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### Financial literacy of paddy farmers in Kerala: A socio-economic analysis

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#### Abstract

Financial literacy is essential for farmers as it enables informed decisions about saving, borrowing, insurance, and digital transactions. These skills are crucial for managing income fluctuations and production risks. This study assessed the financial literacy of small and marginal paddy farmers in Palakkad district, Kerala, during 2024-25. A teacher-developed test of 30 questions covering savings, credit, insurance, and digital services was administered to 120 farmers purposively selected from Kuzhalmannam and Alathur blocks. Farmers were categorised into three groups: low, medium, and high literacy. Descriptive statistics summarised the distribution of literacy levels, and multiple regression analysis was conducted with the financial literacy score as the dependent variable. Results showed that 34.2% of respondents had low literacy, 34.2% medium literacy, and 31.7% high literacy, reflecting a moderate overall level. Regression analysis revealed that education, innovativeness, and the adoption of digital banking had a positive influence on literacy, while female gender was negatively associated. Other socio-economic factors did not show significant effects. The findings highlight the need to enhance financial education, promote digital literacy, and address gender-based disparities. Strengthening these areas can improve farmers' financial capabilities, support better risk management, and increase resilience in an uncertain agricultural economy.

**Keywords:** Financial literacy, paddy farmers, digital banking, innovativeness

#### Introduction

Financial inclusion has been defined as “the process of ensuring access to financial services, timely and adequate credit for vulnerable groups such as weaker sections and low-income groups at an affordable cost”. (Rangarajan, C, Committee on Financial Inclusion, RBI, 2008) <sup>[5]</sup>. For farmers, effectively managing savings, credit, insurance, and digital financial services is crucial, as it helps them cope with irregular income and production risks (Sanglay *et al.*, 2021) <sup>[7]</sup>. Studies conducted across various countries indicate significant variations in farmers' financial literacy levels.

In the Philippines, financial literacy was linked to education and income; however, many farmers still struggle with overspending and inadequate savings (Sanglay *et al.*, 2021) <sup>[7]</sup>. Indonesian farmers displayed moderate awareness of financial concepts but exhibited poor financial behavior (Santoso *et al.*, 2020) <sup>[8]</sup>. In Pakistan, factors such as education, income, and access to banks shaped literacy levels, but awareness of subsidized credit remained low (Raza *et al.*, 2023) <sup>[6]</sup>. In India, research by Das and Maji (2025) <sup>[2]</sup> found that improved literacy and confidence enhanced farmers' financial discipline.

Additionally, behavioral and technological factors play a role in influencing farmers' financial decision-making, adoption of digital banking, and overall financial literacy. Widhiyanto *et al.* (2018) <sup>[9]</sup> reported that financial literacy increased access to microcredit. Norailis *et al.* (2023) <sup>[4]</sup> highlighted gender differences in Sharia financial literacy.

Canguende-Valentim *et al.* (2024) <sup>[1]</sup> observed that while mobile payment adoption promoted financial inclusion, it was often limited by perceived risks.

Although global and national studies have addressed financial literacy, evidence from Kerala is limited. With Palakkad district accounting for the largest paddy area in the state (GOK, 2023) <sup>[3]</sup>, small and marginal farmers face constraints where literacy could play a decisive role. Hence, the present study was conducted with the objectives to:

1. Assess the financial literacy levels of paddy farmers in Palakkad district.
2. Analyse socio-economic factors influencing financial literacy

#### Materials and Methods

##### Study area and sampling

The study was conducted in Palakkad district, Kerala, during 2024-25. Two blocks, Kuzhalmannam and Alathur, were purposively selected for their extensive paddy cultivation. From each block, two panchayats with the largest paddy area were chosen, and from each panchayat, 15 marginal farmers (<1 ha) and 15 small farmers (1-2 ha) were selected, making up a total of 120 respondents.

##### Instrument and data collection

A teacher-made test consisting of 30 items was used to assess the financial literacy across four domains: (i) savings and interest, (ii) borrowing and credit management, (iii) risk management and insurance, and (iv) digital services. Each

correct answer scored one, and incorrect or missing answers scored zero. Scores were converted to percentages and respondents categorised as: low (<40%), medium (40-69%), and high ( $\geq 70\%$ ). Socio-economic variables recorded were age, gender, education, farming experience, farmer category, innovativeness, occupation, extension support, adoption of digital banking, equipment ownership, insurance coverage, and membership in organisations.

### Statistical analysis

Multiple regression analysis was used to examine the relationship between financial literacy scores and various socio-economic variables, including age, educational qualification, gender, farming experience, farmer category, innovativeness, adoption of digital banking, ownership of farm equipment, insurance coverage, and membership in community organizations. The financial literacy score served as the dependent variable, while the socio-economic factors were included as independent predictors. The analysis enabled the identification of which factors significantly influenced farmers' financial literacy. Model fit was evaluated using  $R^2$ , adjusted  $R^2$ , and the F-test to determine the overall explanatory power of the regression model and the significance of the relationships between predictors and the dependent variable.

## Results

### Distribution of financial literacy levels

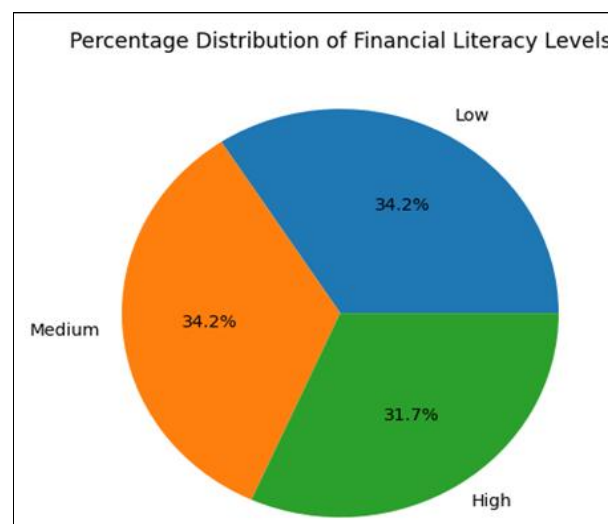
The distribution of respondents across literacy categories is shown in Table 1. It was observed that the majority of the respondents possessed medium (34.2%) to low (34.2%) levels of literacy, while a comparable 31.7% of respondents possessed a high level of financial literacy. The mean score on the thirty-item test was 17.2 (SD = 8.3), corresponding to an average literacy percentage of 57.4%, indicating a moderate overall level of financial literacy among the respondents. The relatively high standard deviation suggests

considerable variability, with some farmers demonstrating strong understanding of financial concepts, whereas others showed notable gaps in knowledge.

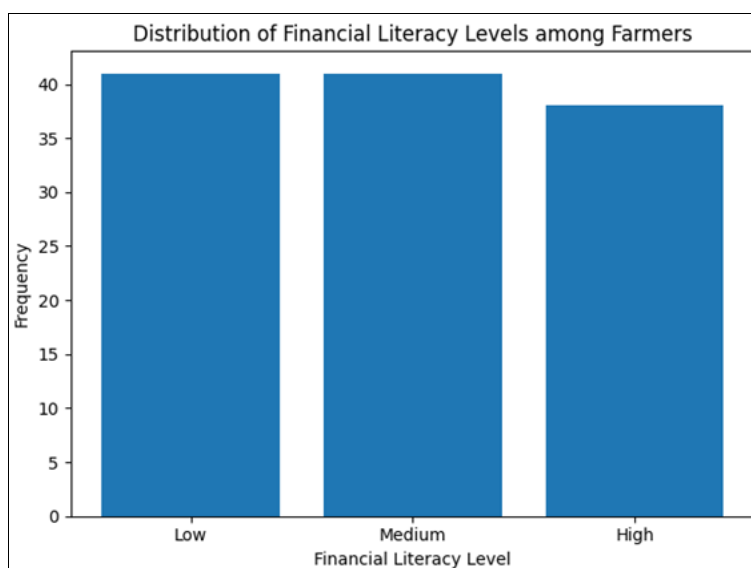
Comparable findings of moderate literacy have been reported in Indonesia (Santoso *et al.*, 2020)<sup>[8]</sup> and Pakistan (Raza *et al.*, 2023)<sup>[6]</sup>, suggesting that farmers in different contexts face similar challenges including incomplete knowledge and weak behaviour.

**Table 1:** Distribution of paddy farmers by financial literacy level (n = 120)

| Literacy level       | Frequency | Percentage |
|----------------------|-----------|------------|
| Low (<40%)           | 41        | 34.2%      |
| Medium (40-69%)      | 41        | 34.2%      |
| High ( $\geq 70\%$ ) | 38        | 31.7%      |
| Total                | 120       | 100%       |



**Fig 1:** Percentage distribution of financial literacy levels among farmers



**Fig 2:** Frequency distribution of financial literacy levels among farmers

Figures 1 and 2 further illustrate the distribution, showing the percentage and frequency of respondents in each literacy category

**Table 2:** Multiple regression analysis of factors influencing financial literacy (n = 120)

| Variable                      | B      | Standard error | $\beta$ | t-value | Sig.      |
|-------------------------------|--------|----------------|---------|---------|-----------|
| Constant                      | 8.139  | 3.309          | -       | 2.46    | 0.016     |
| Age                           | -1.509 | 0.83           | -0.094  | -1.817  | 0.072     |
| Educational qualification     | 0.883  | 0.442          | 0.11    | 1.998   | 0.048*    |
| Gender                        | -2.139 | 0.77           | -0.114  | -2.780  | 0.006**   |
| Farming experience            | -0.632 | 0.805          | -0.050  | -0.786  | 0.434     |
| Farmer category               | 0.914  | 0.655          | 0.055   | 1.396   | 0.166     |
| Innovativeness                | 3.223  | 0.82           | 0.351   | 3.932   | <0.001*** |
| Major occupation              | -0.425 | 0.95           | -0.022  | -0.447  | 0.655     |
| Extension agency support      | 0.705  | 2.762          | 0.01    | 0.255   | 0.799     |
| Adoption of digital banking   | 6.719  | 1.263          | 0.386   | 5.319   | <0.001*** |
| Ownership of farm equipment   | -0.421 | 1.178          | -0.014  | -0.357  | 0.722     |
| Insurance coverage            | 3.44   | 1.751          | 0.09    | 1.964   | 0.052     |
| Membership in community orgs. | -3.055 | 2.729          | -0.045  | -1.119  | 0.265     |

**Model summary:**  $R^2 = 0.871$ ; Adjusted  $R^2 = 0.857$ ;  $F = 60.24$ ;  $p < 0.001$

\*Significant at 0.05; \*\*Significant at 0.01; \*\*\*Significant at 0.

### Determinants of Financial Literacy

Multiple regression analysis was performed with the financial literacy percentage score as the dependent variable and socio-economic, behavioral, and technological factors as independent predictors (Table 2). The model was highly significant ( $F = 60.24$ ,  $p < 0.001$ ) and explained 87.1% of the variance in financial literacy ( $R^2 = 0.871$ ; Adjusted  $R^2 = 0.857$ ), indicating a strong fit.

The analysis indicated that educational qualification had a positive and significant effect ( $\beta = 0.883$ ,  $p = 0.048$ ) on financial literacy, indicating that farmers with higher levels of formal education are better able to grasp and apply financial concepts. Innovativeness was another significant positive predictor ( $\beta = 3.223$ ,  $p < 0.001$ ), suggesting that farmers who are more open to adopting new practices or technologies tend to have higher financial literacy.

Adoption of digital banking emerged as the strongest determinant ( $\beta = 6.719$ ,  $p < 0.001$ ) for financial literacy highlighting the critical role of digital tools in enhancing farmers' financial knowledge. Conversely, gender showed a negative association with literacy scores ( $\beta = -2.139$ ,  $p = 0.006$ ), with female farmers scoring lower than their male counterparts when other factors were held constant, reflecting potential disparities in access to financial resources and training opportunities.

Other socio-economic variables such as age, farming experience, farmer category, major occupation, extension support, ownership of farm equipment, insurance coverage, and membership in community organizations were not statistically significant.

### Discussion

The results indicate that education significantly improved financial literacy, supporting findings from Pakistan and India (Raza *et al.*, 2023<sup>[5]</sup>; Das and Maji, 2025<sup>[2]</sup>). Farmers with higher education are better positioned to understand financial concepts and practices such as savings, credit management, risk mitigation, and insurance. Innovativeness was found to have a significant positive impact on financial literacy, suggesting that farmers who are willing to experiment with new farming practices, adopt modern techniques, or embrace novel financial approaches are better equipped to manage their finances effectively. This finding underscores the importance of behavioural traits in shaping financial capability and aligns with the results reported by

Widhiyanto *et al.* (2018)<sup>[8]</sup>.

Adoption of digital banking was the strongest predictor, indicating that farmers who use mobile or online platforms have higher literacy. This aligns with evidence that digital tools improve financial inclusion and literacy (Canguende-Valentim *et al.*, 2024)<sup>[1]</sup>, highlighting that familiarity and engagement with mobile and online financial services substantially enhance financial knowledge. This emphasizes the role of digital exposure in strengthening financial capability among rural farmers.

Gender had a negative coefficient, meaning female farmers scored lower than male farmers. This finding is consistent with studies reporting lower financial literacy among women in rural and Sharia contexts (Norailis *et al.*, 2023<sup>[4]</sup>; Santoso *et al.*, 2020<sup>[7]</sup>). Barriers such as limited access to formal finance, cultural norms restricting women's role in financial decisions, and lower digital adoption may explain this gap.

Other factors such as age, experience, occupation, farmer category, extension support, equipment ownership, and membership were not significant. This suggests that traditional socio-economic indicators alone are insufficient; behavioural traits and technology adoption appear to play a more decisive role in shaping farmers' financial literacy.

### Conclusion

The level of financial literacy among paddy farmers in Palakkad is moderate, suggesting that while they have a reasonable grasp of basic financial principles, there are significant gaps in their ability to apply this knowledge effectively. Factors such as educational background, innovation, and the utilization of digital banking services have been identified as key positive determinants influencing financial literacy levels, while gender exhibited a negative association, indicating lower scores among female farmers. To improve farmers' financial skills, it is essential to implement targeted financial education programs, promote digital financial services more broadly, and create gender-inclusive capacity-building initiatives to enhance decision-making and strengthen economic resilience in the agricultural sector.

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## References

1. Canguende-Valentim CFC, Amaro R, Matateu LM, Valentim BG, Joaquim LC, Pascoal HS, *et al.* The effect of financial literacy and mobile payment on financial inclusion. IGI Global. 2024;213-29.
2. Das S, Maji SK. Effect of financial literacy and financial confidence on the financial discipline of farmers: evidence from West Bengal, India. *Manage Matters*. 2025;12(1):1-14.
3. Department of Economics & Statistics, Government of Kerala (GOK). Agricultural statistics. 2021-22. Government of Kerala; 2023.
4. Norailis WA, Shafrani YS, Latifah D. An analysis of Sharia financial literacy and Sharia financial inclusion in the village program continuity. *el-Jizya: J Ekon Islam*. 2023;11(1):87-102.
5. Raza A, Tong G, Sikandar F, Erokhin V, Tong Z. Financial literacy and credit accessibility of rice farmers in Pakistan: analysis for Central Punjab and Khyber Pakhtunkhwa regions. *Sustainability*. 2023;15:2963.
6. RBI [Reserve Bank of India]. The national strategy for 2019-2024. financial inclusion. 2020. Available from: <https://m.rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=1154>. Accessed on 10 January 2020.
7. Sanglay PD, Apat EC, Sumague JA, Tec ET. Financial literacy and income distribution of rice farmers. *Int J Account Finance Educ*. 2021;2(3):1-21.
8. Santoso W, Asmara K, Abidin Z. Measuring the financial literacy of farmers food crops in the poor area of Madura, Indonesia. *Eur J Agric Food Sci*. 2020;2(6):1-6.
9. Widhiyanto I, Nuryartono N, Harianto H, Siregar H. Analysis of farmers' financial literacy and its impact on microcredit accessibility with interest subsidy on the agricultural sector. *Int J Econ Financ Issues*. 2018;8(3):148-59.