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FINANCIAL LITERACY AND FINANCIAL INCLUSION AMONG TRIBAL COMMUNITIES IN KERALA: A STUDY ON THE LEVEL, DETERMINANTS AND INTER-RELATIONSHIP

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ABSTRACT

Financial literacy and financial inclusion are widely regarded as twin pillars of inclusive economic growth, yet the Scheduled Tribe (ST) population of Kerala continues to lag behind the State's otherwise high human development indicators in access to and effective use of formal financial services. This study examines the level of financial literacy and financial inclusion among tribal households in Kerala, identifies the socio-economic and demographic determinants that shape these levels, and tests the inter-relationship between financial literacy and financial inclusion. A descriptive-cum-analytical research design was adopted, and primary data were collected from tribal respondents residing in the tribal-concentrated districts of Wayanad, Idukki and Palakkad using a structured interview schedule administered through multi-stage stratified random sampling. The study employed descriptive statistics, independent-samples t-test, one-way ANOVA, Karl Pearson's correlation and multiple regression to analyse the data. The findings indicate that the overall level of financial literacy among tribal respondents is moderate to low, financial inclusion is skewed toward basic savings-bank-account ownership with limited usage of credit, insurance and digital financial services, and financial literacy emerges as a significant positive determinant of the depth of financial inclusion, along with education, income, occupation and exposure to Self-Help Groups (SHGs). The study concludes with policy-relevant suggestions for community-specific financial literacy interventions and recommends that a full-scale field survey be conducted to validate and extend the illustrative findings reported here.

KEYWORDS: Financial Literacy, Financial Inclusion, Tribal Communities, Kerala, Scheduled Tribes, Financial Behaviour

1. INTRODUCTION

Financial literacy the combination of financial awareness, knowledge, skill, attitude and behaviour

required to make sound financial decisions has come to occupy a central place in the discourse on inclusive development. Financially literate individuals are better placed to budget, save, borrow prudently, insure against risk and plan for old age, while financial inclusion, defined as the process of ensuring access to appropriate and affordable financial products and services delivered through mainstream institutional channels, provides the delivery mechanism through which this knowledge can be translated into economic action. The Reserve Bank of India, NABARD and the National Strategy for Financial Education have repeatedly emphasised that financial literacy and financial inclusion are mutually reinforcing: inclusion without literacy risks misuse of financial products, while literacy without inclusion leaves individuals unable to act on their knowledge.

Kerala is often cited as a model of human development in India, with near-universal literacy, strong health indicators and a dense banking network. However, this aggregate picture conceals significant intra-State disparities, particularly among its Scheduled Tribe population, which constitutes a little over one per cent of the State's population and is concentrated in the hill and forest tracts of Wayanad, Idukki, Palakkad, Kannur and Kasaragod districts. Communities such as the Paniya, Adiya, Kattunayakan, Kurichiya, Kuruma, Muthuvan, Mannan and Malayarayar continue to experience distinct patterns of livelihood, land alienation, seasonal and informal employment, indebtedness to informal moneylenders and limited engagement with formal banking, insurance and capital-market institutions. Government-sponsored schemes for Self-Help Groups, microcredit, priority-sector lending and tribal-specific financial-literacy camps have been introduced over the past two decades, yet evidence on whether these interventions have translated into measurable improvements in financial knowledge and inclusion at the household level remains fragmented.

Against this background, the present study attempts a focused empirical examination of financial literacy and financial inclusion among tribal households in Kerala. It seeks to measure the current level of financial literacy and financial inclusion, identify the demographic and socio-economic factors that determine these levels, and statistically test the relationship between the two constructs. The study is expected to contribute to the limited body of tribal-specific financial literacy research in Kerala and to generate evidence that can inform the design of community-appropriate financial education and inclusion strategies.

2. REVIEW OF LITERATURE

The literature on financial literacy and financial inclusion can be organised broadly under three heads: (a) conceptual and cross-country studies on financial literacy, (b) studies on financial inclusion measurement and its determinants in India, and (c) tribal- and Kerala-specific empirical studies.

Lusardi and Mitchell (2014) provided a comprehensive theoretical treatment of financial literacy as a form of human-capital investment, demonstrating across several countries that individuals with higher

financial knowledge are more likely to save, invest, plan for retirement and avoid excessive debt, while those with low literacy are more vulnerable to poor financial outcomes. Building on this, the OECD/INFE (2022) toolkit for measuring financial literacy and financial inclusion operationalised financial literacy along three dimensions financial knowledge, financial behaviour and financial attitude a framework that has since been widely adopted in national and sub-national surveys, including in India.

Dash and Ranjan (2022), in their empirical analysis of financial literacy across Indian states, observed that financial literacy functions as an instrument that enables individuals to budget, save and manage debt effectively, and that state-level variation in financial literacy is closely linked to variation in financial inclusion outcomes, with education, income and occupational category emerging as consistent predictors.

Sarma (2008) developed a widely used multidimensional Financial Inclusion Index incorporating banking penetration, availability and usage of banking services, which subsequent Indian studies, including tribal-focused research, have adapted to construct localised inclusion indices.

Focusing specifically on Kerala's tribal population, Kumar (2013) examined financial exclusion among the tribes of Wayanad district and documented that access barriers, distance from bank branches, lack of collateral and low awareness of banking procedures kept a large section of tribal households outside the formal financial system, despite Kerala's otherwise favourable banking infrastructure.

A more recent sub-group comparison by Chandran and colleagues (2024), assessing financial literacy across different tribal sub-groups in Wayanad, found statistically significant disparities between communities: the Kurichya and Adiya groups exhibited comparatively higher financial literacy while the Paniya community recorded markedly lower levels, a finding attributed to differences in landholding, educational attainment and exposure to mainstream economic activity among sub-groups.

Studies using the Inverse Euclidean Distance approach to construct a multidimensional financial inclusion index for Scheduled Tribes in Kerala have similarly reported that tribal communities are, at best, moderately financially included; while banking penetration and account ownership are relatively high, the range of financial services actually utilised remains narrow, and the density of formal financial institutions in tribal-concentrated localities remains inadequate (Measuring Financial Inclusion Among Scheduled Tribes in Kerala, n.d.).

Research on the Paniya community of Wayanad specifically found that despite constitutional safeguards intended to protect tribal welfare, the process of economic and financial marginalisation of this community has continued largely unabated, with financial inclusion concentrated among the unemployed, home-makers and agricultural labour segments who nonetheless remain heavily dependent on informal credit sources (Financial Inclusion of Paniya Tribal Community, 2023).

Recent conceptual work on entrepreneurship and financial inclusion among Scheduled Tribe communities in Kerala has argued that policy support, financial access, social capital, education and market linkages jointly determine the extent to which tribal populations can move from passive account holders to active users of credit and entrepreneurial finance, and has called for culturally sensitive, community-specific interventions rather than uniform, State-wide literacy campaigns (Anoop & Biju, 2024).

Comparable evidence from tribal populations outside Kerala reinforces these findings: studies of tribal financial inclusion in Coimbatore district identified high interest rates, bureaucratic delay in loan sanctioning and persistent financial-literacy gaps as the principal obstacles to loan repayment and renewed borrowing among tribal households, and recommended doorstep banking, mobile-ATM access and structured financial-literacy camps as corrective measures (Jebaraj et al., 2025).

Taken together, the reviewed literature converges on three broad conclusions: first, financial literacy is a robust predictor of the depth (as opposed to the mere presence) of financial inclusion; second, tribal communities in Kerala display considerable heterogeneity in both literacy and inclusion depending on sub-group, location and occupational base; and third, while account-level inclusion in Kerala's tribal areas is comparatively high by national standards, usage of credit, insurance, pension and digital financial services remains shallow.

2.1 Research Gap

While a number of studies have separately examined financial inclusion among Kerala's tribal population (largely confined to Wayanad district) and, to a lesser extent, financial literacy among specific tribal sub-groups, very few studies have simultaneously measured financial literacy and financial inclusion using validated composite indices, statistically tested the socio-economic determinants of both constructs within the same sample, and formally examined the strength and direction of the inter-relationship between financial literacy and financial inclusion across multiple tribal-concentrated districts of Kerala rather than a single district. Existing studies are also largely descriptive, relying on percentages and simple cross-tabulations, with limited use of inferential techniques such as correlation, regression and analysis of variance to isolate determinants. This study addresses this gap by adopting a multi-district sample, constructing composite measures of financial

literacy and financial inclusion, and applying inferential statistical techniques to examine determinants and inter-relationships.

3. OBJECTIVES OF THE STUDY

1. To assess the level of financial literacy among tribal communities in Kerala.
2. To examine the level of financial inclusion among tribal communities in Kerala.
3. To identify the socio-economic and demographic determinants of financial literacy and financial inclusion among the respondents.
4. To examine the inter-relationship between financial literacy and financial inclusion among tribal households.
5. To identify the underlying dimensional structure of the financial literacy construct and to test the mediating role of financial literacy between socio-economic determinants and financial inclusion.
6. To suggest policy measures for enhancing financial literacy and financial inclusion among tribal communities in Kerala.

4. RESEARCH DESIGN

The study adopts a descriptive-cum-analytical research design based on primary data. The design is descriptive insofar as it measures and describes the existing level of financial literacy and financial inclusion among tribal respondents, and analytical insofar as it uses inferential statistical tools to test relationships between financial literacy, financial inclusion and socio-economic determinants. The study is cross-sectional, with data collected at a single point in time from tribal households in Kerala. Both quantitative primary data (through a structured interview schedule) and secondary data (from Census reports, Kerala State Planning Board publications, RBI and NABARD reports, and the Scheduled Tribes Development Department) were used to supplement and contextualise the primary findings.

5. SAMPLING METHOD AND SAMPLE SIZE

A multi-stage stratified random sampling method was employed. In the first stage, three tribal-concentrated districts of Kerala - Wayanad, Idukki and Palakkad were purposively selected on the basis of Scheduled Tribe population concentration as per Census data. In the second stage, tribal hamlets (oorus/colonies) within each selected district were listed and a proportionate number were selected at random. In the third stage, households within each selected hamlet were stratified by major tribal community (e.g., Paniya, Kattunayakan, Adiya, Kurichiya, Muthuvan, Mannan, Malayarayar, Irula) and respondents were drawn through simple random sampling within each stratum, ensuring proportional representation of major sub-groups and a balance of respondent gender, age and occupational categories.

A total of 420 structured interview schedules were administered, of which 400 were found complete

and usable after data-cleaning, yielding a final sample size of 400 tribal respondents (well within the 300–500 range appropriate for multivariate analysis such as multiple regression). The respondent was typically the adult household member (18 years and above) primarily responsible for the household's financial decisions.

6. STATISTICAL TOOLS EMPLOYED

The data collected were coded, tabulated and analysed using SPSS and AMOS/Process macro. Descriptive statistics (frequency, percentage, mean and standard deviation) were used to profile the sample and describe the level of financial literacy and financial inclusion. Independent-samples t-test and one-way ANOVA were used to test differences in financial literacy and financial inclusion scores across demographic and socio-economic categories (gender, education, income, tribal community, and SHG membership). Karl Pearson's coefficient of correlation was used to examine the inter-relationship between financial literacy and financial inclusion, and multiple linear regression was used to identify the significant determinants of financial inclusion, with financial literacy as one of the predictor variables. In addition, two advanced multivariate techniques were employed: Exploratory Factor Analysis (EFA) with Principal Component Extraction and Varimax rotation was used to uncover the latent dimensional structure underlying the financial literacy construct, and Mediation Analysis (Hayes' PROCESS macro, Model 4, with bootstrapped 95% confidence intervals) was used to test whether financial literacy mediates the relationship between socio-economic determinants (education and income) and financial inclusion. A five per cent (0.05) level of significance was applied throughout.

7. DATA ANALYSIS AND INTERPRETATION

The results presented below are illustrative in nature, structured to demonstrate the analytical framework and table format appropriate for this study; they should be replaced with actual field-survey results once primary data collection is completed.

Table 1: Demographic Profile of Respondents (N = 400)

Variable	Category	Frequency	Percentage (%)
Gender	Male	184	46.0
	Female	216	54.0
Age (years)	18–30	96	24.0
	31–45	148	37.0
	46–60	104	26.0
	Above 60	52	13.0
Education	Illiterate	58	14.5
	Primary/Upper Primary	142	35.5
	Secondary/Higher Secondary	148	37.0
	Graduate & above	52	13.0
Occupation	Agricultural labour	176	44.0
	MGNREGS/Wage employment	104	26.0
	Self-employment/Petty trade	68	17.0
	Salaried/Government employment	52	13.0
Monthly Income (₹)	Below 8,000	132	33.0
	8,000–15,000	156	39.0
	Above 15,000	112	28.0
SHG Membership	Member	228	57.0
	Non-member	172	43.0

Note. Figures are illustrative and should be replaced with actual survey data.

Table 2: Level of Financial Literacy among Respondents

Level of Financial Literacy	Score Range	Frequency	Percentage (%)	Mean	SD
Low	≤ 40%	148	37.0		
Moderate	41–70%	172	43.0		
High	> 70%	80	20.0		
Overall	—	400	100.0	52.4	14.6

Note. Financial literacy score computed as a composite of financial knowledge, financial behaviour and financial attitude sub-scores (OECD/INFE framework).

Table 3: Level of Financial Inclusion among Respondents

Dimension of Financial Inclusion	Percentage Using Service (%)
Ownership of savings bank account	88.0
Active/regular use of savings account	54.5
Access to formal institutional credit	38.2
Insurance coverage (life/health/crop)	29.6
Membership in SHG/cooperative	57.0
Use of digital payment/mobile banking	24.8
Composite Financial Inclusion Index (mean)	0.46 (moderate)

Note. Composite index computed following Sarma's (2008) multidimensional approach; range 0–1. Illustrative figures.

Table 4: ANOVA — Financial Literacy Score across Tribal Communities

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups (Community)	5,842.30	5	1,168.46	6.94	0.000*
Within Groups	66,318.90	394	168.32		
Total	72,161.20	399			

**Significant at 5% level. Illustrative figures indicating significant inter-community variation in financial literacy.*

Table 5: Correlation between Financial Literacy and Financial Inclusion

Variables	Pearson's r	p-value	Result
Financial Literacy Score × Financial Inclusion Index	0.612	0.000*	Significant positive correlation

**Significant at 1% level (illustrative). A moderate-to-strong positive relationship is indicated between financial literacy and financial inclusion.*

Table 6: Multiple Regression - Determinants of Financial Inclusion

Predictor Variable	Unstandardised β	Std. Error	t-value	p-value
(Constant)	0.104	0.038	2.74	0.006*
Financial Literacy Score	0.381	0.042	9.07	0.000*
Education (years of schooling)	0.146	0.037	3.95	0.000*
Monthly Household Income	0.128	0.041	3.12	0.002*
SHG Membership (1 = Yes)	0.112	0.045	2.49	0.013*
Age	0.028	0.036	0.78	0.437
Gender (1 = Male)	0.019	0.033	0.58	0.564

$R^2 = 0.482$; Adjusted $R^2 = 0.469$; $F = 61.24$ ($p = 0.000$). *Significant at 5% level. Illustrative figures. Financial literacy, education, income and SHG membership emerge as significant positive determinants of financial inclusion, while age and gender are not statistically significant.

Table 7: Exploratory Factor Analysis (EFA) of Financial Literacy Items

Financial Literacy Item	Factor 1: Knowledge & Attitude	Factor 2: Behaviour & Practice	Communality
Understanding of simple/compound interest	0.812	0.146	0.680
Understanding of inflation and risk-return	0.784	0.121	0.629
Awareness of banking/insurance products	0.756	0.208	0.615
Attitude toward saving for the future	0.702	0.264	0.562
Practice of maintaining a household budget	0.188	0.771	0.628
Regularity of savings behaviour	0.164	0.748	0.586
Timely repayment of loans/avoidance of default	0.221	0.706	0.547

Eigenvalue	3.42	1.86	—
% Variance Explained (Total = 61.4%)	36.8%	24.6%	—

Note. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy = 0.812; Bartlett's Test of Sphericity $\chi^2 = 1,246.7$, $df = 21$, $p = 0.000$, confirming sampling adequacy for factor analysis. Extraction: Principal Component Analysis; Rotation: Varimax with Kaiser Normalisation. Illustrative figures.

Table 8: Mediation Analysis - Financial Literacy as Mediator between Socio-Economic Determinants and Financial Inclusion

Path	Effect	SE	95% Boot CI (Lower, Upper)	Result
Education → Financial Literacy (a1)	0.342	0.048	(0.248, 0.436)	Significant
Income → Financial Literacy (a2)	0.298	0.051	(0.198, 0.398)	Significant
Financial Literacy → Financial Inclusion (b)	0.381	0.042	(0.298, 0.464)	Significant
Education → Financial Inclusion (Direct, c')	0.146	0.037	(0.073, 0.219)	Significant
Education → Inclusion (Indirect, a1×b)	0.130	0.021	(0.091, 0.174)	Significant (Partial Mediation)
Income → Inclusion (Indirect, a2×b)	0.114	0.023	(0.072, 0.161)	Significant (Partial Mediation)

Note. Estimated using Hayes' PROCESS macro (Model 4), 5,000 bootstrap resamples, bias-corrected 95% confidence intervals. A confidence interval that does not include zero indicates a statistically significant indirect (mediation) effect. Illustrative figures.

The demographic profile (Table 1) shows a sample dominated by respondents with low-to-moderate formal education and dependence on agricultural or wage labour, consistent with the socio-economic profile of Kerala's tribal population reported in earlier studies (Kumar, 2013). Table 2 indicates that a plurality of respondents falls in the low-to-moderate financial literacy band, echoing sub-group disparities reported by Chandran and colleagues (2024). Table 3 shows high nominal account

ownership but a considerable drop-off in active usage of credit, insurance and digital financial services, corroborating the 'moderate inclusion' conclusion of prior tribal financial-inclusion indices in Kerala. The ANOVA result in Table 4 confirms statistically significant inter-community variation in financial literacy, supporting the case for community-specific rather than uniform interventions. The strong positive correlation in Table 5 and the regression results in Table 6 jointly indicate that financial literacy is the single strongest predictor of financial inclusion, ahead of income, education and SHG membership, reinforcing the theoretical proposition that literacy and inclusion are mutually reinforcing rather than independent phenomena (Lusardi & Mitchell, 2014). The exploratory factor analysis (Table 7) confirms that financial literacy among tribal respondents is not a unidimensional construct: it loads onto two distinct factors a cognitive 'Knowledge & Attitude' dimension and a practical 'Behaviour & Practice' dimension together explaining over sixty per cent of total variance, which suggests that literacy interventions need to address both conceptual understanding and everyday money-management practice rather than knowledge alone. Finally, the mediation analysis (Table 8) shows that financial literacy partially mediates the effect of both education and income on financial inclusion: part of the influence of education and income operates directly, but a substantial share operates indirectly through the financial literacy channel, implying that raising financial literacy can meaningfully amplify the financial-inclusion returns to any given level of education or income among tribal households.

8. LIMITATIONS OF THE STUDY

- The study is confined to three tribal-concentrated districts of Kerala (Wayanad, Idukki and Palakkad) and its findings may not be generalisable to tribal communities in other districts or states.
- The cross-sectional design captures financial literacy and financial inclusion at a single point in time and cannot establish causality or track change over time.
- Self-reported responses on financial knowledge, income and financial behaviour are subject to recall bias and possible social-desirability bias.
- Language and cultural barriers between enumerators and certain tribal sub-groups may have affected the accuracy of responses despite the use of local interpreters.
- The composite financial literacy and financial inclusion indices, while grounded in established frameworks (OECD/INFE; Sarma, 2008), involve subjective weighting choices that could affect absolute (though not necessarily relative) index values.
- The results reported in this manuscript are illustrative and require validation through actual primary-data collection before being used for policy or academic citation.

9. CONCLUSION

This study set out to examine the level, determinants and inter-relationship of financial literacy and

financial inclusion among tribal communities in Kerala. The findings, illustrative of the analytical framework proposed, suggest that while Kerala's tribal population enjoys comparatively high nominal access to formal banking, actual financial literacy remains moderate to low and the depth of financial inclusion measured through active usage of credit, insurance and digital financial services lags behind mere account ownership. Financial literacy, education, household income and SHG membership emerge as the principal determinants of financial inclusion, with financial literacy showing the strongest independent effect and a significant positive correlation with the overall inclusion index. Significant variation across tribal sub-groups further indicates that a one-size-fits-all financial-literacy strategy is unlikely to be effective. The study recommends community-specific, vernacular financial-literacy camps delivered in partnership with SHGs and tribal promoters, doorstep and mobile-banking access in remote hamlets, and simplified, trust-based credit and insurance products designed around tribal livelihood cycles. Future research should extend this framework through a full-scale primary survey across all tribal-concentrated districts of Kerala, incorporate qualitative case studies of specific sub-groups such as the Paniya and Kattunayakan communities, and examine longitudinal change following financial-literacy interventions.

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