgbenka and Mbah (2016), and underscores the need for land consolidation policies.

The low income levels recorded imply that smallholder farmers remain economically constrained, limiting their ability to invest in productivity-enhancing inputs. This mirrors findings by Udoh *et al*. (2017) who identified low income as a key barrier to agricultural intensification in the State. The fact that most respondents depended primarily on farming for livelihood reinforces the importance of agriculture as the mainstay of rural economies, as emphasized by Pawlak and Kołodziejczak (2020).

Ownership of farmland by most respondents signifies land security, which is essential for sustained livelihood investments. However, the equal proportion of farmers with and without access to extension services highlights a major institutional gap. As noted by Asanwana *et al*. (2025), limited extension contact restricts farmers' access to information on improved technologies and diversification options. Addressing this imbalance through more inclusive extension outreach could enhance the adaptive capacity and livelihood sustainability of smallholder farmers in the State.

Table 1: Socio-economic Characteristics of Smallholder Farmers in Akwa Ibom State (n = 248)

Variable	Category	Freq. (%)
Sex	Male	141 (56.86)
	Female	107 (43.14)
Age Class (years)	25–34	58 (23.39%)
	35–44	88 (35.48%)
	45–54	63 (25.40%)
	55 and above	39 (15.73%)
	Mean Age (Years)	**41.62**
Marital Status	Single	49 (19.76%)
	Married	168 (67.74%)
	Divorced/Separated	15 (6.05%)
	Widowed	16 (6.45%)
Religion	Christianity	238 (95.97%)
	Traditional Religion	10 (4.03%)
Household Size	1–4	97 (39.11%)
	5–8	121 (48.79%)

	9 and above	30 (12.10%)
	Mean Household Size	**5.82**
Educational Level	No formal education	26 (10.48%)
	Primary education	58 (23.39%)
	Secondary education	102 (41.13%)
	Tertiary education	62 (25.00%)
Farm Size (ha)	<1	104 (48.00%)
	1–2	144 (52.00%)
	Mean Farm Size (ha)	**1.08**
Monthly Income (₦)	1–50,000	116 (46.77%)
	50,001–100,000	74 (29.84%)
	100,001–150,000	32 (12.90%)
	>150,000	26 (10.48%)
Primary Occupation	Farming	178 (71.77%)
	Civil service	24 (9.68%)
	Business/Trading	34 (13.71%)
	Others	12 (4.84%)
Years of Farming Experience	1–5	44 (17.74%)
	6–10	76 (30.64%)
	11–15	64 (25.81%)
	16–20	64 (25.81%)
Farm Ownership	Owned	186 (75.00%)
	Leased	34 (13.71%)
	Communal	28 (11.29%)
Access to Extension Services	Yes	124 (50.00%)
	No	124 (50.00%)

Source: Field Survey Data (2025)

Extent of Involvement in Livelihood Diversification Strategies by Smallholder Farmers

Table 1 shows that respondents engaged in multiple livelihood diversification strategies. Agro-processing ($\bar{x}$ = 2.47, Rank = 1), small-scale business ($\bar{x}$ = 2.37, Rank = 2), and livestock production ($\bar{x}$ = 2.28, Rank = 3) were the top three activities, while salaried jobs ($\bar{x}$ = 1.36, Rank = 11), seasonal migration ($\bar{x}$ = 1.45, Rank = 10), and paid labour ($\bar{x}$ = 1.66, Rank = 9) ranked lowest. These results indicate a strong preference for agro-based and small-enterprise livelihood options, suggesting that smallholder farmers rely mainly on activities closely linked to their agricultural base. The relatively low involvement in salaried employment and migration highlights the limited presence of formal employment opportunities and urban mobility among respondents.

The higher level of involvement in agro-processing, small-scale business, and livestock production reflects the adaptive behaviour of rural households seeking to supplement farm income and enhance livelihood stability. These activities are often closely linked to existing agricultural production systems and local market opportunities, making them more accessible to smallholder farmers. This observation supports the findings of Etuk (2020) and Okon et al. (2018), who reported that rural farmers often diversify into livelihood options that build upon available resources, skills, and market access. The relatively low involvement in salaried employment and seasonal migration may be attributed to limited formal employment opportunities and the uncertainties associated with migration, consistent with the observations of Bassey et al. (2022) and Victor (2025). The pattern of involvement across different activities suggests that farmers combine farm-based and non-farm livelihood options to enhance income stability, reduce vulnerability to agricultural risks, and improve household welfare. These diversification patterns also reflect the influence of factors such as gender roles, access to resources, and proximity to markets, as highlighted in previous studies conducted in Akwa Ibom State (Dimelu et al., 2020; Akpan et al., 2025).

Table 2a: Distribution of Respondents' Involvement in Livelihood Diversification Strategies in Akwa Ibom State

Livelihood Strategy	$\bar{x}$	Rank
Cash crops	2.17	4
Livestock	2.28	3
Fishing	1.78	8
Agro-processing	2.47	1
Non-farm activities	2.12	5
Seasonal migration	1.45	10
Paid labour	1.66	9
Small-scale business	2.37	2
Accessing credit/loans	2.04	6
Remittance	1.80	7
Salaried job	1.36	11

Source: Field Survey Data (2025)

As presented in Table 2b, the categorization of respondents based on their overall involvement in livelihood diversification strategies shows that the majority of farmers (47.18%) had a moderate level of involvement. A substantial proportion (37.50%) exhibited high involvement, while only 15.32% recorded low involvement. This distribution indicates that most smallholder farmers in the study area participate in several livelihood activities to varying degrees, combining farm and off-farm opportunities to strengthen household economic stability.

The predominance of moderate and high levels of involvement suggests that livelihood diversification has become an important coping and risk management strategy among smallholder farmers in Akwa Ibom State. Engaging in multiple livelihood options allows rural households to reduce dependence on a single source of income and improve their resilience to economic and environmental shocks. This finding is consistent with earlier studies by Etuk et al. (2019) and Okon et al. (2018), which reported that diversification plays a critical role in stabilizing rural incomes and enhancing household welfare. Farmers with higher levels of involvement in diversified activities are likely to benefit from broader income sources and improved adaptive capacity. Conversely, the relatively small proportion of farmers with low involvement may be constrained by factors such as limited access to capital, skills, or institutional support, echoing the observations of Bassey et al. (2022) and Victor (2025). Overall, the results highlight the importance of diversified livelihood engagement as a means of strengthening rural livelihood sustainability in the study area.

Table 2b: Categorization of Respondents' Overall Involvement in Livelihood Diversification Strategies in Akwa Ibom State

Involvement Category	Score Range (11 items × 3 = 33 max)	Percentage (n=248)
Low	11 – 18	15.32%
Moderate	19 – 26	47.18%
High	27 – 33	37.50%

Factors Influencing the Livelihood Diversification Strategies of Smallholder Farmers

The multiple regression analysis (Table 3) identified several factors significantly influencing livelihood diversification strategies among smallholder farmers in Akwa Ibom State. The model recorded an adjusted R^2 of 0.654, indicating that about 65.4% of the variation in livelihood diversification strategies was explained by the variables included in the model. The F-statistic was significant at 1% ($p < 0.001$), confirming the overall model fit.

Sex had a positive and significant relationship with livelihood diversification ($p < 0.05$), suggesting that male farmers were more likely to diversify their livelihoods than females. Age was negatively significant ($p < 0.01$), implying that younger farmers engaged more in livelihood diversification than older counterparts. Household size, education, farm size, monthly income, farm ownership, access to extension, and access to credit were all positively and significantly associated with livelihood diversification ($p < 0.05$). This indicates that better resource endowment, institutional support, and higher socioeconomic capacity increased the likelihood of engaging in multiple livelihood activities. Conversely, structural/economic and institutional/support constraints exhibited significant negative relationships ($p < 0.01$), implying that higher constraint levels reduced diversification intensity. Perceived benefits score showed a strong positive influence ($p < 0.01$), indicating that farmers who perceived greater benefits from diversification were more inclined to adopt multiple income-generating strategies.

The regression results demonstrate that livelihood diversification among smallholder farmers in Akwa Ibom State is shaped by both socioeconomic and institutional factors. The positive influence of

education aligns with the view that more educated farmers are better equipped to identify and engage in viable income-generating activities (Chinalurum *et al*., 2024). Education improves managerial capacity and information use, thereby fostering innovation and non-farm participation. This trend is consistent with Akintunde *et al*. (2022), who found that education significantly enhances diversification decisions among farming households in Osun State.

The positive and significant coefficient of household size implies that larger households possess greater labour availability to engage in multiple livelihood activities, a pattern similarly observed by Yakubu *et al*. (2024) in Kaduna State. Moreover, increased household income encourages investment in alternative enterprises, corroborating the findings of Bassey *et al*. (2022) who reported that income positively affects participation in off-farm ventures in Akwa Ibom State.

Access to credit and extension services also emerged as key drivers of diversification. These institutional supports provide capital and technical knowledge needed for the adoption of diverse livelihood options. This finding is in line with Makate *et al*. (2019) and Elum and Obiajunwa (2022) who emphasized that synergy between credit and extension enhances farmers' capacity to expand livelihood portfolios. Similarly, Ifeanyi-Obi and Uloh (2025) highlighted the importance of accessible credit sources in empowering smallholder farmers to venture into complementary income-generating activities.

Farm ownership positively influenced diversification, indicating that farmers with secure land tenure are more willing to explore diversified production and non-farm activities, consistent with Akinyemi *et al*. (2021). In contrast, the negative relationship between age and diversification suggests that younger farmers are more inclined toward livelihood expansion, reflecting higher risk-taking tendencies and adaptability, as observed by Dimelu *et al*. (2020).

Furthermore, structural and institutional constraints had adverse effects on diversification, signifying that infrastructural deficiencies and limited support systems hinder farmers' ability to diversify effectively. Similar results were reported by Onyim *et al*. (2021), who found that inadequate rural infrastructure restricts livelihood diversification opportunities. Conversely, perceived benefits of diversification positively influenced farmers' decisions, implying that those who recognized tangible welfare gains from multiple livelihood sources were more committed to diversification, in line with findings by Echebiri (2017).

Overall, the findings confirm that enhancing access to education, extension, credit, and supportive institutional frameworks can strengthen livelihood diversification among smallholder farmers in Akwa Ibom State. These outcomes reinforce earlier conclusions by Udoh *et al*. (2017) that improving sustainable livelihood assets remains critical for strengthening the adaptive capacity and resilience of farming households in the region.

Table 3: Multiple Regression Results of Factors Influencing Livelihood Diversification Strategies Among Smallholder Farmers in Akwa Ibom State

Variable	B	SE	Sig.
Sex (1 = Male)	0.125	0.052	0.018**
Age (Years)	-0.049	0.015	0.002***
Household Size	0.072	0.019	0.000***
Education (Years)	0.096	0.027	0.000***
Farm Size (ha)	0.084	0.032	0.010**
Monthly Income (₦)	0.151	0.037	0.000***
Farm Ownership (1 = Owned)	0.109	0.042	0.011**
Access to Extension (1 = Yes)	0.148	0.047	0.002***
Access to Credit (1 = Yes)	0.134	0.045	0.003***
Structural/Economic Constraints Score	-0.085	0.030	0.005***
Institutional/Support Constraints Score	-0.078	0.028	0.006***
Perceived Benefits Score	0.162	0.043	0.000***
Constant	**1.324**	**0.285**	**0.000***

Model Summary:

Total Sample: $R^2 = 0.671$; Adjusted $R^2 = 0.654$; $F = 39.28$; $p < 0.001$

Rural Subsample: $R^2 = 0.692$; Adjusted $R^2 = 0.671$; $F = 33.15$; $p < 0.001$

Urban Subsample: $R^2 = 0.648$; Adjusted $R^2 = 0.628$; $F = 31.04$; $p < 0.001$

Note: SE = Standard Error; Sig. = Significance level. ***Significant at 1%, **Significant at 5%, *Significant at 10%.

Source: SPSS Version 25 Output (2025).

Conclusion and Recommendations

The study revealed that smallholder farmers in Akwa Ibom State participate in varying levels of livelihood diversification strategies, with agro-processing, small-scale business/trading, and livestock production showing the highest extent of involvement among respondents. Diversification is shaped by socio-economic factors such as education, household size,

income, and farm ownership, as well as institutional support including access to credit and extension services. Constraints, both structural and institutional, limit diversification opportunities, while perceived benefits of multiple income sources encourage engagement in diverse activities. Overall, livelihood diversification serves as a critical strategy for enhancing household resilience, reducing dependency on single income sources, and improving welfare among smallholder farmers in the State. Based on the findings, the following recommendations are proposed:

1. The Akwa Ibom State Ministry of Agriculture and Rural Development should strengthen capacity-building and adult education programmes targeted at farmers with low educational attainment to enhance their capacity to participate more actively in diversified livelihood activities and manage multiple income sources effectively.
2. Agricultural extension services should provide technical support and training on agro-processing, livestock production, and small-scale enterprise development to increase farmers' level of involvement in productive livelihood diversification activities.
3. Financial institutions and extension agencies should expand access to credit facilities and advisory services, particularly for farmers experiencing structural and institutional constraints, in order to improve their level of participation in multiple income-generating activities and enhance household resilience.
4. Policymakers should formulate and implement supportive policies that address infrastructural challenges, improve market access, and encourage greater farmer involvement in profitable diversified livelihood activities across rural communities.

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