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Mapping Financial Awareness and Inclusion Disparities among Farming Communities: Evidence from Ramanagara District, Karnataka

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Abstract
Financial inclusion is widely regarded as a precondition for inclusive rural growth, yet the awareness that underlies its meaningful use is rarely mapped at sub-district resolution. This study examines regional disparities in financial-product awareness and inclusion among 400 farming households across the five taluks of Ramanagara district, Karnataka, using a stratified multi-stage sample and a structured, interview-administered questionnaire. A composite Financial Inclusion Index (FII) was constructed from six access/usage indicators, and awareness, growth, and institutional-perception constructs were validated through confirmatory factor analysis (KMO = 0.842; CFI = 0.981; RMSEA = 0.048). Kruskal–Wallis and ANOVA tests show that both financial awareness ($H = 35.242$, $p < 0.001$) and inclusive growth ($F = 9.106$, $p < 0.001$) vary significantly across taluks, with Channapatna and Harohalli leading and Magadi lagging on inclusion, and Kanakapura leading on perceived growth. Ordinal probit and OLS models confirm that inclusion ($\beta = 1.935$, $p < 0.001$) and banking perception ($\beta = 0.121$, $p = 0.004$) are significant positive predictors of inclusive growth, while among banks, self-help groups (SHGs) and business correspondents (BCs), only the BC channel significantly builds financial literacy ($\beta = 0.104$, $p = 0.005$). The findings support a perception-and-intermediary-led rather than a classroom-literacy-led model of financial inclusion, with clear implications for spatially targeted policy design.

Keywords: Financial inclusion; financial awareness; regional disparity; farming communities; Ramanagara; Karnataka; inclusive growth

1. Introduction

Financial inclusion-defined as timely and adequate access to formal financial services at an affordable cost-is now a core pillar of development policy in agrarian economies (Sarma, 2008; World Bank, 2022). In India, flagship programmes such as the Pradhan Mantri Jan Dhan Yojana, the Kisan Credit Card (KCC) scheme, and the Business Correspondent (BC) model have driven near-universal bank-account penetration. However, account ownership is a necessary but not a sufficient condition for inclusion: farmers must also be aware of the products available to them and must trust the institutions that deliver those products (Singh and Sharma, 2017). Awareness and trust, unlike account penetration, are not uniformly distributed across space, and this spatial unevenness is precisely what conventional national- or state-level financial inclusion indices tend to obscure.

Karnataka presents a instructive case because it combines high formal banking penetration with sharp intra-state disparities in outreach quality (Serrao et al., 2021). Ramanagara district-since renamed Bengaluru South-is particularly informative: its peri-urban location adjacent to Bengaluru generates uneven exposure to digital and institutional financial infrastructure across its constituent taluks (NITI Aayog, 2023). Despite this, the district-level and sub-district evidence base on farmers' financial awareness remains thin. This study addresses that gap by empirically mapping financial awareness and inclusion across the five taluks of Ramanagara district-Ramanagara, Channapatna, Kanakapura, Magadi, and Harohalli-and by testing whether geographic location, institutional intermediaries, and financial literacy jointly explain variation in farmer's perceived inclusive growth.

2. Objectives of the Study

The study pursues three specific objectives:

1. To map regional variation in financial awareness among farmers across taluks.
2. To identify institutional drivers of disparities in financial inclusion.
3. To assess the link between financial inclusion and farmers' inclusive growth.

3. Review of Literature

Theoretical work on finance and growth establishes that access to formal financial services reduces transaction costs and market frictions that disproportionately burden the poor (Sarma and Pais, 2011; Sha'ban et al., 2021). In the Indian context, studies document rising account penetration alongside persistent usage gaps in credit and insurance products, particularly among small and marginal farmers (Reserve Bank of India, 2023; Reddy and Reddy, 2016). A parallel literature distinguishes financial inclusion (access/usage) from financial literacy (knowledge), arguing that the latter does not automatically follow from the former (Singh and Sharma, 2017; Subha and Priya, 2014). Karnataka-specific work has flagged uneven Bank–SHG–BC linkage strength as a determinant of this gap (Serrao et al., 2021), and cross-country evidence similarly shows that institutional intermediaries, rather than formal education, are often the more proximate drivers of financial awareness among rural populations (Sarpong and Nketiah-Amponsah, 2022; Wang, 2020). Despite this, few studies operationalise awareness as a taluk-level, statistically testable construct, and fewer still situate this analysis within the specific institutional geography of a peri-urban district such as Ramanagara. This is the gap the present study addresses.

4. Research Methodology

4.1 Design, Study Area, and Sample

The study adopts a descriptive-analytical, cross-sectional design combining primary survey data with secondary statistical benchmarks. Ramanagara district (3,556 km²), comprising the taluks of Ramanagara, Channapatna, Kanakapura, Magadi, and Harohalli, was purposively chosen for its peri-urban economic transition and its documented spatial disparities in financial access. The target population was rural farming households aged 21 and above. Sample size was determined using the Yamane formula ($n = N / [1 + N(e)^2]$) with N = 243,829 projected rural households (2024) and e = 0.05, yielding $n \approx 400$. A three-stage stratified design was used: taluks as primary strata (Stage 1), villages selected by probability-proportional-to-size within each taluk (Stage 2), and households selected via simple random and snowball sampling (Stage 3), covering 104 villages. Table 1 shows the resulting distribution alongside its rural-household benchmark; all deviations are within five percentage points, confirming representativeness.

Table 1: Sample Distribution by Taluk versus Rural Household Population (2024)

Taluk	Sample (n)	Sample (%)	Rural HHs	Rural HHs (%)	Diff. (pp)
Channapatna	102	25.50	58,112	23.83	+1.67
Kanakapura	84	21.00	62,353	25.57	−4.57
Magadi	91	22.75	50,993	20.91	+1.84
Ramanagara	76	19.00	49,635	20.36	−1.36
Harohalli	47	11.75	22,736	9.32	+2.43
Total	400	100.00	2,43,829	100.00	—

Source: Government of Karnataka (2023–24); Primary survey data.

Respondents were predominantly male (64.25%), married (97.00%), aged 41–50 (43.00%), and dependent exclusively on agriculture (78.00%). Sixty-nine per cent had only primary schooling or no formal education, and 83.00% of households earned below INR 20,000 per month — a structural profile that motivates the study's focus on trust- and intermediary-based, rather than classroom-based, channels of financial awareness.

4.2 Instrument, Constructs, and Analytical Techniques

Data were collected through a structured, interviewer-administered questionnaire in Kannada, organised into six sections covering household profile, land and agricultural expenses, banking awareness, borrowing behaviour, exposure to government initiatives, and perceived inclusive growth. Multi-item Likert scales (1–5) captured Banking Perception, Financial Literacy, SHG Role, BC Role, Government Campaigns, and Inclusive Growth; confirmatory factor analysis confirmed adequate sampling (KMO = 0.842; Bartlett's $p < 0.001$), convergent validity (AVE > 0.50, CR > 0.70 for all constructs), discriminant validity (Fornell–Larcker criterion), and good model fit ($\chi^2/df = 2.17$; RMSEA = 0.048; CFI = 0.981; TLI = 0.979). Harman's single-factor test ruled out common method bias (32.4% of variance on one factor).

A composite Financial Inclusion Index (FII) was constructed from six binary access/usage indicators — bank-account ownership, ATM/debit-card usage, KCC ownership, SHG membership, BC usage, and Direct Benefit Transfer (DBT) receipt — averaged per respondent ($FII \in [0,1]$) and classified into Low, Moderate, and High inclusion terciles. Hypotheses were tested using: Kruskal–Wallis and one-way ANOVA (regional variance in awareness and growth, H1 and H5, Objectives 1 and 3); OLS regression (banking perception and institutional determinants of growth and literacy, H2 and Objective 2); bootstrap mediation with 5,000 resamples and bias-corrected 95% confidence intervals (government initiatives → literacy → growth, H3); an ordered probit model (FII → growth, H4, Objective 3); and the Gini coefficient (within-taluk distribution of growth). All analyses were conducted in Python 3 (N = 400, listwise deletion).

5. Results and Discussion

5.1 Financial Inclusion Pattern and Regional Disparities (Objective 1)

Basic account access is near-universal (99.25%) but usage of credit- and group-based instruments lags well behind: KCC ownership stands at 43.00% and SHG membership at 46.75%, while BC-assisted transactions reach 68.75% and DBT receipt 89.75% (Table 2). This access–usage gap indicates that the residual inclusion problem in Ramanagara lies not in account opening but in the deployment of credit and group-based instruments.

Table 2: Indicator-Wise Financial Inclusion Penetration (N = 400)

Indicator	Access/Usage (%)
Bank account ownership	99.25
ATM / debit card usage	61.25
Kisan Credit Card (KCC)	43.00
SHG membership	46.75
Business Correspondent (BC) usage	68.75
Direct Benefit Transfer (DBT) receipt	89.75

Source: Primary survey data.

The overall mean FII is 0.699 (SD = 0.156), with farmers split almost evenly across Low (33.50%), Moderate (33.25%), and High (33.25%) inclusion terciles. A chi-square test confirms

that inclusion level is significantly associated with taluk (χ^2 = 41.575, df = 8, $p < 0.001$), and a one-way ANOVA of mean FII across taluks is significant ($F = 11.050$, $p < 0.001$). As Table 3 shows, Channapatna and Harohalli are the inclusion leaders, while Magadi lags sharply, with fewer than one in eight of its farmers in the High-Inclusion stratum.

Table 3: Mean Financial Inclusion Index (FII) and Inclusion-Level Distribution by Taluk

Taluk	Mean FII	SD	Low (%)	Moderate (%)	High (%)
Channapatna	0.735	0.179	21.57	32.35	46.08
Harohalli	0.734	0.114	19.15	34.04	46.81
Kanakapura	0.696	0.166	28.57	36.90	34.52
Ramanagara	0.658	0.176	46.05	22.37	31.58
Magadi	0.599	0.127	48.35	39.56	12.09

Source: Primary survey data. One-way ANOVA $F = 11.050$, $p < 0.001$; $\chi^2 = 41.575$, df = 8, $p < 0.001$.

Inclusion level is also significantly associated with income ($\chi^2 = 30.821$, $p < 0.001$) and gender ($\chi^2 = 48.811$, $p < 0.001$) but not with education ($\chi^2 = 7.552$, $p = 0.478$). Female respondents display a striking bimodal pattern — 44.76% Low and 44.06% High inclusion, with only 11.19% Moderate-consistent with an SHG-driven inclusion channel in which membership, rather than gender per se, determines banking depth.

5.2 Awareness Disparities across Taluks (Objective 1, H1)

A Kruskal–Wallis test on the financial-awareness construct across the five taluks yields $H(4) = 35.242$, $p < 0.001$, decisively rejecting the null hypothesis of uniform awareness (H01). Dunn's post-hoc test with Bonferroni correction identifies Magadi as significantly underserved relative to both Kanakapura ($p < 0.001$, Hedges' $g = 0.82$) and Channapatna ($p < 0.001$, $g = 0.66$), while Ramanagara trails Kanakapura ($p = 0.011$, $g = 0.51$). This awareness gap mirrors, and likely underlies, the inclusion gap documented in Section 5.1: outreach through SHGs and BCs has produced geographically uneven results, with Magadi consistently the weakest-served taluk across both access and awareness measures.

5.3 Institutional Drivers of Disparity and Determinants of Growth (H2, H4, Objectives 2 and 3)

An OLS regression of the Growth Index on Banking Perception and Financial Literacy (controlling for education, income, landholding, gender, and age) shows that Banking Perception is a significant positive predictor ($\beta = 0.121$, $p = 0.004$), as is Financial Literacy ($\beta = 0.099$, $p < 0.001$), supporting H2. Notably, formal education carries a significant negative coefficient ($\beta = -0.100$, $p < 0.001$), suggesting that perceived growth is driven more by trust in institutions than by schooling. An ordered probit model confirms that the composite FII is a strong positive predictor of inclusive growth ($\beta = 1.935$, $p < 0.001$), with landholding also significant ($\beta = 0.264$, $p = 0.008$), supporting H4 and directly addressing Objective 3.

Objective 2 asked which of three institutional actors-banks, SHGs, or BCs-most enhances financial literacy. A regression of the Literacy score on all three actors (with the same controls) shows that only the Business Correspondent channel is significant ($\beta = 0.104$, $p = 0.005$); neither Banking Perception ($p = 0.376$) nor SHG Role ($p = 0.755$) reaches significance. This identifies the BC as the operative last-mile literacy channel in Ramanagara, ahead of both the bank branch and the SHG.

A bootstrap mediation analysis (5,000 resamples) further shows that government financial-literacy initiatives affect the Growth Index mainly through a direct channel ($\beta = 0.077$, $p = 0.004$) and only marginally through Financial Literacy as mediator (indirect effect = 0.014; 95% CI [0.0001, 0.0321], excluding zero but small). H3 is therefore supported, but the mediating role of classroom-style literacy is modest relative to direct institutional effects.

5.4 Regional Variance and Internal Distribution of Growth (H5, RQ6)

Both one-way ANOVA ($F = 9.106$, df = 4,395, $p < 0.001$) and Kruskal–Wallis ($H = 44.495$, $p < 0.001$) confirm that inclusive growth varies significantly across taluks, with geographic location explaining approximately 8.4% of variance in growth ($\eta^2 = 0.084$). Tukey's HSD identifies Kanakapura as the growth leader, significantly ahead of Magadi (mean difference = 0.332, $p < 0.001$, $g = 1.04$) and Ramanagara (mean difference = 0.373, $p < 0.001$, $g = 0.74$). Growth also varies significantly by income ($F = 7.295$, $p < 0.001$) and education ($F = 4.940$, $p = 0.001$), but not by gender ($p = 0.997$) or age ($p = 0.888$)-despite the strong gender association with inclusion level noted above.

The Gini coefficient of the Growth Index (Table 4) reveals that average inclusion and equity of outcome do not coincide. Harohalli, second-highest on mean FII, shows the highest internal inequality ($G = 0.3025$), while Kanakapura, third on mean FII, shows the most equitable distribution ($G = 0.1147$). This indicates that taluk-level averages alone understate the policy problem: within-taluk targeting is required even where mean inclusion is high.

Table 4: Hypothesis-Testing Summary and Gini Coefficient of the Growth Index

Hypothesis	Test / Statistic	Result	Taluk	Gini (Growth)
H1: Awareness varies by taluk	Kruskal–Wallis $H = 35.242$, $p < 0.001$	Supported	Kanakapura	0.1147
H2: Banking perception → growth	OLS $\beta = 0.121$, $p = 0.004$	Supported	Magadi	0.1553
H3: Literacy mediates govt. → growth	Bootstrap indirect = 0.014, CI excl. 0	Supported (marginal)	Ramanagara	0.1975
H4: Inclusion → growth	Ordinal probit $\beta = 1.935$, $p < 0.001$	Supported	Channapatna	0.2025
H5: Growth varies by taluk	ANOVA $F = 9.106$, $p < 0.001$	Supported	Harohalli	0.3025

Source: Primary survey data. Overall sample Gini = 0.1289.

6. Discussion: Toward a Perception-and-Intermediary Model

Taken together, the results support what may be termed a perception-and-intermediary model of financial inclusion in peri-urban agrarian districts. Growth is fundamentally access-based: the composite FII (H4) and banking perception (H2) are its most consistent statistical drivers, while classroom-style financial literacy exerts, at best, a marginal mediating effect on the government-initiative pathway (H3). Among institutional intermediaries, the Business Correspondent-not the bank branch or the SHG-is the significant literacy-building channel, underscoring the practical value of last-mile, relationship-based outreach over generic awareness campaigns. Regionally, the consistent identification of

Magadi as the weakest taluk on both awareness (H1) and inclusion, and of Harohalli as internally the most unequal despite high mean inclusion, together indicate that spatial targeting must operate at two levels simultaneously: raising average access in laggard taluks such as Magadi, and addressing within-taluk distributional inequities in nominally high-performing taluks such as Harohalli, likely linked to its transitional, peri-urban status following Bengaluru's southward expansion.

7. Policy Implications

- Prioritise Business Correspondent capacity-building over generic classroom literacy campaigns, given the BC channels demonstrated and statistically significant role in building financial literacy.
- Design taluk-differentiated interventions: intensive outreach and BC deployment in Magadi to close the awareness and access gap; targeted, distribution-sensitive support in Harohalli to reduce within-taluk inequality despite its favourable average inclusion.
- Strengthen relationship-based "trust infrastructure"-transparent, farmer-facing banking interactions-since banking perception, not formal schooling, is the stronger correlate of perceived inclusive growth.
- Retain government financial-literacy programmes as a supporting rather than primary lever, given their small but real mediated effect, and pair them with direct-benefit and product-access measures that carry most of the growth effect directly.
- Monitor inclusion using both taluk-average indices and within-taluk Gini coefficients, since the two capture different and equally policy-relevant dimensions of disparity.

Conclusion

This study empirically maps financial awareness and inclusion among 400 farming households across five taluks of Ramanagara district, Karnataka, and finds significant, robust regional disparities in both dimensions. Financial inclusion (measured by a composite index) and banking perception are the principal statistically significant drivers of farmers perceived inclusive growth, while classroom-oriented financial literacy plays only a marginal mediating role; among institutional actors, the Business Correspondent uniquely and significantly builds financial literacy. Magadi emerges as the consistently underserved taluk across awareness, inclusion, and growth, while Harohalli-despite strong average inclusion-exhibits the highest internal inequality in growth outcomes. These findings argue for a spatially differentiated, intermediary-led, perception-first policy architecture rather than a uniform, literacy-first one, and offer a replicable sub-district methodology for mapping financial awareness in other peri-urban agrarian regions of India.

References

1. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research. 1981; 18(1):39-50.
2. Government of Karnataka. District census handbook: Ramanagara. Directorate of Census Operations, Karnataka, 2016.
3. Government of Karnataka. Ramanagara district at a glance. Department of Statistics, Government of Karnataka, 2023–24.
4. Imai K, Keele L, Tingley D. A general approach to causal mediation analysis. Psychological Methods. 2010; 15(4):309–334.
5. Kaiser HF. An index of factorial simplicity. Psychometrika. 1974; 39(1):31–36.
6. NITI Aayog. Aspirational districts and peri-urban transitions in India. Government of India, 2023.
7. Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP. Common method biases in behavioral research. Journal of Applied Psychology. 2003; 88(5):879–903.
8. Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing indirect effects in mediation models. Behavior Research Methods. 2008; 40(3):879–891.
9. Reddy AA, Reddy GP. Financial inclusion programs in rural Karnataka. Agricultural Economics Research Review. 2016; 34(1):1–15.
10. Reserve Bank of India. (2023). Annual report 2022–23. Reserve Bank of India, Mumbai.
11. Sarma M. Index of financial inclusion. ICRIER Working, 2008, 215.
12. Sarma M, Pais J. Financial inclusion and development. Journal of International Development. 2011; 23(5):613–628.
13. Sarpong B, Nketiah-Amponsah E. Financial inclusion and inclusive growth in sub-Saharan Africa. Journal of African Economies, 2022.
14. Serrao MV, Sequeira AH, Varambally KVM. Financial inclusion in Karnataka: Progress and challenges. Journal of Asian Finance, Economics and Business, 2021.
15. Sha'ban M, Girardone C, Sarkisyan A. Financial inclusion: Measure and determinants-a cross-country analysis. Journal of International Financial Markets, Institutions and Money, 2021.
16. Singh C, Sharma R. Financial literacy and financial inclusion among farmers. Indian Journal of Agricultural Economics. 2017; 72(3):350–368.
17. Subha M, Priya R. Financial literacy and financial inclusion: A study. Indian Journal of Applied Research, 2014.
18. Tabachnick BG, Fidell LS. Using multivariate statistics (7th ed.). Pearson, 2019.
19. Tavakol M, Dennick R. Making sense of Cronbach's alpha. International Journal of Medical Education. 2011; 2:53-55.
20. Wang X. Digital financial inclusion and farmer vulnerability to poverty in China. China Economic Review, 2020.
21. World Bank. World development report 2022: Finance for an equitable recovery. World Bank, Washington, DC, 2022.