

A Study On Financial Literacy And Financial Inclusion Among The Tribal Population Of Kerala

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Abstract

Financial literacy and financial inclusion are widely recognised as twin pillars of inclusive economic development, yet marginalised communities such as Scheduled Tribes continue to remain at the periphery of the formal financial system. This study examines the level of financial literacy and the extent of financial inclusion among the tribal population of Kerala, and investigates the relationship between the two constructs. A descriptive-cum-analytical research design was adopted, and primary data were collected from 420 tribal respondents drawn from Wayanad, Idukki, and Palakkad districts through a structured interview schedule administered using multi-stage stratified random sampling. The financial literacy score was constructed from three dimensions - financial knowledge, financial attitude, and financial behaviour following the OECD/INFE framework, while financial inclusion was measured through indicators of access, usage, and quality of financial services. Financial inclusion, measured on a composite index, was also found to be moderate, skewed towards basic savings-account ownership but constrained in credit, insurance, and digital-payment usage. A statistically significant and positive correlation was observed between financial literacy and financial inclusion ($r = .612$, $p < .01$), and regression results confirm that financial literacy is a significant predictor of financial inclusion, explaining approximately 37 per cent of the variance. Education, age, and occupation were found to significantly influence financial literacy scores. The study concludes with policy-oriented suggestions for tribal-specific financial literacy interventions, doorstep banking, and vernacular financial education to strengthen inclusive financial development among tribal communities in Kerala.

Keywords: Financial Literacy; Financial Inclusion; Tribal Population; Kerala; Financial Behaviour; Financial Access

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I. Introduction

Financial literacy, understood as the combination of financial awareness, knowledge, skills, attitude, and behaviour necessary to make sound financial decisions, has emerged as a critical determinant of individual and household financial well-being (OECD/INFE, 2011). It is closely intertwined with the broader agenda of financial inclusion, which refers to the process of ensuring access to appropriate financial products and services needed by vulnerable groups at an affordable cost, delivered in a fair and transparent manner (Sarma, 2008). While India has made significant strides in expanding the formal financial system through initiatives such as the Pradhan Mantri Jan Dhan Yojana, business correspondent models, and digital payment platforms, the benefits of these interventions have not been uniformly distributed across social groups.

Scheduled Tribes constitute one of the most economically and socially disadvantaged sections of the Indian population, characterised by geographical isolation, limited educational attainment, and dependence on subsistence-oriented livelihoods. Kerala, despite its distinguished record in human development indicators, continues to exhibit sharp disparities between its tribal and non-tribal population in terms of income, education, and access to formal financial institutions. Tribal communities in Kerala including the Paniya, Kattunaikan, Adiya, Kurichiya, Kuruma, Muthuvan, and Mannan groups, concentrated largely in Wayanad, Idukki, Palakkad, and parts of Kannur districts remain disproportionately dependent on informal sources of credit such as moneylenders and local traders, exposing them to exploitative lending practices.

Low levels of financial literacy among tribal populations manifest in poor awareness of banking procedures, limited understanding of interest rates and loan terms, minimal use of insurance and pension products, and vulnerability to fraudulent financial schemes. At the same time, financial inclusion efforts targeted at tribal hamlets are often constrained by physical inaccessibility, language barriers, lack of

documentation, and mistrust of formal institutions. It is in this context that an empirical investigation into the interrelationship between financial literacy and financial inclusion among the tribal population of Kerala assumes both academic and policy relevance. Understanding the extent to which financial literacy influences the level of financial inclusion can help policymakers, banks, and tribal welfare departments design more effective, community-specific interventions that move tribal households from mere account ownership towards meaningful and sustained engagement with the formal financial system.

II. Review Of Literature

The relationship between financial literacy and financial inclusion has attracted sustained scholarly attention over the past two decades, both globally and within the Indian context, and a review of the extant literature is presented below under thematic heads.

Financial Literacy: Concept and Measurement

Lusardi and Mitchell (2014) conceptualised financial literacy as the ability to process economic information and make informed decisions regarding financial planning, wealth accumulation, and retirement, and demonstrated through cross-country evidence that financial illiteracy is widespread even in developed economies. The OECD/INFE (2011) framework operationalised financial literacy along three dimensions: financial knowledge, financial attitude, and financial behaviour. A framework that has since been widely adopted in national financial literacy surveys, including those conducted by the Reserve Bank of India. Agarwalla, Barua, Jacob, and Varma (2015) examined financial literacy among urban Indian young adults and found significant gaps in financial knowledge, particularly regarding compound interest, inflation, and risk diversification, while attitudes towards saving were comparatively stronger than actual behaviour.

Atkinson and Messy (2012), in an OECD/INFE pilot study covering fourteen countries, reported that financial literacy levels were consistently lower among women, the elderly, the young, and those with lower educational attainment, a finding with direct relevance to India's tribal population, who face compounding disadvantages across several of these categories. Bhushan and Medury (2013) studied financial literacy among Indian salaried individuals and found that gender, education, income, and geographic location significantly influenced financial literacy scores, with rural respondents scoring markedly lower than their urban counterparts.

Financial Inclusion: Concept and Measurement

Sarma (2008) developed a multidimensional Index of Financial Inclusion incorporating banking penetration, availability, and usage of banking services, providing a widely cited methodological foundation for subsequent empirical work. Chakrabarty (2013), writing from a regulatory perspective, emphasised that financial inclusion in India needed to move beyond mere account opening towards ensuring active usage of accounts, given the persistently high proportion of dormant Jan Dhan accounts. Kumar (2013) analysed regional disparities in financial inclusion across Indian states and observed that southern states, including Kerala, generally exhibited higher levels of banking penetration than the national average, although intra-state disparities between social groups remained understudied.

Nair and Menon (2019) examined access to banking services among tribal communities of Wayanad district and reported that although the geographical spread of bank branches had improved due to financial inclusion drives, actual usage remained confined largely to receipt of welfare transfers, with negligible uptake of credit, insurance, or investment products. Their study attributed this gap primarily to low financial literacy and a persistent trust deficit towards formal institutions.

Linkage between Financial Literacy and Financial Inclusion

Grohmann, Klühs, and Menkhoff (2018), using data from 143 countries, established a robust positive association between financial literacy and financial inclusion at the macro level, arguing that financial education policies are a necessary complement to supply-side financial inclusion measures. Morgan and Long (2020) examined the case of Laos and found that financial literacy significantly increased the probability of having a formal bank account and using formal savings and credit products, while reducing dependence on informal borrowing, a pattern with strong resonance for tribal populations in India. Kumari (2020) studied rural Sri Lankan women and found that financial literacy exerted a significant positive influence on both the depth and breadth of financial inclusion, with financial attitude emerging as a stronger predictor than financial knowledge alone.

In the Indian context, Shankar (2013) argued that supply-side expansion of banking infrastructure, without corresponding demand-side financial literacy interventions, is unlikely to translate into genuine financial inclusion, particularly among marginalised groups. Nandru, Chendragiri, and Velayutham (2021) surveyed marginalised communities in Puducherry and found that financial literacy had a significant positive

effect on financial inclusion, with financial behaviour being the strongest of the three OECD/INFE dimensions in predicting inclusion outcomes.

Studies on Tribal and Marginalised Populations

Xavier and Thomas (2018) investigated the socio-economic status of tribal communities in Kerala and highlighted persistent deprivation in income, education, and access to institutional credit despite decades of tribal welfare expenditure. Reji (2013) examined financial inclusion among the tribal population of Wayanad and Idukki districts and found that self-help groups played a comparatively more trusted and accessible role than commercial banks, though SHG penetration itself remained uneven across tribal hamlets. Barik and Sharma (2019) studied financial inclusion among Scheduled Tribes at the national level using National Sample Survey data and found significantly lower usage of formal credit and insurance among tribal households compared to both Scheduled Castes and the general population, even after controlling for income and location.

George and Paul (2021) conducted a survey-based study among tribal youth in Kerala and reported moderate awareness of mobile banking but very limited actual usage, attributing the gap to inadequate digital literacy, poor network connectivity in tribal hamlets, and a preference for cash transactions. Vishnu and Suresh (2022) similarly found that among tribal respondents in Attappady, financial knowledge scores were the weakest component of financial literacy, while financial behaviour, particularly regular savings habits, was comparatively better developed through informal group-based savings practices.

Research Gap

The review of literature reveals that while financial literacy and financial inclusion have been extensively studied both independently and in conjunction at the national and cross-country level, empirical evidence specific to the tribal population of Kerala remains scarce. Existing tribal-focused studies in Kerala (Reji, 2013; Xavier & Thomas, 2018; George & Paul, 2021) have tended to examine either socio-economic deprivation or financial inclusion in isolation, without systematically measuring financial literacy using a validated multidimensional framework and statistically testing its relationship with financial inclusion outcomes. Furthermore, most pan-Indian studies on tribal financial inclusion (Barik & Sharma, 2019) rely on secondary, survey-based national datasets that do not permit district-level or community-specific analysis. There is, therefore, a clear gap in primary, field-based, statistically rigorous research that simultaneously measures financial literacy across its three OECD/INFE dimensions and financial inclusion across access, usage, and quality indicators, and empirically tests the strength and direction of their relationship among the tribal population of Kerala. The present study seeks to address this gap.

III. Objectives Of The Study

- To study the socio-economic and demographic profile of the tribal respondents in the study area.
- To assess the level of financial literacy among the tribal population of Kerala across the dimensions of financial knowledge, financial attitude, and financial behaviour.
- To examine the extent of financial inclusion among tribal households in terms of access, usage, and quality of financial services.
- To analyse the relationship between financial literacy and financial inclusion among the respondents.
- To identify the socio-demographic factors that significantly influences the level of financial literacy and financial inclusion.
- To offer suitable suggestions for enhancing financial literacy and financial inclusion among the tribal population of Kerala.

IV. Research Design

The study is descriptive and analytical in nature, designed to describe the existing level of financial literacy and financial inclusion among tribal respondents and to analyse the statistical relationship between the two variables. It is based on a cross-sectional survey conducted at a single point in time, and combines both quantitative primary data and secondary data drawn from government reports, tribal welfare department records, and published academic literature to contextualise the findings.

Sampling Method

A multi-stage stratified random sampling technique was adopted for the study. In the first stage, three districts of Kerala with a substantial tribal population Wayanad, Idukki, and Palakkad were purposively selected. In the second stage, tribal grama panchayats/hamlets (oorus) within each selected district were stratified, and a proportionate number of hamlets were selected at random from each stratum. In the third stage, tribal households within the selected hamlets were listed with the assistance of local tribal promoters and Kudumbashree/ITDP (Integrated Tribal Development Project) field functionaries, and respondents aged 18

years and above were selected through simple random sampling from the household list, ensuring proportionate representation of major tribal communities (Paniya, Kattunaikan, Adiya, Kurichiya, Kuruma, Muthuvan, and Mannan).

Sample Size

The sample size was determined using Cochran's formula for an infinite population at a 95 per cent confidence level and 5 per cent margin of error, which yielded a minimum required sample of 384 respondents. To account for non-response and incomplete schedules, the sample was rounded up, and a total of 450 structured interview schedules were administered across the three districts. After data screening and removal of incomplete and unengaged responses, 420 valid schedules were retained for final analysis, distributed as 150 from Wayanad, 140 from Idukki, and 130 from Palakkad, yielding an effective response rate of 93.3 per cent.

Tools for Data Collection

Primary data were collected using a pre-tested, structured interview schedule administered in Malayalam through personal interviews, given the low literacy levels prevalent among segments of the tribal population. The schedule comprised four sections: (a) socio-demographic profile, (b) financial literacy (financial knowledge, financial attitude, and financial behaviour, measured on a five-point Likert scale, adapted from the OECD/INFE toolkit), (c) financial inclusion indicators (access, usage, and quality of financial services), and (d) constraints faced in accessing formal financial services. A pilot study among 40 respondents was conducted prior to the main survey to test the reliability and clarity of the instrument, following which minor modifications were made to the wording of certain items.

V. Statistical Analysis And Interpretation

This section presents the results of the statistical analysis of primary data collected from 420 tribal respondents, organised under the heads of demographic profile, financial literacy, financial inclusion, reliability testing, differential analysis, and relational analysis, along with interpretation of each result.

Table 1: Socio-Demographic Profile of Respondents (N = 420)

Variable	Category	Frequency	Percentage
Gender	Male	192	45.7
	Female	228	54.3
Age	18–30 years	124	29.5
	31–45 years	151	36.0
	46–60 years	99	23.6
	Above 60 years	46	10.9
Educational Qualification	Illiterate	58	13.8
	Primary level	134	31.9
	Secondary level	152	36.2
	Higher secondary and above	76	18.1
Occupation	Agricultural labour	187	44.5
	MGNREGS/wage work	98	23.3
	Self-employed/petty trade	64	15.2
	Government/private employment	71	16.9
Monthly Household Income	Below ₹10,000	176	41.9
	₹10,001–₹20,000	161	38.3
	Above ₹20,000	83	19.8

Source: Primary data

The demographic profile indicates that a majority of respondents (54.3%) are female, and the sample is fairly evenly spread across age groups, with the largest share (36.0%) in the 31–45 years category. Educational attainment is skewed towards primary and secondary levels (68.1% combined), while 13.8 per cent remain illiterate, reflecting the persistent educational deprivation among tribal communities. Agricultural labour and wage-based employment together account for 67.8 per cent of respondents and 41.9 per cent of households earn below ₹10,000 per month, underscoring the low-income character of the sample consistent with the socio-economic profile of Kerala's tribal population reported by Xavier and Thomas (2018).

Table 2: Reliability Statistics of the Research Instrument

Construct	No. of Items	Cronbach's Alpha
Financial Knowledge	7	.781
Financial Attitude	6	.756
Financial Behaviour	7	.803
Overall Financial Literacy Scale	20	.846
Financial Inclusion Scale (Access, Usage, Quality)	15	.812

Source: Primary data

All Cronbach's alpha values exceed the commonly accepted threshold of .70 (Nunnally, 1978), ranging from .756 to .846, indicating that the research instrument possesses good internal consistency reliability and is suitable for further statistical analysis.

Table 3: Descriptive Statistics of Financial Literacy Dimensions

Dimension	Mean Score	SD	Mean %	Level
Financial Knowledge	2.31	0.68	46.2	Low
Financial Attitude	2.94	0.71	58.8	Moderate
Financial Behaviour	2.62	0.65	52.4	Moderate
Overall Financial Literacy	2.62	0.58	52.4	Moderate

Source: Primary data

The overall financial literacy score of tribal respondents stands at 52.4 per cent, indicating a moderate level of financial literacy. Financial knowledge is the weakest dimension (46.2%), reflecting limited understanding of concepts such as interest computation, inflation, and diversification, corroborating the findings of Vishnu and Suresh (2022) among tribal respondents in Attappady. Financial attitude was comparatively the strongest dimension (58.8%), suggesting a positive predisposition towards saving and financial planning that is not yet matched by adequate knowledge or consistent behaviour.

Table 4: Level of Financial Inclusion - Access, Usage, and Quality Dimensions

Dimension	Mean Score	SD	Mean %	Level
Access to Financial Services	3.42	0.74	68.4	High
Usage of Financial Services	2.28	0.69	45.6	Low
Quality of Financial Services	2.55	0.63	51.0	Moderate
Composite Financial Inclusion Index	2.75	0.56	55.0	Moderate

Source: Primary data

The composite financial inclusion score of 55.0 per cent indicates a moderate overall level of financial inclusion, but the pattern across dimensions is highly uneven. Access to financial services is comparatively high (68.4%), reflecting the physical spread of bank branches, business correspondents, and Jan Dhan accounts in tribal hamlets. However, actual usage remains low (45.6%), indicating that account ownership has not translated into active engagement with credit, insurance, or investment products, consistent with the 'dormant account' concern raised by Chakrabarty (2013) and the usage gap documented by Nair and Menon (2019) in Wayanad.

Table 5: Ownership and Usage of Financial Products (Multiple Response)

Financial Product/Service	Frequency	Percentage
Savings bank account	386	91.9
ATM/Debit card	214	50.9
Mobile/UPI-based payment	122	29.0
Formal bank/SHG credit	158	37.6
Life/health insurance	97	23.1
Pension scheme enrolment	111	26.4
Investment (post office/mutual fund/RD)	46	11.0

Source: Primary data

While savings account ownership is nearly universal (91.9%), reflecting the success of the Jan Dhan Yojana and related drives, usage of more sophisticated financial products declines sharply only 29.0 per cent use mobile/UPI payments, 23.1 per cent hold insurance, and a mere 11.0 per cent have any formal investment. This pattern confirms Barik and Sharma's (2019) observation that tribal households lag markedly in insurance and credit uptake even where basic account access exists.

Table 6: Independent Samples t-Test - Financial Literacy by Gender

Gender	N	Mean	SD	t-value	Sig. (2-tailed)
Male	192	2.71	0.60	2.874	.004*
Female	228	2.55	0.55		

Source: Primary data

*Significant at 5% level.

The t-test result ($t = 2.874$, $p = .004$) indicates a statistically significant difference in financial literacy scores between male and female tribal respondents, with male respondents recording a marginally higher mean score. This gender gap is consistent with the cross-country evidence reported by Atkinson and Messy (2012) and may be attributed to greater mobility and market exposure among male members of tribal households.

Table 7: One-Way ANOVA - Financial Literacy across Educational Qualification

Source of Variation	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	18.62	3	6.21	21.437	.000*
Within Groups	120.47	416	0.29		
Total	139.09	419			

Source: Primary data

*Significant at 1% level.

The ANOVA result ($F = 21.437$, $p < .001$) reveals a statistically significant difference in financial literacy scores across educational qualification categories. A post-hoc Tukey HSD test further confirmed that respondents with higher secondary and above qualification scored significantly higher than illiterate and primary-level respondents, affirming education as a key determinant of financial literacy, in line with Bhushan and Medury (2013).

Table 8: One-Way ANOVA - Financial Inclusion across Monthly Household Income

Source of Variation	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	9.84	2	4.92	14.216	.000*
Within Groups	144.28	417	0.35		
Total	154.12	419			

Source: Primary data, computed using SPSS (v.26).

*Significant at 1% level.

A statistically significant difference in financial inclusion scores was observed across income categories ($F = 14.216$, $p < .001$), with higher-income households reporting greater financial inclusion. This suggests that income constraints limit tribal households' capacity to engage with formal financial products beyond basic savings, echoing Kumar's (2013) observation on income-linked disparities in financial inclusion.

Table 9: Chi-Square Test - Association between Financial Literacy Level and Bank Account Ownership

Test	Value (χ^2)	df	Sig. (2-sided)	Result
Pearson Chi-Square	27.184	2	.000*	Significant

Source: Primary data, computed using SPSS (v.26).

*Significant at 1% level.

The Chi-square test indicates a statistically significant association between the level of financial literacy (low/moderate/high) and bank account ownership ($\chi^2 = 27.184$, $df = 2$, $p < .001$). Cross-tabulation shows that 98.2 per cent of respondents with high financial literacy owned an active bank account compared to 78.6 per cent of those with low financial literacy, indicating that literacy levels are associated with account activity, not merely account opening.

Table 10: Karl Pearson's Correlation - Financial Literacy Dimensions and Financial Inclusion

Variables	Correlation Coefficient (r)	Sig. (2-tailed)
Financial Knowledge ↔ Financial Inclusion	.487**	.000
Financial Attitude ↔ Financial Inclusion	.402**	.000
Financial Behaviour ↔ Financial Inclusion	.558**	.000
Overall Financial Literacy ↔ Financial Inclusion	.612**	.000

Source: Primary data

**Correlation is significant at the 0.01 level.

All financial literacy dimensions exhibit a positive and statistically significant correlation with financial inclusion. The overall financial literacy score shows a moderately strong positive correlation with financial inclusion ($r = .612$, $p < .01$), with financial behaviour showing the strongest association ($r = .558$) among the three dimensions, suggesting that consistent financial habits regular saving, budgeting, and timely repayment are more closely tied to actual inclusion outcomes than knowledge or attitude alone, a pattern consistent with Nandru, Chendragiri, and Velayutham (2021).

Table 11: Multiple Regression Analysis - Financial Literacy Dimensions Predicting Financial Inclusion

Predictor	B	Std. Error	Beta (β)	t	Sig.
(Constant)	0.812	0.114	-	7.123	.000
Financial Knowledge	0.187	0.041	.214	4.561	.000*
Financial Attitude	0.129	0.038	.163	3.395	.001*
Financial Behaviour	0.291	0.043	.326	6.767	.000*

Model Summary: $R = .612^a$, $R^2 = .375$, Adjusted $R^2 = .370$, $F(3, 416) = 83.146$, $p = .000$

Source: Primary data

*Significant at 5% level.

The regression model is statistically significant ($F = 83.146$, $p < .001$) and explains 37.5 per cent of the variance in financial inclusion ($R^2 = .375$). All three dimensions of financial literacy make a significant independent contribution, with financial behaviour emerging as the strongest predictor ($\beta = .326$), followed by financial knowledge ($\beta = .214$) and financial attitude ($\beta = .163$). This confirms that financial literacy, and particularly the behavioural dimension, is a significant driver of financial inclusion among the tribal population of Kerala, supporting the theoretical linkage proposed by Grohmann, Klühs, and Menkhoff (2018) and empirically validated by Morgan and Long (2020).

Table 12: Constraints Faced by Respondents in Accessing Formal Financial Services (Rank-based, Garrett Score)

Constraint	Garrett Mean Score	Rank
Distance to bank branch/hilly terrain	64.8	I
Lack of financial/digital literacy	61.2	II
Documentation/KYC-related difficulties	56.4	III
Language barrier / communication gap with bank staff	52.1	IV
Distrust of formal financial institutions	48.7	V
Irregular/seasonal income	45.3	VI

Source: Primary data

Using Garrett's Ranking Technique, physical distance to bank branches emerges as the foremost constraint (Garrett score 64.8), followed closely by inadequate financial and digital literacy (61.2). This underscores that supply-side barriers (distance) and demand-side barriers (literacy) operate jointly to constrain financial inclusion, reinforcing the study's central finding that financial literacy interventions must be complemented by improved physical and digital access in tribal hamlets.

In order to deepen the analysis beyond the primary hypotheses, the following supplementary statistical procedures were carried out: district-wise comparison, exploratory factor analysis of the financial behaviour scale, cross-tabulation of occupation with inclusion level, a digital-inclusion sub-analysis by age, and a regression model isolating the determinants of digital financial inclusion specifically.

Table 13: One-Way ANOVA - Financial Literacy and Financial Inclusion across Districts

Variable	Wayanad (Mean)	Idukki (Mean)	Palakkad (Mean)	F-value	Sig.
Financial Literacy Score	2.68	2.59	2.57	3.482	.032*
Financial Inclusion Score	2.91	2.69	2.62	6.914	.001*

Source: Primary data

*Significant at 5% level.

District-wise comparison shows that Wayanad respondents record marginally higher financial literacy and significantly higher financial inclusion scores than Idukki and Palakkad ($F = 6.914$, $p = .001$ for inclusion). This is plausibly linked to Wayanad's longer-established network of tribal cooperative banks and NGO-led SHG federations, whereas Idukki and Palakkad hamlets are comparatively more dispersed and hill-terrain-constrained, limiting banking outreach.

Table 14: KMO and Bartlett's Test of Sphericity - Financial Behaviour Scale

Test	Value
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	.812
Bartlett's Test of Sphericity — Approx. Chi-Square	1042.67
df	21
Sig.	.000*

Source: Primary data

*Significant at 1% level.

The KMO value of .812 exceeds the recommended threshold of .60, and Bartlett's test is significant ($p < .001$), confirming that the seven-item financial behaviour scale is factorable and suitable for exploratory factor analysis (EFA).

Table 15: Rotated Component Matrix - Financial Behaviour Items (Principal Component Analysis, Varimax Rotation)

Item	Factor 1: Savings Discipline	Factor 2: Debt/Credit Management
Sets aside money regularly for future needs	.812	.146
Maintains a household budget	.776	.203
Compares prices/terms before a purchase or loan	.701	.287
Saves through a bank/post office/SHG regularly	.684	.192

Repays loans/instalments on time	.211	.789
Avoids borrowing from informal moneylenders	.178	.754
Keeps track of expenses against income	.298	.668

Source: Primary data

Extraction Method: Two factors extracted with eigenvalues greater than 1, jointly explaining 61.4% of total variance. Interpretation: The financial behaviour scale resolves into two distinct underlying factors 'Savings Discipline' and 'Debt/Credit Management' rather than a single undifferentiated behaviour construct. This suggests that tribal respondents' savings habits and their credit-management habits are governed by somewhat different underlying drivers, a distinction not captured by treating financial behaviour as a single composite score, and one that future tribal-focused financial literacy programmes could usefully address separately.

Table 16: Cross-Tabulation - Occupation Category and Level of Financial Inclusion

Occupation	Low Inclusion	Moderate Inclusion	High Inclusion	Total
Agricultural labour	74 (39.6%)	87 (46.5%)	26 (13.9%)	187
MGNREGS/wage work	38 (38.8%)	46 (46.9%)	14 (14.3%)	98
Self-employed/petty trade	14 (21.9%)	32 (50.0%)	18 (28.1%)	64
Government/private employment	9 (12.7%)	29 (40.8%)	33 (46.5%)	71
Total	135 (32.1%)	194 (46.2%)	91 (21.7%)	420

Source: Primary data

Significant at 1% level, Pearson Chi-Square = 61.238, df = 6, p = .000

The cross-tabulation shows a clear gradient respondents in government/private employment are far more likely to fall in the high-inclusion category (46.5%) compared to agricultural labourers (13.9%) and MGNREGS/wage workers (14.3%). The association is statistically significant ($\chi^2 = 61.238$, $p < .001$), indicating that occupational stability and regularity of income, not merely income level per se, strongly shape the depth of engagement with formal financial services.

Table 17: Independent Samples t-Test - Digital Financial Inclusion by Age Group

Age Group	N	Mean	SD	t-value	Sig.
Below 35 years	198	2.84	0.71	6.147	.000*
35 years and above	222	2.31	0.66		

Source: Primary data, computed using SPSS (v.26).

*Significant at 1% level.

Younger respondents (below 35 years) report significantly higher digital financial inclusion measured through mobile/UPI payment usage and mobile banking awareness than older respondents ($t = 6.147$, $p < .001$). This age-based digital divide mirrors George and Paul's (2021) finding among tribal youth in Kerala and suggests that digital financial literacy campaigns should specifically target middle-aged and older tribal members, who otherwise risk exclusion from India's increasingly digital financial ecosystem.

Table 18: Multiple Regression - Determinants of Digital Financial Inclusion

Predictor	B	Std. Error	Beta (β)	t	Sig.
(Constant)	1.204	0.187	—	6.439	.000
Age (years)	-0.021	0.004	-.267	-5.643	.000*
Years of education	0.048	0.009	.251	5.298	.000*
Monthly household income (₹'000)	0.019	0.007	.131	2.716	.007*
Overall financial literacy score	0.312	0.052	.289	6.012	.000*

Model Summary: $R = .584^a$, $R^2 = .341$, Adjusted $R^2 = .335$, $F(4, 415) = 53.674$, $p = .000$

Source: Primary data

*Significant at 5% level.

The model explains 34.1 per cent of the variance in digital financial inclusion ($R^2 = .341$, $F = 53.674$, $p < .001$). Age is negatively associated with digital inclusion ($\beta = -.267$), confirming the generational digital divide noted in Table 17, while years of education ($\beta = .251$), household income ($\beta = .131$), and overall financial literacy ($\beta = .289$) are all significant positive predictors. Financial literacy retains explanatory power even after controlling for age, education, and income, reinforcing that literacy-building interventions have an effect on digital inclusion independent of respondents' basic socio-economic endowments.

Summary of Statistical Findings

- The research instrument demonstrated good reliability, with Cronbach's alpha ranging from .756 to .846 across constructs.

- Overall financial literacy among tribal respondents is moderate (52.4%), with financial knowledge as the weakest dimension.
- Financial inclusion is moderate overall (55.0%) but highly skewed access is high (68.4%) while usage is low (45.6%).
- Male respondents and those with higher educational qualification recorded significantly higher financial literacy scores.
- A significant association exists between financial literacy level and active bank account ownership ($\chi^2 = 27.184$, $p < .001$).
- Financial literacy and financial inclusion are positively and significantly correlated ($r = .612$, $p < .01$).
- Financial literacy dimensions jointly explain 37.5 per cent of the variance in financial inclusion, with financial behaviour as the strongest predictor.
- Distance to bank branches and inadequate financial/digital literacy are the two foremost constraints reported by respondents.
- Financial inclusion varies significantly by district, with Wayanad recording the highest levels, likely reflecting its more established tribal cooperative and SHG network.
- Factor analysis reveals that financial behaviour comprises two distinct sub-dimensions savings discipline and debt/credit management rather than a single construct.
- Digital financial inclusion is significantly lower among older respondents, and is jointly predicted by age, education, income, and financial literacy ($R^2 = .341$).

VI. Limitations Of The Study

- The study is confined to three districts of Kerala (Wayanad, Idukki, and Palakkad) and therefore its findings may not be fully generalizable to tribal populations in other districts or states with differing socio-cultural contexts.
- Being cross-sectional in design, the study captures financial literacy and financial inclusion at a single point in time and does not account for changes that may occur over time or the impact of specific policy interventions introduced subsequently.
- The data on financial behaviour and product usage are based on respondents' self-reported information, which may be subject to recall bias or social desirability bias.
- The study covers major tribal communities in the selected districts but does not capture the full diversity of Kerala's tribal population, including certain particularly vulnerable tribal groups (PVTGs) with distinct socio-economic characteristics.

VII. Conclusion

This study set out to examine the level of financial literacy and financial inclusion among the tribal population of Kerala and to empirically test the relationship between the two constructs, using primary data collected from 420 respondents across Wayanad, Idukki, and Palakkad districts. The findings reveal that while financial inclusion, in terms of physical access and basic account ownership, has made considerable progress among tribal communities, this has not been matched by an equivalent depth of financial literacy or active usage of formal financial products such as credit, insurance, and investment instruments. Financial knowledge remains the weakest link in the financial literacy chain, and this deficit is significantly associated with lower levels of financial inclusion, particularly in terms of usage and quality of engagement with the formal financial system.

References

- [1]. Agarwalla, S. K., Barua, S. K., Jacob, J., & Varma, J. R. (2015). Financial Literacy Among Working Young In Urban India. *World Development*, 67, 101–109. <https://doi.org/10.1016/j.worlddev.2014.10.004>
- [2]. Atkinson, A., & Messy, F. (2012). *Measuring Financial Literacy: Results Of The OECD/International Network On Financial Education (INFE) Pilot Study* (OECD Working Papers On Finance, Insurance And Private Pensions, No. 15). OECD Publishing.
- [3]. Barik, B. B., & Sharma, S. (2019). Financial Inclusion Among Scheduled Tribes In India: Evidence From National Sample Survey Data. *Journal Of Rural Development*, 38(3), 401–418.
- [4]. Bhushan, P., & Medury, Y. (2013). Financial Literacy And Its Determinants. *International Journal Of Engineering, Business And Enterprise Applications*, 4(2), 155–160.
- [5]. Chakrabarty, K. C. (2013). Financial Inclusion In India: Journey So Far And Way Forward. *Reserve Bank Of India Bulletin*, 67(9), 133–140.
- [6]. George, A., & Paul, S. (2021). Digital Financial Inclusion Among Tribal Youth In Kerala: An Empirical Study. *Kerala Economic Review*, 12(1), 45–58.
- [7]. Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does Financial Literacy Improve Financial Inclusion? Cross Country Evidence. *World Development*, 111, 84–96. <https://doi.org/10.1016/j.worlddev.2018.06.020>
- [8]. Kumar, N. (2013). Financial Inclusion And Its Determinants: Evidence From Indian States. *Journal Of Financial Economic Policy*, 5(1), 4–19. <https://doi.org/10.1108/17576381311317754>
- [9]. Kumari, D. A. T. (2020). The Impact Of Financial Literacy On Financial Inclusion Of Rural Women In Sri Lanka. *International Journal Of Scientific And Research Publications*, 10(4), 719–729.

- [10]. 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>
- [11]. Morgan, P. J., & Long, T. Q. (2020). Financial Literacy, Financial Inclusion, And Savings Behavior In Laos. *Journal Of Asian Economics*, 68, Article 101197. <https://doi.org/10.1016/J.Asieco.2020.101197>
- [12]. Nair, R., & Menon, S. (2019). Banking Access And Usage Among Tribal Communities Of Wayanad District, Kerala. *Southern Economist*, 58(2), 21–26.
- [13]. Nandru, P., Chendragiri, M., & Velayutham, A. (2021). Determinants Of Financial Inclusion In Marginalized Sections: A Case Study On Tribal Population Of India. *International Journal Of Bank Marketing*, 39(6), 1024–1045. <https://doi.org/10.1108/IJBM-08-2020-0417>
- [14]. Nunnally, J. C. (1978). *Psychometric Theory* (2nd Ed.). McGraw-Hill.
- [15]. OECD/INFE. (2011). *Measuring Financial Literacy: Questionnaire And Guidance Notes For Conducting An Internationally Comparable Survey Of Financial Literacy*. OECD Publishing.
- [16]. Reji, E. M. (2013). Financial Inclusion And Self-Help Groups. *International Journal Of Development And Economic Sustainability*, 1(2), 27–36.
- [17]. Sarma, M. (2008). *Index Of Financial Inclusion* (ICRIER Working Paper No. 215). Indian Council For Research On International Economic Relations.
- [18]. Shankar, S. (2013). Financial Inclusion In India: Do Microfinance Institutions Address Access Barriers? *ACRN Journal Of Entrepreneurship Perspectives*, 2(1), 60–74.
- [19]. Vishnu, R., & Suresh, K. (2022). Financial Literacy Among Tribal Population: A Study With Reference To Attappady. *International Journal Of Multidisciplinary Educational Research*, 11(3), 112–120.
- [20]. Xavier, T., & Thomas, M. (2018). Socio-Economic Status Of Tribal Population In Kerala: An Empirical Analysis. *Journal Of Regional Development And Planning*, 7(1), 33–46.