Journal of Rural and Community Development

Financial Literacy of Rural Farming Households In Kwara State, Nigeria: A Guide for Financial Inclusion

Authors: Abraham Falola, Toyin Samuel Olowogbon, Ridwan Mukaila, Olaoluwa Samuel Ayodele, & Femi Ibrahim

Citation:
Falola, A., Olowogbon, T. S., Mukaila, R., Ayodele, O. S., & Ibrahim, F. (2023). Financial literacy of rural farming households in Kwara State, Nigeria: A guide for financial inclusion. *Journal of Rural and Community Development*, *18*(3), 1–20.

Publisher:
Rural Development Institute, Brandon University.

Editor:
Dr. Doug Ramsey

ISSN: 1712-8277 © Authors
www.jrcd.ca

Financial Literacy of Rural Farming Households in Kwara State, Nigeria: A Guide for Financial Inclusion

Abraham Falola
University of Ilorin
Ilorin, Nigeria
falola.a@unilorin.edu.ng

Toyin Samuel Olowogbon
University of Ilorin
Ilorin, Nigeria
Olowogbotoyin@yahoo.com

Ridwan Mukaila
University of Nigeria
Nsukka, Nigeria
ridwan.mukaila@unn.edu.ng

Olaoluwa Samuel Ayodele
University of Ilorin
Ilorin, Nigeria
samuellayod@gmail.com

Femi Ibrahim
Agricultural and Rural Management Training Institute (ARMTI)
Ilorin, Nigeria
femiibrahimmm@yahoo.com

Abstract

Financial literacy among farming households is an important factor in making headway in agriculture. However, the lack of in-depth knowledge about the level of financial literacy among rural farmers poses a great challenge to agricultural development. Therefore, this study assessed the financial literacy rate among rural farming households in Kwara State, Nigeria. Data were collected from 210 rural farming households, selected through random sampling techniques, and a structured questionnaire was used. Descriptive statistics, the Likert rating scale, a multiple regression model, and Garrett's ranking technique were used to analyze the data. The study revealed that the radio was the most widely used source of information on financial literacy among farming households. It also revealed that the significant factors that influenced the level of financial literacy among the farmers were age, sex, educational level, training in financial management, distance to the nearest financial institution and number of dependants in the household. Besides, the farmers perceived that the major constraints to their level of financial literacy were: inadequate knowledge about financial products and services; psychological influence; poor banking system; political instability and insecurity. This study, therefore, recommends that measures should be put in place to improve the financial literacy of rural farming households.

Keywords: constraints, financial literacy; financial inclusion; factors; rural farming households

Littératie financière des ménages agricoles ruraux dans l'État de Kwara, au Nigéria : un guide pour l'inclusion financière

Abraham Falola
University of Ilorin
Ilorin, Nigeria
falola.a@unilorin.edu.ng

Toyin Samuel Olowogbon
University of Ilorin
Ilorin, Nigeria
Olowogbotoyin@yahoo.com

Ridwan Mukaila
University of Nigeria
Nsukka, Nigeria
ridwan.mukaila@unn.edu.ng

Olaoluwa Samuel Ayodele
University of Ilorin
Ilorin, Nigeria
samuellayod@gmail.com

Femi Ibrahim
Agricultural and Rural Management Training Institute (ARMTI)
Ilorin, Nigeria
femiibrahimmm@yahoo.com

Résumé

La littératie financière des ménages agricoles est un facteur important pour progresser dans l'agriculture. Cependant, le manque de connaissances approfondies sur le niveau de littératie financière parmi les agriculteurs ruraux pose un grand défi au développement agricole. Par conséquent, cette étude a évalué le taux de littératie financière des ménages agricoles ruraux de l'État de Kwara, au Nigéria. Les données ont été recueillies auprès de 210 ménages agricoles ruraux, sélectionnés à l'aide de techniques d'échantillonnage aléatoires, et un questionnaire structuré a été utilisé. Des statistiques descriptives, l'échelle d'évaluation de Likert, un modèle de régression multiple et la technique de classement de Garrett ont été utilisés pour analyser les données. L'étude a révélé que la radio était la source d'information la plus largement utilisée en matière de littératie financière parmi les ménages agricoles. Elle a aussi révélé que les facteurs importants qui influençaient le niveau de littératie financière chez les agriculteurs étaient l'âge, le sexe, le niveau de scolarité, la formation en gestion financière, la distance par rapport à l'institution financière la plus proche et le nombre de personnes à charge dans le ménage. En outre, les agriculteurs ont perçu que les principales contraintes à leur niveau de littératie financière étaient: une connaissance insuffisante des produits et services financiers; une influence psychologique; un système bancaire insuffisant; l'instabilité et l'insécurité politiques. Cette étude recommande donc que des mesures soient mises en place pour améliorer la littératie financière des ménages agricoles ruraux.

Mots-clés : contraintes, littératie financière; l'inclusion financière; facteurs; ménages agricoles ruraux

1.0 Introduction

The role of finance in agriculture cannot be overemphasized. Its availability is important for improved production of agricultural commodities, increased income, as well as improved productivity and efficiency (Ademola, 2019; Falola et al., 2022; Lusardi & Mitchell, 2014). Previous studies have identified various sources of finance that are available to farm households (Huston, 2010; Ademola, 2019). However, a lack of finance or inappropriate utilization can deter the intended sustainable development in the agricultural sector. Therefore, this calls for the need for financial literacy, especially among rural households, which form the majority of farmers in Sub-Saharan Africa (Deininger et al., 2017; Nolte & Sipangule, 2017; Moyo, 2016).

This study considers financial literacy as a combination of behaviour, attitude, awareness, skills, and knowledge required by a farmer (individual) to make wise financial decisions to achieve desired financial well-being. Financial literacy can play an important role among farming households, especially those in rural areas. This is due not only to the fact that they serve as food producers for all economies but also to the scarcity of funds, as well as other resources, required for effective farm management and improved agricultural growth. In other words, financial literacy has the potential to provide farmers with a stream of benefits that will make agricultural production more encouraging or simply more expansive. Besides, as the financial system becomes increasingly sophisticated (Atakora, 2013), farmers require a good understanding of financial information as well as other relevant information provided by financial institutions. This could be achieved through appropriate financial behaviour.

Finance is an important ingredient of every successful agribusiness. Like any other resource, it is limited in supply in agriculture. This calls for the need for farming households, especially those in rural areas, to be financially literate in order to make headway in their ventures. Meanwhile, development efforts in recent times have focused on the financial inclusion of rural dwellers, who are mostly poor and financially excluded farmers. Despite the importance of financial literacy among people, several studies around the world have shown that much of the world's population still suffers from financial illiteracy (Lusardi & Mitchell, 2011; Atkinson & Messy, 2012; Fernandes et al., 2014; World Bank, 2014; Boisclair et al., 2017). However, most previous studies on financial literacy did not concentrate on rural general farming households, mostly urban (Alessie et al., 2011; Atakora, 2013; Atkinson & Messy, 2012; Boisclair et al., 2017; Fernandes et al., 2014; Lusardi & Mitchell, 2007; Lusardi et al., 2009; Lusardi & Mitchell, 2011; Lusardi & Mitchell, 2014; Mandell, 2007; Oppong-Boakye & Kansanba, 2013; Schagen & Lines, 1996; Van Rooij et al., 2012; Wachira & Kihiu, 2012). This study contributes to the literature by focusing on how smallholder farmers in Nigeria assess and use financial products and investigating the driving factors of their financial literacy.

Formulating relevant policies that will address this menace of financial illiteracy among rural farming households requires a deep understanding of their level of financial literacy and the factors responsible for this level. Hence, the main objective of this study is to assess the level of financial literacy among rural farming households in Kwara State, Nigeria. To have a comprehensive understanding of financial literacy among rural dwellers, the study specifically (i) identified the sources of information on financial literacy available to the rural farming households; (ii) assessed the knowledge and usage of financial products by the farmers (iii) identified the perceived benefits of financial literacy to farming households; (iv) examined the determinants of financial literacy among

farming households; and (v) identified the constraints to financial literacy among farming households.

2.0 Materials and Methods

2.1 Study Area

Kwara State, Nigeria, was the study area. Kwara State is located in the north-central part of Nigeria. It lies between latitudes 7045'N and 9030'N and longitudes 2030'E and 6035'E. The mainstay of the economy of the state is agriculture. The predominant crops grown are rice, maize, cowpea, yam, cassava, sorghum, and groundnut. The Agricultural Development Project grouped Kwara State into four zones (A, B, C, and D) based on agro-ecological features. Each zone is made up of blocks that are composed of farming communities (Kwara State Government, 2010).

2.2 Study Type and Instrument

This study was a descriptive cross-sectional survey designed to source information on financial literacy among rural farming households in the state. A structured questionnaire was used to collect data from rural farming households. The questionnaire contained several questions, proposed by Van Rooij et al. (2012) and Lusardi and Mitchell (2011), such as respondents' knowledge of how to prepare a budget plan, knowledge about interest offered on deposit, planning for old age, recording of farm income and expenses, knowledge of how to calculate interest rate from credit or loan obtained, among others.

2.3 Sampling Design

The study population comprises the rural farming households in the four agro-ecological zones of the state. The respondents were selected using a three-stage sampling technique. First, 50% of the blocks in each of the four zones were randomly selected. In the second stage, three farming communities were randomly selected from each of the selected blocks. Thereafter, six farming households were randomly selected from each community. This gave a sample size of 210 respondents (see Table 1).

Table 1. *Sampling Design for the Study*

Zones	**Existing no of blocks**	**No of blocks selected**	**No of the communities selected**	**No of respondents**
A	4	2	6	36
*B	5	3	8	46
C	6	3	9	54
D	8	4	12	72
Total	**19**	**12**	**35**	**210**

Note: * No of blocks and communities selected were rounded off to the nearest whole number.

2.4 Data Analysis

Descriptive statistics, the Likert rating scale, multiple regression models, and Garrett's ranking technique were used to analyze the data. The sources of information on financial literacy available to the rural farming households, the knowledge and usage of financial products by the farmers, and the perceived benefits of financial literacy to farming households were all achieved using descriptive statistics such as mean, frequency, and percentage.

We modified the financial literacy measures employed by Van Rooij et al. (2012), Lusardi and Mitchell (2011), and Rieger (2020). The knowledge of interest rates, inflation, financial mathematics, risk diversification, and mathematics skills was simplified and extended to suit our study. The financial literacy score was computed from farmers' responses to preparing budget plans, calculating interest rates offered on deposit and credit, understanding the inflation-deflation concept, investing savings in other businesses, saving from profit, preparing one's mind to risk when saving, loan repayment, estimating bills, calculating profit, using loans for profitable business, operating a bank account, deducting tax from income, recording income and expenses, and planning well for old age. Each item was assigned a score based on the farmers' responses. Farmers who responded with always (5 scores), very often (4 scores), or fairly many times (3 scores) to the questions were classified as being financially literate, while those who responded with occasionally (2 scores) and never (1 score) were considered not financially literate. This decision was based on the mean score of 3 on a five-point Likert scale. The total score by each farmer makes the financial literacy score used in multiple regression.

Multiple regression was used to investigate the factors determining financial literacy among rural farmers. The multiple regression model used is fitted thus:

$$Y_i = \beta_0 + \beta_1 A + \beta_2 G + \beta_3 MS + \beta_4 E + \beta_5 I + \beta_6 HS + \beta_7 FT + \beta_8 D + \beta_9 ND + \beta_{10} PP + \varepsilon_i$$

Where Y_i = Financial scores of each respondent

β_0 = Intercept parameter

$\beta_1 \ldots \beta_{10}$ = Slope parameters

A = Age of respondent (years)

G = Gender of respondent (1 if farmer is a male =1, 0 if respondent is female)

MS = Marital status of respondent (1 if farmer is married, 0 if otherwise)

E = Educational level (No formal education = 1, Primary = 2, Secondary = 3, Tertiary = 4)

I = Income of respondent (₦)

HS = Household size (number)

FT = Financial management training (Yes = 1, No = 0)

D = Distance to the nearest financial institution (Km)

ND = Number of dependents

PP = Possession of piggy banks (Yes = 1, No = 0)

ε_i = Error term.

Garrett's ranking technique (GRT) was utilized to examine perceived constraints to financial literacy among rural farmers. The GRT arranges the order of constraints into numerical scores. It has the advantage of arranging constraints based on their importance compared to simple frequency distribution. Thus, constraints faced by rural farmers in financial literacy were arranged based on their severity as perceived by the farmers. The GRT ranking ranges from 1-5 per cent, and the position of each rank was obtained using the proportionality factor given by:

$$Percent\ position = \frac{100(R_{ij} - 0.5)}{N_{ij}}$$

Where:

R_{ij} = Rank given for ith variable by jth rural farmer

N_{ij} = Number of variables ranked by the jth rural farmer

The position of each rank gotten was converted into scores using the Garrett table (transmutation of orders of merit into scores or units of amount). Each constraint score of all farmers was added and then divided by the total number of farmers for the specific constraint faced.

3.0 Results and Discussion

3.1 Description of Socioeconomic Characteristics of Rural Farmers

The socioeconomic characteristics of the respondents are presented in Table 2. The majority of the respondents were males, constituting sixty per cent of the respondents. The modal age group was between 31 and 40 years. About 62 per cent of the farmers were below 40 years of age, and the mean age of the farmers was 40.35 years. This implies that the farmers were energetic and in their economic active age. This could enhance their productivity due to the energy-requiring nature of small-scale farming common in the area (Mukaila et al., 2020). In regard to the educational attainment of the respondents, 39.5% of the respondents had tertiary education (National Diploma from College), 32.9% had secondary education, and 11% completed only primary education, while 16.7% had no formal education. This suggests that the respondents had formal education. Educational exposure could increase access to information on agricultural financial management and enhance the decision-making process.

The percentage of respondents that were marries was 68.6%. The majority (87.6%) of the respondents had a household size of between five and eight members. The mean household size was seven people. The marital status and household size of a farmer largely determine the availability of family labour for farm activities. Household members serve as cheap family labour, which is the common means of labour employed among smallholder farmers to reduce production costs (Mukaila et al., 2021). The average number of dependent household members on a farmer's income was about four. This suggests that a larger part of the household size depends fully on farmers for their well-being. The dependent household members were children below 15 years of age and elderly people above 65 years of age. The main economic activity of most of the respondents was farming, which implies that farming is a major source of livelihood and income for rural households. The annual income of the majority of the farmers was above ₦200,000 (USD 486.62) with an average income of ₦272,333.5 (USD 662.61).

Table 2. *Socioeconomic Characteristics of the Farmers*

Characteristics	**Category**	**Percentage**	**Mean**
Gender	Male	60	
	Female	40	
Age	≤ 20	4.3	40.35
	21–30	28.1	
	31–40	30	
	41–50	13.8	
	51–60	11.9	
	Above 60	11.9	
Educational level	No Formal	16.7	
	Primary	11	
	Secondary	32.9	
	Tertiary	39.5	
Marital Status	Single	20	
	Married	68.6	
	Divorced	0.5	
	Widowed	11	
Household size	≤ 4	8.1	6.71
	5–8	87.6	
	> 8	4.3	
Number of dependents	≤ 5	88.6	3.85
	> 6	11.4	
Main economic activities	Farming	57.1	
	Civil service	16.7	
	Artisanship	10.5	
	Trading	15.7	
Annual income (₦)	100001–200000	49.5	272,333.5
	20001–300000	19	
	300001–400000	10	
	400001–500000	8.1	
	> 500000	13.3	

Note: USD1 = ₦410.99 in 2021
Source: Field survey, 2021.

3.2 Training and Sources of Information on Financial Literacy Available to the Rural Farmers

Table 3 presents the status of the farmers in the study area in regards to training as well as education on financial literacy. The sources of information on financial literacy being used by the farmers were also presented in the table. Table 3 reveales that only thirty-nine per cent of the farmers had

training in financial management, while 61% did not. This low financial management training exposure is an indicator of low financial literacy among rural households, which could affect farmers' financial decisions. About 45 per cent of the farmers had access to financial education. This suggests a low level of access to financial education among rural dwellers which could inhibit their financial inclusion and access to financial assistance. On the sources of information on financial literacy, the radio was rated first. This was followed by training or workshops, cooperative society, television, the internet, mobile phones, family and friends, and non-governmental organizations. Other sources of financial literacy among the farmers were newspapers, research institutes, agricultural pamphlets, and extension agents, all in order of decreasing importance.

Table 3. *Training and Sources of Information on Financial Literacy Available*

Variables	**Category**	**Percentage**
Ever attended training on financial management	Yes	39.0
	No	61.0
Access to financial education	Yes	44.8
	No	55.2
Sources of information on financial literacy	Television	31.0
	Radio	56.7
	Internet	20.5
	Newspaper	9.0
	Training /workshop	55.7
	Friends and family	19
	Cooperatives	48.6
	Mobile phone	19.5
	Non-Governmental Organizations	18.6
	Research institutes	8.6
	Extension agents	3.3
	Agricultural pamphlets	3.8

* Multiple responses allowed
Source: Field survey, 2021.

3.3 Knowledge and Usage of Financial Products by Farmers

The use of financial products or services by an individual may largely depend on their knowledge of such products. Individual knowledge of financial products, to an extent, will influence the choice of products. Table 4 presents the distribution of rural farmers by their knowledge and usage of financial products or services. A good proportion of the respondents were knowledgeable about saving, microcredit, shares or bonds, loans, debit cards, and insurance. However, only a few had knowledge of credit cards. Regarding the use of financial products, savings was the most widely used by the respondents. This was followed by microcredit, loans, debit cards, shares or bonds, and old age plans. Just a few of the respondents used

insurance, collateral-free loans, credit cards, and mortgage loans. The use of financial products or services by an individual may largely depend on his knowledge of such products. Individual knowledge of financial products, to an extent, will influence the choice of products. Table 4 presents the distribution of rural farmers by their knowledge and usage of financial products or services. A good proportion of the respondents were knowledgeable about saving, microcredit, shares or bonds, loans, debit cards, and insurance.

Table 4. *Knowledge and Usage of Financial Products by Respondents*

Financial variables	**Knowledge (Percentage)**	**Usage (Percentage)**
Share/bond	56.2	23.8
Savings	96.2	88.6
Insurance	34.8	6.2
Microcredit	66.7	49.0
Loan	52.9	39.5
Debit card	44.3	39.5
Collateral free loan	16.7	4.3
Credit card	12.9	1.9
Mortgage loan	14.3	1.9
Old age plan	24.3	11.9

Source: Field survey, 2021.

3.4 The Financial Attitude of the Rural Farmers

Table 5 shows the result of the financial attitude of the rural farmers. The majority of the respondents made financial decisions jointly with their partners monthly, and decisions were made based on cash flow statements. In the same vein, most of the respondents (79.5%) could calculate the profit from their farming activities. Meanwhile, 59 per cent of them kept records of expenses, while only about 49 per cent kept records of their farm income. A good number (51.4%) of the respondents saved their leftovers after deducting their expenses. Those who had ever taken credit among the farmers were 66.2 per cent. At the same time, about 32 per cent got their last credit from cooperatives, 1.9 per cent from banks, 12.9 per cent from family members, and 16.7 per cent from friends and neighbours. This implies that informal finance is the major source of credit among rural households. The major reasons for borrowing by the farmers were to expand their farm business, to pay for the education of children, to support household income, and to purchase land.

Table 5. *Financial Attitude of the Respondents*

Financial Variables	**Category**	**Percentage**
How are financial decisions made in the family	I decide by myself	21.0
	My partner decides by themselves	1.9
	Myself and my partner	43.8
	Jointly taken by family	29.0
	Myself and friends	4.3
How do you prepare your budget plan	Monthly	36.2
	Weekly	14.3
	Daily	15.2
	I don't prepare a budget at all	34.3
Decision-making tools	Budget	31.4
	Cash flow& budget	24.8
	Cash flow	40.0
	I don't have one	20.5
Decision on my leftovers after paying expenses	Save	51.4
	Spend	16.7
	Invest	32.0
Recording of farm income	Yes	48.6
	No	51.4
Recording of farm Expenses	Yes	59.0
	No	41.0
Income and expenses documentation	I remember how much I spend and earn	64.8
	I use a ledger or financial diary	22.4
	I keep the receipt of sales and purchases	9.0
Profit calculation	All money I get from sales is my profit	11.4
	I subtract expenses from total income	79.5
	I don't care, as long as I have money	8.6
	I don't know how to do this	0.5
Ever taken credit or a loan	Yes	66.2
	No	33.8
Place of last credit	Friends and neighbours	16.7
	Commercial banks	1.9
	Members of the family	12.9
	Moneylenders	4.3
	Cooperatives	31.9
What do you borrow for	To expand my farm business	49.5
	To build or purchase land	13.3

	To pay for the education of children	30.5
	To support household income	28.6
	For medical treatment in emergency	5.7
	For special commitments like wedding	10.0
	To on-lend to a family member	1.0
	For consumption of goods	6.2
	Just to have fun	2.9

Note: Multiple responses allowed
Source: Field survey, 2021.

3.5 Perceived Benefits of Financial Literacy by the Rural Farmers

Table 6 presents the benefits of financial literacy as perceived by rural farmers. The most important benefit of financial literacy to rural farming households was that it helped them save their money. This was followed by helping them with investing, reducing the poverty level, freeing up resources and plan for old age. Other important benefits of financial literacy, according to farmers, were debt management or avoidance of debt, stress reduction, wealth sustainability, and fraud risk reduction (listed in order) and that financial literacy has a lot of benefits and has contributed to farmers' economic status and well-being. These results agree with Wachira and Kihiu (2012), who found that financial literacy helps in developing strategies for managing financial problems.

Table 6. *Perceived Benefits of Financial Literacy by the Rural Farmers*

Variables	**S. A**	**A**	**U**	**A**	**S. D**	**Mean**
Save Money	85(40.5)	108(51.4)	7 (3.3)	5 (2.4)	5 (2.4)	4.25
Investment	73(34.8)	114(54.3)	17 (8.1)	2 (1)	4 (1.9)	4.19
Reduce poverty level	75(35.7)	113(53.8)	13 (6.2)	5 (2.4)	4 (1.9)	4.19
Free up resources	60(28.6)	133(63.3)	13 (6.2)	4 (1.9)	0 (0)	4.18
Plan for old age	61 (29)	132(62.9)	10 (4.8)	5 (2.4)	2 (1)	4.16
Manage or avoid debt	67(31.9)	100(47.6)	11 (5.2)	24(11.4)	8 (3.8)	3.92
Reduce stress	40 (19)	109(51.9)	44 (21)	14 (6.7)	3 (1.4)	3.8
Sustainability of wealth	40 (19)	79 (37.6)	69(32.9)	18 (8.6)	4 (1.9)	3.63
Reduce the risk of fraud	38(18.1)	65 (31)	25(11.9)	36(17.1)	46(21.9)	3.06

Note: (i) Figures in parentheses are in percentage. SA (strongly agree), A (agree), U (undecided), D (disagree), SD (strongly disagree)
(ii) Mean ≥ 3.0 is an important benefit.
Source: Field survey, 2021

3.6 Financial Behaviour and Financial Knowledge of Rural Farmers

Table 7 presents the financial behaviour and financial knowledge of rural farmers. The most widely practised financial behaviour among the respondents was a careful consideration of their purchasing power before buying an item. This was followed by farmers keeping a personal watch on their finances. Estimating bills on their own, calculating their profit, saving from their profit, using loans for profitable business, preparing their minds for risk when saving, planning well for old age, and planning well on how to repay loans were all financial behavioural practices among rural farmers that were ranked. The financial literacy scores of each farmer were determined, and the survey clearly shows that 86.6% of the sampled population scored below the mean score, leaving 13.3% of the financially literate population. This implies that the majority of the rural farming households were not financially literate. This high level of financial illiteracy among farmers could affect their financial inclusion.

Table 7. *Frequency of Using Financial Items by the Respondents*

Financial variables	**A**	**VO**	**FM**	**O**	**N**	**T**	**M**	**R**
Considering whether I can afford it	53 (25.2)	127 (60.5)	20 (9.5)	6 (2.9)	4(1.9)	849	4.04	1
Keeping a personal watch on my finances	26 (12.4)	112 (53.3)	53 (25.2)	13 (6.2)	6(2.9)	769	3.66	2
Estimating my bill by myself	38 (18.1)	86 (41)	58 (27.6)	20 (9.5)	8(3.8)	756	3.60	3
Calculating my profit	40 (19)	78 (37.1)	65 (31)	17 (8.1)	10(4.8)	751	3.57	4
Saving from my profit	35 (16.7)	51 (24.3)	58 (27.6)	43 (20.5)	23 (11)	662	3.15	5
Using a loan for a profitable business	36 (17.1)	68 (32.4)	35 (16.7)	29 (13.8)	42 (20)	657	3.13	6
Preparing my mind for risk when saving	21 (10)	72 (34.3)	46 (21.9)	54 (25.7)	17(8.1)	656	3.12	7
Planning well for old age	37 (17.6)	56 (26.7)	45 (21.4)	32 (15.2)	40 (19)	648	3.08	8
Planning well on how to repay the loan	33 (15.7)	82 (39)	17 (8.1)	14 (6.7)	64 (30.5)	636	3.02	9
Think before obtaining a loan	16 (7.6)	77 (36.7)	38 (18.1)	15 (7.1)	64 (30.5)	596	2.83	10

Find it more satisfying to save than to spend	34 (16.2)	29 (13.8)	41 (19.5)	79 (37.6)	27 (12.9)	594	2. 82	11
Investing savings in other business	23 (11)	60 (28.6)	37 (17.6)	36 (17.1)	54 (25.7)	592	2. 81	12
Striving to achieve a long-term goal	15 (7.1)	46 (21.9)	48 (22.9)	85 (40.5)	16(7. 6)	589	2. 8	13
Calculating interest offered on credit/loan	23 (11)	36 (17.1)	57 (27.1)	25 (11.9)	69 (32.9)	549	2. 61	14
Operating a bank account	35 (16.7)	32 (15.2)	38 (18.1)	23 (11)	82 (39)	545	2. 59	15
Knowing how to calculate the interest rate	18 (8.6)	44 (21)	41 (19.5)	38 (18.1)	69 (32.9)	534	2. 54	16
Recording my income and expenses	25 (11.9)	41 (19.5)	29 (13.8)	32 (15.2)	83 (39.5)	522	2. 49	17
Learning more about financial products	13 (6.2)	42 (20)	49 (23.3)	32 (15.2)	74 (35.2)	518	2. 46	18
Understanding inflation-deflation concept	21 (10)	23 (11)	45 (21.4)	57 (27.1)	64 (30.5)	510	2. 42	19
Preparing my budget plan	20 (9.5)	33 (15.7)	34 (16.2)	47 (22.4)	76 (36.2)	504	2. 4	20
Calculating interest offered on deposit	17 (8.1)	35 (16.7)	22 (10.5)	34 (16.2)	102(4 8.6)	461	2. 19	21
Deducting tax from income	15 (7.1)	23 (11)	24 (11.4)	16 (7.6)	132(6 2.9)	403	1. 91	22
Exchanging naira for other currency	18 (8.6)	18 (8.6)	17 (8.1)	17 (8.1)	140(6 6.7)	387	1. 84	23

Note: Figures in parentheses are in percentage
A, VO, FM, O and N are Always, Very often, Fairly many times, Occasionally and Never, respectively. T, M, and R are total, mean and rank, respectively.
Source: Field survey, 2021.

3.7 Drivers of the Financial Literacy Level of the Rural Farmers

Table 8 shows the factors determining financial literacy among farmers. The coefficient of multiple determinations (R^2) was 0.697, implying that the

explanatory variables in the model explain about 69.7% of the total variation in the financial literacy level among rural farming households. The result shows that the significant variables determining financial literacy were age, gender, educational level, financial management training, distance from the nearest financial institution, and the number of dependants in the family.

The coefficient of the age of rural farmers was positive and significant in determining financial literacy ($p<0.01$). An increase in farmers' age would increase their financial literacy score by 0.557. This implies that the older a farmer is, the more financially literate he or she is likely to be. In a typical rural setting, the age of the farmer is usually correlated with their farming experience (Sunny et al., 2018). Thus, the older a farmer is, the more likely he will have acquired experience over the years. This may have contributed to making wise decisions on financial matters. Besides, an older individual could be more financially literate in the quest to prepare for retirement (Alessie et al., 2011).

Being of the male gender also had a positive and statistically significant influence on financial literacy level at a 10% level of significance. The coefficient implies that being a male farmer increases the financial literacy score by 3.491. Men scoring higher in the financial variable question is an indication that rural men were more financially literate than rural women. In a typical African culture, men do not only serve as the breadwinners of their homes but also as the household heads in decision-making (Falola et al., 2020). This could explain why they are more financially literate than the women. This finding is also in tandem with Lusardi et al. (2009).

The level of education of the rural farmers was significant, with a positive coefficient in relation to the farmers' level of financial literacy ($P<0.01$). An increase in education level increases the financial literacy score by 4.841. This indicates that financial literacy increases with education level. This could be because education enhances farmers' ability to make accurate and meaningful management decisions. This agrees with the findings of Cole et al. (2011), who provide evidence that a higher level of schooling is related to a higher level of financial literacy.

Financial management training was also positively and statistically significant at a 1% level of significance in relation to farmers' level of financial literacy. The probability of accessing financial management training increased the financial literacy score by 15.254. This implies that financial training can have a positive impact by exposing farming households to relevant skills on how to make the right judgments when making decisions relating to financial matters. Farmers with financial management training were exposed to modern financial management practices, financial risk management, and how to source funds from formal financial institutions, among others. The more farming households are trained, the more they can make better financial decisions and be financially literate. This is in line with Kaiser et al. (2022) and Boyer et al. (2022), who recently found that financial education affects financial knowledge positively. Thus, financial management training is an important pathway to enhancing rural farmers' financial literacy.

The distance of rural farming households to financial institutions had a negative and significant effect on farmers' level of financial literacy ($P<0.01$). The coefficient indicates that an increase in the distance of rural farming households to financial institutions will decrease their financial literacy score by 7.764. This implies that the closer financial institutions are to farming households, the better their level of financial literacy. This may result from the fact that farming households in areas where there are such institutions will have access to various

financial facilities (Wulandari et al., 2017; Beck et al., 2007). This will contribute positively to their financial literacy level compared to those with low financial management opportunities.

The number of dependants in the households also had a significant positive effect in determining rural farmers' financial literacy level (P<0.01). The coefficient indicates that an increase in dependents will increase the financial literacy score by 1.165. This suggests that the higher the number of dependants in the household, the more financially literate a farmer will be. This might be due to the pursuit to meet the needs of the dependants within the limited financial resources that are available to the households (Falola et al., 2020).

Table 8. *Drivers of the Financial Literacy Level of The Rural Farmers*

Variables	**Coefficient**	**Standard error**	**t value**	**p-value**
Constant	23.845	4.391	5.430	0.000
Age	0.557***	0.146	3.815	0.009
Gender	3.491*	1.864	1.873	0.063
Marital status	0.173	1.897	0.091	0.927
Educational level	4.841***	0.955	5.069	0.000
Income	2.48E-05	2.61E-05	0.950	0.342
Household size	-0.276	0.235	-1.174	0.241
Training in financial management	15.254***	2.087	7.309	0.000
Distance from a financial institution	-7.764***	1.909	-4.067	0.000
Dependants	1.165***	0.27	4.315	0.000
Piggy bank	0.798	0.769	1.038	0.032
Prob>F	0.000			
R-Squared	0.697			
Adjusted-R2	0.682			
Root MSE	11.691			

Note: ***significant at 1%, ** significant at 5%, *significant at 10%;
Source: Field survey, 2021.

3.8 Constraints to Financial Literacy among Rural Farmers

Table 9 shows the constraints to financial literacy as perceived by the respondents. The most severe constraint to financial literacy, perceived by the farmers, was inadequate knowledge about financial products or services. Most of the farmers mentioned that they were unaware of the financial services they could access from financial institutions like banks. Other perceived barriers to financial literacy by farming households included psychological influences, a poor banking system, political instability and insecurity, insecurity in farm production, imitation of superior financial standards, a lack of mentorship, a long distance from financial institutions, and poor telecommunications services.

Table 9. *Garrett's Ranking of Perceived Constraints to The Financial Literacy of The Farmers*

Variables	1st -81	2nd -70	3rd -63	4th -57	5th -52	Total	Mean	R
Inadequate knowledge of financial products	84(6804)	86(6020)	16(1008)	13(741)	11(572)	15145	72.11	1
Psychological influences	66(5346)	93(6510)	16(1008)	28(1596)	7(364)	14824	70.59	2
Poor banking system	60(4860)	93(6510)	12(756)	37(2109)	8(416)	14651	69.76	3
Political instability and insecurity	57(4617)	92(6440)	19(1197)	32(1824)	10(520)	14598	69.51	4
Instability in farm production	47(3807)	84(5880)	15(945)	41(2337)	23(1196)	14165	67.45	5
Imitation of a superior standard	30(2430)	77(5390)	51(3213)	43(2451)	9(468)	13952	66.43	6
Lack of mentorship	23(1863)	60(4200)	18(1134)	68(3876)	41(2132)	13205	62.88	7
Long distance from financial institutions	28(2268)	47(3290)	6(378)	54(3078)	75(3900)	12914	61.49	8
Poor telecommunications services	16(1296)	46(3220)	19(1197)	62(3534)	67(3484)	12731	60.62	9

Note: Figures in parentheses are the product of Garrett value and frequency

Source: Field survey, 2021.

4.0 Conclusion and Recommendations

It can be inferred from this study that there is a low level of financial literacy among rural farming households in the study area. This is evident from the results, where only 13.3% of the respondents scored above the required (cut-off) point in the financial questions, leaving 86.7% of the population financially illiterate. This study further revealed that financial literacy in the study area was significantly determined by age, sex, educational level, financial management training, distance to the nearest financial institution and number of dependants in the household. The results suggest that financial education and training are crucial to improving financial literacy among rural farmers. Thus, lowering the cost of access and teaching on financial subjects most relevant to farmers would enhance their financial knowledge.

Therefore, based on the findings, agricultural development agencies should invest in enhancing financial literacy knowledge among rural farming households. This can be accomplished by holding financial management training and workshops and educating rural households. A gender-targeted financial literacy education could also be developed to help the female farmers, who have been identified to be less financially literate in the study area. This will improve their knowledge of using financial products. Besides, the government should develop financing programmes where rural farmers can access low or interest-free credits. This would provide the capital required to be invested in agriculture

and ensure that their income level is increased. Moreover, a long-term saving culture should be encouraged among rural farming households. This could be achieved through promoting awareness of and techniques for long-term saving among rural farming households. In addition to these, since banks and microfinance institutions have only a very limited outreach to the rural population, the promotion of financial institutions and bank services that reach out to rural areas and poor households should be put in place and sustained.

References

Ademola, A. E. (2019). Impact of agricultural financing on Nigeria's Economy. *Asian Journal of Agricultural Extension, Economics and Sociology*, *31*(2), 1–13. https://doi.org/10.9734/AJAEES%2F2019%2FV31I230130

Alessie, R., Van, R., & Lusardi, A. (2011). Financial literacy and retirement preparation in the Netherlands. *Journal of Pension Economics and Finance, 10*, 527–545. https://doi.org/10.1017/S1474747211000461

Atakora, A. (2013). Measuring the effectiveness of financial literacy programs in Ghana. *International Journal of Management Business Research*, *3*, 135–148.

Atkinson, A., & Messy, F. (2012). *Measuring financial literacy: Results of the OECD /International Network on Financial Education (INFE) Pilot study*. OECD Working Paper no 15 on Finance, Insurance and Private Pensions, 15. OECD Publishing. http://dx.doi.org/10.1787/5k9csfs90fr4-en

Beck, T., Demirguc-Kunt, A., & Peria, M. P. M. (2007). Reaching out: Access to and use of banking services across countries. *Journal of Financial Economics*, *85*(1), 234–266. https://doi.org/10.1016/J.JFINECO.2006.07.002

Boisclair, D., Lusardi, A., & Michaud, P.C. (2017). Financial literacy and retirement planning in Canada. *Journal of Pension Economics and Finance, 16*(3), 277–296. https://doi.org/10.1017/S1474747215000311

Boyer, M. M., d'Astous, P., & Michaud, P. (2022). Tax-sheltered retirement accounts: can financial education improve asset location decisions? *Review of Economics and Statistics*, 104(3), 541–556. https://doi.org/10.1162/rest_a_00973

Cole, S., Sampson, T., & Zia, B. (2011). Prices or knowledge? What drives demand for financial services in emerging markets? *The Journal of Finance, 66*(6), 1933–67. https://doi.org/10.1111/J.1540-6261.2011.01696.X

Deininger, K., Savastano, S., & Xia, F. (2017). Smallholders' land access in Sub-Saharan Africa: A new landscape? *Food Policy*, *67*, 78–92. https://doi.org/10.1016/j.foodpol.2016.09.012

Falola, A., Fakayode, S. B., Kayode, A. O., & Amusa, M. A. (2020). Rural women in Kwara State (Nigeria) and their contributions to the welfare of their households. *Journal of International Women's Studies*, *21*(6), 170–183.

Falola, A., Mukaila, R., & Abdulhamid, K.O. (2022). Informal finance: its drivers and contributions to farm investment among rural farmers in Northcentral Nigeria. *Agricultural Finance Review*, *82*(5), 942–959. https://doi.org/10.1108/AFR-08-2021-0116

Fernandes, D., Lynch Jr., J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviours. *Management Science, 60*(8), 1861–1883. https://doi.org/10.1287/mnsc.2013.1849

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*, 2, 296–316. https://doi.org/10.1111/J.1745-6606.2010.01170.X

Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. (2022). Financial education affects financial knowledge and downstream behaviours. *Journal of Financial Economics, 145*(2), 255–272. https://doi.org/10.1016/j.jfineco.2021.09.022

Kwara State Government. (2010). Report of Kwara State Farmers' Census. Produced by Ministry of Agriculture and Natural Resources, Ilorin, Kwara State.

Lusardi, A., & Mitchell, O. S. (2007). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of Monetary Economics, 54*, 205–224. https://doi.org/10.1016/J.JMONECO.2006.12.001

Lusardi, A., Mitchell, O. S., & Curto, V. (2009). *Financial literacy among the young: Evidence and implications for consumer policy*. NBER Working Paper No. 15352. https://doi.org/10.2139/ssrn.1459141

Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and retirement planning in the United States. *Journal of Pension Economics and Finance, 10*, 509–525. https://doi.org/10.1017/S147474721100045X

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

Mandell, L. (2007). Financial literacy of high school students. In J. J. Xiao (Ed.) *Handbook of consumer finance research* (pp. 163–183). New York, NY: Springer. https://doi.org/10.1007/978-0-387-75734-6_10

Moyo, M. (2016, October). *Family farming in sub-Saharan Africa: Its contribution to agriculture, food security and rural development*. International Policy Centre for Inclusive Growth (IPC-IG) Working Paper 150, p. 1–35. Retrieved December 23, 2020, from http://www.fao.org/3/a-i6056e.pdf

Mukaila, R., Falola, A., & Egwue, L. O. (2021). Income diversification and drivers of rural smallholder farmers' income in Enugu State, Nigeria. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, 21*(3), 585–592.

Mukaila, R., Falola, A., & Omotesho, O. A. (2020). Food security status: Its drivers and coping strategies among vegetable farming households. *Cercetări Agronomice În Moldova, 53*(4), 414–425. https://doi.org/10.46909/cerce-2020-035

Nolte, K., & Sipangule, K. (2017). Land use competition in Sub-Saharan Africa's rural areas. PEGNET Policy Brief. Retrieved January 25, 2021, from https://www.researchgate.net/publication/319315042_Land_use_competition_in_Sub-Saharan_Africa's_rural_areas

Oppong-Boakye, P. K., & Kansanba R. (2013). An assessment of financial literacy levels among undergraduate business students in Ghana. *Research Journal of Finance and Accounting, 4*(8), 36–49.

Rieger, M. O. (2020). How to measure financial literacy? *Journal of Risk and Financial Management, 13*, 324. https://doi.org/10.3390/jrfm13120324

Schagen, S., & Lines, A. (1996). *Financial literacy in adult life*. A report to the NatWest Group Charitable Trust. Slough, Berkshire: National Foundation for Educational Research.

Sunny, F., Huang, Z., & Karimanzira, T. T. P. (2018). Investigating key factors influencing farming decisions based on soil testing and fertilizer recommendation facilities (STFRF)—A case study on rural Bangladesh. *Sustainability*, *10*, 4331. https://doi.org/10.3390/SU10114331

Van Rooij, M., Lusardi, A., & Alessi, R. (2012). Financial literacy, retirement planning and household wealth. *Economic Journal*, *122*, 449–478. https://doi.org/10.1111/j.1468-0297.2012.02501.x

Wachira, M., & Kihiu, E. N. (2012). Impact of financial literacy on access to financial services in Kenya. *International Journal of Business and Social Science*, *3*(19), 42–50.

World Bank. (2014). Global financial development report: Financial inclusion report. Retrieved May 03, 2019, from https://openknowledge.worldbank.org/handle/10986/16238

Wulandari E., Meuwissen, M. P. M., Karmana M. H., & Oude Lansink, A. G. J. M. (2017). Access to finance from different finance provider types: Farmer knowledge of the requirements. *PLoS ONE 12*(9), e0179285. https://doi.org/10.1371/journal.pone.0179285