Study on Factors Influencing Financial Literacy among Paddy Farmers in Sri Lanka

Kolitha Nishshanka Bandara[1]*, Madawalage Tishani Diwyangi[1], Addikarige Nalinda Nuwan[2], B.W.R. Damayanthi[3], and Shirantha Heenkenda[3]

[1]*Department of Economics, Rajarata University of Sri Lanka*
[2]*Office of Missing Persons, Colombo*
[3]*Department of Economics, University of Sri Jayewardenepura*
**kolithanishshankabandara@gmail.com*

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Introduction

Financial literacy is a combination of awareness, knowledge, skills, attitudes, and behavior required to make sound financial decisions and eventually achieve individual financial well-being (OECD, 2020). According to a Central Bank of Sri Lanka (CBSL) (2021) survey on financial literacy, only 57.9% of Sri Lankan adults are financially literate. However, this survey did not focus on paddy farmers, and there is little research on their uptake and usage of formal financial services. Given that low financial literacy among paddy farmers can lead to problems like debt, poverty, and economic insecurity, this research aims to assess their financial literacy.

The agricultural sector in Sri Lanka contributes around 7.5% to the country's GDP and employs 26.5% of the workforce (CBSL, 2022). Workers engaged in paddy farming, an essential economic activity, face financial constraints and limited access to banking services. Farmers' financial literacy plays a significant role in their ability to manage credit, savings, and investments, which in turn affects their overall economic resilience. Enhancing farmers' financial literacy is essential for expanding financial inclusion as well as for their personal well-being because it gives them access to digital payment systems, insurance, and credit. Supporting farmers in adopting new technology, managing risks, and making well-informed investment decisions promotes agricultural modernization and eventually advances rural development and food security.

Several key factors significantly influence financial literacy, including education, income, age, work experience, digital literacy, and targeted financial training.

Research shows that higher levels of education and higher income are associated with improved financial literacy (Atkinson & Messy, 2012). Moreover, middle-aged individuals generally demonstrate higher levels of financial literacy due to their accumulated experience (Agarwal et al., 2007). Studies in Rwanda and Indonesia show that financial training can effectively increase saving and borrowing behaviors (Sayinzoga et al., 2016). In Sri Lanka, increased digital literacy is correlated with improved financial knowledge (CBSL, 2021).

Recognizing the critical role of financial literacy in improving economic resilience and agricultural productivity, this research aims to assess the factors influencing financial literacy among paddy farmers in the Kirinda-Puhulwella Divisional Secretariat of the Matara District in Sri Lanka.

Methodology

The study used a quantitative approach; data were collected through a pre-tested interview-administered questionnaire. The sample is a subset of the selected population and reflects the entire population under the generalization concept. The sampling methods of this study were purposive sampling and random sampling. According to the purposive random sampling method, five out of the 25 Grama Niladhari Divisions in the Kirinda-Puhulwella Division Secretariat were selected on the basis of ease of access: Puhulwella East, Malwathugoda, Puhulwella West, Owitigamuwa North, and Owitigamuwa South. From the above-mentioned Grama Niladhari divisions, the study recruited a sample of 100 farmers according to the 10% rule using the random sampling method using a list of farmers taken from the Agricultural Research Officer of the area.

The survey evaluated financial knowledge, attitudes, and behavior together with socio-demographic characteristics including gender, employment status of the farmers (full-time or part-time farmer), marital status and factors such as age, education, income, digital usage, financial training, and work experience. Data analysis included correlation and multiple regression analysis. Level of education, level of income, age, financial literacy training, digital usage among farmers, and work experience were selected as independent variables to study the influence on overall financial literacy among farmers.

The hypotheses of the study are based on the main objective of the study: to assess the level of financial literacy among paddy farmers and to identify the factors influencing financial literacy among paddy farmers. The hypotheses are developed as follows.

H1: There is a significant relationship between the age of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

H2: There is a significant positive relationship between the level of education of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

H3: There is a significant positive relationship between the level of income of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

H4: There is a significant relationship between digital usage of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

H5: There is a significant relationship between the financial literacy training of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

H6: There is a significant positive relationship between the work experience of farmers and financial literacy among paddy farmers in Kirinda-Puhulwella Divisional Secretariat area.

The regression model is given below.

$$Y = \beta_0 + \beta_1 \cdot Age + \beta_2 \cdot DU + \beta_3 \cdot FT + \beta_4 \cdot WE + \beta_5 \cdot LE + \beta_6 \cdot LI + u \quad (1)$$

Where, Y = Dependent Variable (financial literacy), Age = Age of the farmer, DU = Digital Usage, FT = Financial Training, WE = Work Experience, LE = Level of Education, LI = Level of Income, and u = Error Term.

Financial literacy among farmers is measured using three main aspects: Financial Knowledge, Financial Attitude and Financial Behavior. These three aspects were measured using a questionnaire validated by the Organization for Economic Co-operation and Development (OECD) in 2020 (OECD, 2020). Specifically, the Financial Knowledge aspect is assessed using questions on risk diversification, risk and reward, compound interest, interest on loans, numeracy (simple interest), impact of inflation, and definition of inflation. The Financial Attitude component was assessed using Likert-scale questions related to statements to measure financial attitude. The Financial Behavior aspect was measured using questions on savings, short and long-term investment planning, making rational purchases,

and keeping track of cash flow (OECD, 2020). After finalizing the questionnaire, it was pre-tested using a group of farmers who did not belong to the study area.

The reliability analysis for the scale measuring financial knowledge shows a Cronbach's Alpha value of 0.794, indicating good internal consistency among the seven items (FK1 to FK7). The reliability analysis for financial behavior shows a Cronbach's Alpha value of 0.685, which is close to the commonly accepted threshold of 0.7. This indicates moderate reliability. The reliability analysis for financial attitude indicates a Cronbach's Alpha value of 0.766, which exceeds the commonly accepted threshold of 0.7. This demonstrates good internal consistency among the seven items (FA1 to FA7) and suggests that the scale effectively measures the intended construct.

Results and Discussion

Table 1 shows the correlations between the independent variables and financial literacy. Age has a significant positive relationship with financial literacy ($r = 0.498$, $p < 0.01$), implying that older farmers tend to demonstrate higher overall financial literacy. There is a significant negative correlation between education level and overall financial literacy ($r = -0.535$, $p < 0.01$), suggesting that higher education levels are associated with lower financial literacy. There is a significant negative correlation between level of income and financial attitude ($r = -0.259$, $p < 0.01$), as well as overall financial literacy ($r = -0.259$, $p < 0.01$). This suggests that higher income levels are associated with lower financial attitudes and overall financial literacy among the farmers. Digital usage has a positive correlation with overall financial literacy ($r = 0.246$, $p < 0.05$), suggesting that increased digital usage contributes to better financial literacy levels. Furthermore, financial training is significantly associated with overall financial literacy ($r = 0.347$, $p < 0.01$), highlighting its importance in improving farmers' financial literacy levels. The analysis also explores the relationship between work experience and financial literacy. Work experience is positively and significantly correlated with financial behavior ($r = 0.488$, $p < 0.01$), financial attitude ($r = 0.543$, $p < 0.01$), and overall financial literacy ($r = 0.535$, $p < 0.01$).

To maintain model accuracy and focus on variables with stronger predictive power, only Age, Work Experience, Financial Training, and Digital Usage were included in the regression analysis (Table 2)[1]. Accordingly, after depletion of two

[1] Since the overall impact on model predictability was less than the expected threshold level when other two predictors were considered, they were excluded. In the real world, financial

predictors, the model explains 59.7% of the variance in financial literacy (R Square = 0.597), with an adjusted R Square of 0.571, indicating a moderately strong fit. The overall model is statistically significant ($F = 15.612$, $p < 0.001$), meaning that the independent variables collectively influence financial literacy. Among the predictors, age positively and significantly impacts financial literacy ($B = 1.278$, $t = 2.278$, $p = 0.025$), suggesting that older individuals tend to have better financial literacy. Financial training also shows a significant positive effect ($B = 4.432$, $t = 2.601$, $p = 0.011$), emphasizing the role of training programs in improving financial literacy levels. Similarly, work experience significantly contributes to financial literacy ($B = 2.111$, $t = 3.639$, $p < 0.001$), indicating that more experienced individuals tend to exhibit higher financial literacy. However, digital usage does not have a statistically significant impact ($B = 0.219$, $t = 0.113$, $p = 0.910$), implying that its effect on financial literacy is negligible in this context. These findings highlight the importance of age, training, and experience in shaping financial literacy among the respondents.

Table 1. Correlation Analysis

Variable	Financial Behaviour	Financial Attitude	Financial Knowledge	Overall Financial Literacy
Age	0.571**	0.454**	-0.010	0.498**
Education level	-0.513**	-0.510**	-0.096	-0.535**
Level of income	-0.168	-0.259**	-0.144	-0.259**
Digital usage	0.293**	0.193	0.030	0.246*
Financial training	0.430**	0.349**	-0.107	0.347**
Work experience	0.488**	0.543**	0.080	0.535**

Note: ** Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed)

Table 2. Regression results

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	34.322	3.717		9.234	.000
Age	1.278	.561	.268	2.278	.025
Digital Usage	.219	1.938	.012	.113	.910

decisions may be influenced by family traditions, local norms, or trust in informal lending systems rather than just formal financial knowledge.

Variable	B	Std. Error	Beta	t	Sig.
Financial Training	4.432	1.704	.219	2.601	.011
Work Experience	2.111	.580	.344	3.639	.000
F stat	5.612				
R squared	.597				

This study explored the relationship between various factors and financial literacy among farmers, revealing both expected and unexpected outcomes. It found a significant positive correlation between age and financial literacy, indicating that older farmers tend to have more financial knowledge than younger counterparts; this result is in line with previous research by Akoto et al. (2017). Additionally, financial training and work experience positively influenced financial literacy, consistent with previous research (Ravikumar et al., 2013; Widhiyanto et al., 2018). However, this study identified a negative relationship between education level and financial literacy among farmers, indicating that those with higher education levels exhibited poorer financial literacy. This finding contradicts most previous research. For example, Lusardi and Mitchell (2011) explain that individuals with higher levels of education typically possess greater financial literacy due to their superior comprehension of financial data. In rural Sri Lanka, formal education may not improve financial literacy because of a focus on more academic subjects than practical financial skills. Many farmers learn money management through daily experience instead. Also, since financial decisions are often made by families or communities, even educated individuals may have limited personal experience with managing money. The study also found a negative correlation between income and financial literacy, unlike prior findings that suggest a positive association (Atkinson & Messy, 2012). Specifically, this study showed that higher income was linked to weaker financial attitudes and lower overall literacy. This contrasting result suggests that income may not always lead to better financial behaviors or knowledge among farmers. Many farmers in Sri Lanka make money during specific seasons of the year, so they might have a lot of money during the harvest season, but they might not manage it well if they are not financially literate. Additionally, some wealthy farmers may not acquire great financial abilities if they rely on others, such as advisors or family members, to handle their financial decisions.

Conclusion

The results reveal that age, work experience, and financial training significantly contribute to financial literacy, highlighting the importance of these factors in enhancing financial capabilities. While digital usage was initially considered a

predictor, it was found to have a negligible impact on financial literacy in this context.

Financial literacy among farmers plays a crucial role in the country from different perspectives, and therefore, the improvement of financial literacy among farmers will be helpful to achieve economic prosperity in the country. Based on the findings, it can be shown that it is needed to improve financial knowledge among farmers in order to improve financial behavior as well as financial attitudes. Policymakers should incorporate financial literacy into the school curriculum to equip the next generation with essential financial knowledge and skills. Moreover, financial literacy among farmers can be improved through short- and long-term interventions with active participation from farmers, resource providers, and various stakeholders.

Limitations may arise during the survey of a study. One limitation of this research is recall bias, as it relies on the ability of paddy farmers to remember past financial activities related to borrowing, saving, and spending. Many farmers may not have sufficient records, which may result in forgotten or misreported information. This can lead to inaccurate data, affecting the findings of the study, a common problem in studies that rely on memory, especially in rural areas. Future research should address barriers to financial literacy among Sri Lankan farmers, expand to larger samples and diverse sectors, and adopt a multidisciplinary approach to improve financial literacy.

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