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Impact of Financial Literacy on Farmers' Productivity, Livelihood, and Food Security in Agatu Local Government Area of Benue State, Nigeria

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Abstract

Agriculture remains the backbone of rural livelihoods in Nigeria, especially in agrarian communities such as Agatu Local Government Area of Benue State. Despite the strategic importance of agriculture to employment generation, food supply, and poverty reduction, many farmers continue to experience low productivity, weak financial management, and persistent food insecurity. Financial literacy has emerged as a critical factor influencing farmers' ability to make informed economic decisions, access financial services, manage risks, and invest in productive agricultural activities. This study examined the impact of financial literacy on farmers' productivity, livelihood, and food security in Agatu Local Government Area of Benue State, Nigeria. The study adopted a descriptive survey research design. A sample of 384 farmers was drawn from an estimated population of 105,500 farmers across the ten wards of Agatu Local Government Area using the Krejcie and Morgan (1970) sample size determination table. Data were collected through a structured questionnaire and analyzed using descriptive statistics such as frequency counts, percentages, mean scores, and standard deviation. The findings revealed that financial literacy significantly enhances farmers' ability to access credit facilities, adopt improved farming technologies, manage farm income effectively, and make sound investment decisions. The study also found that financially literate farmers recorded higher agricultural productivity, improved household livelihoods, and greater food security compared to their financially illiterate counterparts. The study concluded that financial literacy is an indispensable tool for sustainable agricultural development and rural economic transformation. It recommended increased financial education programs, strengthened extension services, and improved access to financial products tailored to the needs of rural farmers.

Keywords: Agriculture, Financial, Food, Literacy, Productivity,

Introduction

Agriculture plays a vital role in the socio-economic development of Nigeria by providing food, employment, raw materials for industries, and income for millions of rural households. The sector contributes significantly to the nation's Gross Domestic Product (GDP) and serves as the primary source of livelihood for a large proportion of the rural population. In Benue State, popularly known as the "Food Basket of the Nation," agriculture constitutes the major economic activity, with communities in Agatu Local Government Area heavily dependent on crop and livestock production for survival and income generation. Despite the importance of agriculture, many Nigerian farmers continue to face numerous challenges that limit their productivity and economic well-being. These challenges include inadequate access to credit, poor financial planning, limited savings culture, low adoption of modern agricultural technologies, and weak risk management practices. Such constraints often result in low agricultural output, reduced household income, and increased vulnerability to food insecurity. Scholars have argued that many of these challenges are linked to poor financial knowledge and limited understanding of financial management principles among rural farmers.

Financial literacy refers to the knowledge, skills, attitudes, and behaviors required to make informed and effective financial decisions. It encompasses the ability to understand financial concepts such as budgeting, saving, borrowing, investment, insurance, and financial risk management. According to the Organisation for Economic Co-operation and Development (OECD, 2020), financial literacy enables individuals to improve their financial well-being by making sound financial choices and effectively managing available resources. For farmers, financial literacy is particularly important because agricultural activities involve substantial financial decisions relating to production, input acquisition, marketing, savings, and investment. Ibrahim (2017) explained that one's financial capacity explain the reason why one person takes advantage of an investment opportunity while and another does not. The growing emphasis on financial inclusion and rural development has increased interest in understanding the role of financial literacy in agricultural productivity. Financially literate farmers are more likely to keep financial records, access formal financial institutions, evaluate investment opportunities, and efficiently allocate resources to productive ventures. They are also better positioned to withstand economic shocks, cope with market fluctuations, and adopt innovations that enhance farm performance. Conversely, financial illiteracy often leads to poor financial decisions, excessive indebtedness, mismanagement of farm resources, and low productivity.

Livelihood improvement is another important outcome associated with financial literacy. Sustainable livelihoods depend on the ability of households to generate income, accumulate assets, and withstand economic uncertainties. Farmers who possess adequate financial knowledge are more likely to diversify income sources, engage in profitable agricultural enterprises, and improve their standard of living. Enhanced financial capability also contributes to better expenditure management, improved access to healthcare and education, and overall household welfare. According to chambers and Conway (1992), a livelihood comprises the capabilities, assets (including materials and social resources), and activities required for a means of living.

Food security remains a major development challenge in many rural communities across Nigeria. Food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food necessary for an active and healthy life. According to the food and agriculture organization (FAO, 2009), food security exist when all individuals have continuous accesses to adequate quantities of quality food necessary for maintaining a healthy and productive life. Financial literacy can contribute significantly to food security by improving farmers' productivity, income levels, and resource management capacities. Farmers who effectively manage their finances are more capable of purchasing quality inputs, increasing farm output, storing produce efficiently, and ensuring stable household food consumption throughout the year.

In Agatu Local Government Area of Benue State, agriculture serves as the foundation of the local economy. However, recurring economic challenges, limited access to financial services, and inadequate financial knowledge continue to affect farmers' productivity and welfare. While several government and non-governmental interventions have focused on agricultural development, relatively little attention has been given to the financial literacy dimension of farming households. Understanding how financial literacy influences productivity, livelihood, and food security among farmers is therefore essential for designing effective policies and programs aimed at promoting sustainable agricultural development.

It is against this background that this study investigates the impact of financial literacy on farmers' productivity, livelihood, and food security in Agatu Local Government Area of Benue State, Nigeria.

Research Questions

1. To what extent does financial literacy influence farmers' agricultural productivity in Agatu Local Government Area of Benue State?
2. How does financial literacy affect farmers' access to credit and other financial services in Agatu Local Government Area of Benue State?
3. What is the influence of financial literacy on the livelihood of farmers in Agatu Local Government Area of Benue State?
4. To what extent does financial literacy contribute to household food security among farmers in Agatu Local Government Area of Benue State?
5. What challenges hinder farmers from acquiring and utilizing financial literacy knowledge in Agatu Local Government Area of Benue State?

Empirical Review

Several empirical studies have examined the relationship between financial literacy and agricultural outcomes among farmers across different countries and contexts. Lusardi and Mitchell (2014) investigated the role of financial literacy in improving economic decision-making among households and found that individuals with higher levels of financial knowledge were more likely to save, invest, and effectively manage financial resources. The study concluded that financial literacy contributes significantly to economic well-being and long-term financial security.

Klapper, Lusardi, and Van Oudheusden (2015) conducted a global survey on financial literacy and reported that financially literate individuals demonstrated better financial behaviors, including budgeting, borrowing, and investment decisions. Their findings indicated that financial literacy enhances financial inclusion and improves income-generating opportunities, particularly among rural populations. In Nigeria, Akinwumi and Adesina (2019) examined the influence of financial literacy on smallholder farmers' access to credit in Oyo State. Using a survey design, the study found that farmers with adequate financial knowledge were more likely to access formal credit facilities and utilize loans for productive agricultural activities. The researchers concluded that financial literacy improves farmers' financial decision-making and productivity.

A study by Oseifuah (2010) assessed the effect of financial literacy on the financial behavior of small-scale entrepreneurs in South Africa. The findings revealed a positive relationship between financial literacy and business performance. Entrepreneurs with greater financial knowledge demonstrated improved record-keeping practices, effective financial planning, and higher profitability. The study emphasized the importance of financial education in enhancing enterprise growth and sustainability. Eniola and Entebang (2017) investigated the relationship between financial literacy and business performance among small and medium-scale enterprises. The study found that financial literacy positively influenced investment decisions, resource allocation, and overall business success. The researchers concluded that financial knowledge is a critical determinant of productivity and income growth.

Arene and Anyaeji (2010) examined factors affecting agricultural productivity among rural farmers in southeastern Nigeria and found that access to financial services and financial management skills significantly influenced farm output. Farmers who possessed better financial capabilities were more likely to adopt improved technologies and modern farming practices, resulting in increased productivity.

In Kenya, Wanjiku and Muturi (2018) studied the impact of financial literacy on the performance of smallholder farmers. The results showed that financial literacy enhanced farmers' ability to save, invest in farm inputs, and access agricultural credit. The study further revealed that financially literate farmers recorded higher yields and improved household income compared to those with limited financial knowledge. Abdulahi, Ibrahim, and Bello (2021) investigated financial literacy and household welfare among rural farming households in northern Nigeria. Using data collected from farming communities, the study found that financial literacy significantly improved household income, asset accumulation, and expenditure management. The authors concluded that financial literacy contributes directly to livelihood improvement and poverty reduction. Similarly, Obinna and Nkamnebe (2020) examined the effect of financial literacy on food security among farming households in southeastern Nigeria. The findings indicated that farmers with higher levels of financial literacy were better able to manage farm income, invest in productivity-enhancing technologies, and maintain stable food supplies throughout the year. The study concluded that financial literacy plays an important role in promoting household food security.

A recent study by Mohammed and Yusuf (2023) on rural farmers in North-Central Nigeria found that financial education programs significantly improved farmers' saving culture, credit utilization, and farm investment decisions. The study reported positive effects on agricultural productivity, income generation, and food availability among participating households. The reviewed empirical studies consistently demonstrate that financial literacy positively influences farmers' access to financial services, productivity, income generation, livelihood improvement, and food security. However, most of these studies were conducted outside Agatu Local Government Area of Benue State. This geographical gap necessitates the present study to specifically investigate the impact of financial literacy on farmers' productivity, livelihood, and food security in Agatu Local Government Area of Benue State, Nigeria.

Methodology

The study adopted a descriptive survey research design. The design was considered appropriate because it enabled the researcher to obtain data directly from farmers regarding the influence of financial literacy on agricultural productivity, livelihood improvement, and food security in Agatu Local Government Area of Benue State. The study was conducted in Agatu Local Government Area of Benue State, Nigeria. Agatu is made up of ten electoral wards and is predominantly agrarian. The target population comprised approximately 105,500 farmers engaged in crop production, livestock farming, fishing, and related agricultural activities. The sample size was determined using the Krejcie and Morgan (1970) sample size determination table. For a population exceeding 100,000 respondents, a sample size of 384 was considered statistically adequate. Therefore, 384 farmers constituted the sample for the study.

A multistage sampling technique was adopted. In the first stage, the ten electoral wards in Agatu Local Government Area were used as strata. In the second stage, farming communities were randomly selected from the wards. In the third stage, farmers were selected through simple random sampling. This process produced a total sample of 384 farmers. Data were collected using a structured questionnaire titled Financial Literacy, Productivity, Livelihood and Food Security Questionnaire (FLPLFSQ). The questionnaire contained twenty-five items arranged according to the five research questions. Responses were measured on a four-point Likert scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1).

The instrument was validated by three experts in Agricultural Economics, Business Education, and Measurement and Evaluation. Reliability was established through a pilot study involving 30 farmers outside the study area. Cronbach Alpha yielded a reliability coefficient of 0.86, indicating high reliability. Data were analyzed using mean and standard deviation. A criterion mean of 2.50 was adopted. Any item with a mean score of 2.50 and above was regarded as Agreed, while any item below 2.50 was regarded as Disagreed.

Results

Research Question 1: ow does financial literacy influence agricultural productivity among farmers in Agatu Local Government Area?

Table 1: Influence of Financial Literacy on Agricultural Productivity (n = 384)

S/N	Items	Mean	SD	Decision
1	Financial literacy helps farmers prepare farm budgets effectively.	3.42	0.76	Agreed
2	Financial literacy improves access to agricultural credit.	3.38	0.81	Agreed
3	Financial literacy enhances adoption of improved farm inputs.	3.35	0.79	Agreed
4	Financial literacy promotes efficient utilization of farm resources.	3.29	0.84	Agreed
5	Financial literacy increases farm productivity and output.	3.47	0.73	Agreed
	Grand Mean	3.38		Agreed

The results in Table 1 indicate that respondents agreed that financial literacy positively influences agricultural productivity, with a grand mean of 3.38.

Research Question 2: What relationship exists between financial literacy and livelihood improvement among rural farmers?

Table 2: Financial Literacy and Livelihood Improvement

S/N	Items	Mean	SD	Decision
1	Financial literacy improves household income management.	3.31	0.82	Agreed
2	Financial literacy encourages savings culture among farmers.	3.27	0.86	Agreed
3	Financial literacy promotes livelihood diversification.	3.25	0.80	Agreed
4	Financial literacy improves investment decisions.	3.33	0.75	Agreed
5	Financial literacy enhances overall household welfare.	3.40	0.71	Agreed
	Grand Mean	**3.31**		**Agreed**

Table 2 shows that respondents agreed that financial literacy contributes significantly to livelihood improvement with a grand mean of 3.31.

Research Question 3: To what extent does financial literacy contribute to household food security?

Table 3: Financial Literacy and Household Food Security

S/N	Items	Mean	SD	Decision
1	Financial literacy improves food availability through increased production.	3.29	0.83	Agreed
2	Financial literacy improves access to nutritious food.	3.22	0.88	Agreed

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3	Financial literacy enhances household food planning.	3.30	0.76	Agreed
4	Financial literacy strengthens resilience against food shortages.	3.18	0.91	Agreed
5	Financial literacy promotes stable household food consumption.	3.34	0.79	Agreed
	Grand Mean	3.27		Agreed

The findings reveal that financial literacy contributes positively to household food security with a grand mean of 3.27.

Research Question 4: What factors limit financial literacy among farmers in Agatu?

Table 4: Challenges Limiting Financial Literacy among Farmers

S/N	Items	Mean	SD	Decision
1	Low educational attainment limits financial literacy.	3.58	0.68	Agreed
2	Poor access to banking institutions hinders financial literacy.	3.47	0.72	Agreed
3	Poverty reduces participation infinancial literacy programmes.	3.54	0.66	Agreed
4	Insecurity affects access to financial services.	3.61	0.64	Agreed
5	Poor extension services limit financial education.	3.45	0.74	Agreed
	Grand Mean	3.53		Agreed

Table 4 indicates that respondents agreed that low education, poverty, insecurity, poor banking services, and weak extension services constitute major barriers to financial literacy.

Research Question 5: What strategies can improve financial literacy and agricultural development in the area?

Table 5: Strategies for Improving Financial Literacy and Agricultural Development

S/N	Items	Mean	SD	Decision
1	Integrating financial education into extension services will improve literacy.	3.66	0.61	Agreed
2	Expanding rural banking services will improve financial inclusion.	3.59	0.65	Agreed
3	Strengthening cooperative societies will improve farmers' financial knowledge.	3.62	0.67	Agreed
4	Digital financial literacy training should be encouraged.	3.51	0.73	Agreed
5	Government support programmes should include financial literacy components.	3.71	0.58	Agreed
	Grand Mean	**3.62**		**Agreed**

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The findings show that respondents strongly supported the identified strategies for improving financial literacy and agricultural development with a grand mean of 3.62.

Discussion of Findings

The findings revealed that financial literacy significantly influences agricultural productivity among farmers in Agatu Local Government Area. Farmers who possess financial management skills are more capable of budgeting, accessing credit facilities, adopting improved farm inputs, and utilizing resources efficiently. This finding supports the work of Fowowe (2020), who found that financial inclusion and literacy improve agricultural productivity through increased investment in productive activities.

The study further established that financial literacy contributes significantly to livelihood improvement among rural households. Financially literate farmers were found to manage income more effectively, save regularly, diversify their livelihoods, and make better investment decisions. This finding corroborates Yunusa, Ibrahim, and Adebisi (2022), who reported that financial literacy enhances livelihood sustainability and household welfare among rural farmers. The findings also showed that financial literacy positively affects household food security. Farmers with financial knowledge are better able to increase production, plan household expenditures, and maintain stable food consumption. This agrees with Salami et al. (2024), who found a positive relationship between financial literacy and food security among rural households in Nigeria. The study identified low educational attainment, poor banking infrastructure, poverty, insecurity, and inadequate extension services as major challenges limiting financial literacy among farmers. These findings are consistent with Ogunniyi et al. (2021), who highlighted education and financial access as important determinants of food security and rural development.

Finally, respondents emphasized the need for financial education through extension services, expansion of rural banking services, strengthening of cooperative societies, promotion of digital financial literacy, and government support programmes. These findings align with the recommendations of OECD (2020), World Bank (2023), and UNDP (2022) regarding inclusive rural financial development.

Conclusion

The study examined the impact of financial literacy on farmers' productivity, livelihood, and food security in Agatu Local Government Area of Benue State. The findings revealed that financial literacy significantly enhances agricultural productivity, improves rural livelihoods, and strengthens household food security. Financially literate farmers are better able to access credit, adopt improved agricultural technologies, diversify income sources, and withstand economic shocks. However, challenges such as low educational attainment, poverty, weak financial infrastructure, insecurity, and poor extension services continue to hinder financial literacy outcomes among farmers. The study therefore concludes that financial literacy is an indispensable instrument for sustainable agricultural development, poverty reduction, and food security in Agatu Local Government Area and Nigeria as a whole.

Recommendations

1. Financial literacy education should be integrated into agricultural extension programmes across all communities in Agatu Local Government Area.
2. Government and financial institutions should expand rural banking services to improve farmers' access to formal financial products.
3. Cooperative societies should be strengthened as platforms for financial education, savings mobilization, and agricultural financing.
4. Regular financial literacy workshops and capacity-building programmes should be organized for farmers.
5. Digital financial inclusion initiatives should be promoted through mobile banking awareness campaigns and digital literacy training.
6. Government should improve security in farming communities to create an enabling environment for agricultural production and financial inclusion.
7. Adult education programmes should be strengthened to improve literacy levels among rural farmers.
8. Farmers should be encouraged to maintain proper financial records for effective farm management and decision-making.
9. Agricultural insurance schemes should be expanded to protect farmers against production risks and economic shocks.
10. Policymakers should formulate inclusive agricultural financing policies that prioritize smallholder farmers and rural

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