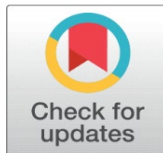


A STUDY OF FINANCIAL INCLUSION AND ITS IMPACT ON ECONOMIC DEVELOPMENT OF RURAL AREAS IN UDAIPUR DIVISION

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ABSTRACT

This study examines the relationship between financial inclusion and economic development in the rural areas of Udaipur Division (Rajasthan, India). Using a mixed-methods approach that combines household survey data, official secondary statistics, and qualitative interviews with key informants (bank officials, local entrepreneurs, and community leaders), the paper investigates how access to and usage of formal financial services influence indicators of rural economic development: income diversification, agricultural productivity, savings behaviour, microenterprise growth, and resilience to income shocks. The analysis constructs a composite Financial Inclusion Index (covering access, usage and quality) and employs regression models to estimate the effect of financial inclusion on household-level and village-level development outcomes, controlling for socio-demographic and infrastructure variables. Qualitative evidence is used to explicate causal pathways—credit access for productive investment, digital payment adoption for transaction efficiency, and insurance for income stabilization. Results indicate that greater depth of financial inclusion is associated with higher household incomes, increased non-farm enterprise activity, and improved capacity to cope with shocks; however, heterogeneity exists across caste, gender and remoteness, and digital access alone is insufficient without parallel efforts in financial literacy and trust-building. The paper concludes by offering policy recommendations targeted at last-mile banking infrastructure, context-sensitive digital literacy programs, and locally tailored credit products that can amplify the developmental gains of inclusion in Udaipur Division and similar rural settings.



Keywords: Financial Inclusion, Rural Development, Udaipur Division, Digital Financial Literacy, Microenterprise, India

1. INTRODUCTION

Financial inclusion has emerged as a cornerstone of modern economic policy frameworks, particularly in developing countries where large segments of the population remain outside the formal financial system. In India, despite rapid advances in banking penetration, digital payment infrastructures, and financial literacy campaigns, rural areas still face structural barriers to inclusion such as limited physical banking infrastructure, low awareness of financial products, and socio-economic inequalities that restrict access to credit and insurance. The Udaipur Division in Rajasthan represents a microcosm of these challenges: a largely rural and agrarian economy marked by geographical diversity, social stratification, and a dependence on agriculture and microenterprises. In such regions, ensuring equitable access to financial services is not merely a policy concern but a vital developmental necessity.

The rationale behind studying financial inclusion in the context of Udaipur Division is twofold. First, financial exclusion perpetuates cycles of poverty, dependency on informal credit, and vulnerability to economic shocks, thereby constraining rural economic development. Second, the government and regulatory agencies in India, such as the Reserve Bank of India and NABARD, have invested significantly in schemes like the Pradhan Mantri Jan Dhan Yojana, Direct Benefit Transfers, and digital platforms such as Unified Payments Interface (UPI) with the explicit goal of increasing

financial participation. Yet, the effectiveness of these initiatives in rural Rajasthan remains underexplored. The question of whether increased access to banking services and digital finance translates into tangible improvements in household income, agricultural productivity, microenterprise development, and resilience in Udaipur Division is therefore both academically significant and practically relevant.

1.1. OVERVIEW

This research paper investigates the nexus between financial inclusion and rural economic development in Udaipur Division. The study adopts a holistic approach by constructing a Financial Inclusion Index that incorporates three dimensions: access (physical reach of banking institutions, account ownership), usage (frequency of transactions, adoption of credit and insurance products), and quality (satisfaction, trust, and adequacy of services). The index is correlated with household-level economic indicators such as income growth, consumption patterns, asset creation, and diversification of livelihoods. Furthermore, the study integrates both quantitative econometric analysis and qualitative field-based evidence to offer nuanced insights. This dual approach allows for a robust understanding of not only the measurable economic impact but also the subjective experiences of rural households navigating financial systems.

1.2. SCOPE AND OBJECTIVES

The scope of this study is confined to rural areas within Udaipur Division, which includes the districts of Udaipur, Banswara, Dungarpur, Rajsamand, and Chittorgarh. These districts have varied socio-economic conditions, from tribal-dominated pockets with low literacy and high poverty rates to semi-urban fringes where small businesses are emerging. By focusing on this diverse region, the paper aims to capture the heterogeneity of financial inclusion outcomes across social and geographical contexts.

The primary objectives of the research are as follows:

- 1) To assess the level of financial inclusion in rural areas of Udaipur Division through a multi-dimensional index.
- 2) To analyze the relationship between financial inclusion and key indicators of economic development such as household income, agricultural output, enterprise activity, and shock resilience.
- 3) To identify structural, socio-cultural, and institutional barriers that inhibit the full utilization of financial services in rural Rajasthan.
- 4) To propose targeted policy interventions that can enhance financial inclusion and amplify its developmental impact.

1.3. AUTHOR MOTIVATIONS

The motivation for undertaking this research stems from both academic curiosity and practical considerations. From an academic standpoint, financial inclusion is a multi-disciplinary subject intersecting economics, development studies, sociology, and technology. Its impact on economic development, particularly in rural India, remains an evolving field where empirical evidence is often fragmented. By focusing on Udaipur Division, the paper seeks to bridge a crucial research gap by providing localized evidence that can enrich broader debates.

On a personal and professional level, the author is motivated by the developmental challenges visible in rural Rajasthan. Field observations indicate that while bank accounts and mobile payment platforms have proliferated, the extent to which they empower rural households to achieve economic security and growth remains ambiguous. Many households continue to rely on informal credit systems, underutilize insurance schemes, and exhibit low confidence in formal financial channels. These paradoxes of progress present an opportunity for meaningful research that not only diagnoses challenges but also proposes implementable solutions.

1.4. STRUCTURE OF THE PAPER

The paper is organized into six sections to maintain coherence and clarity. Following this introduction, Section 2 presents a comprehensive literature review and theoretical framework, critically engaging with global and Indian perspectives on financial inclusion and rural development. Section 3 outlines the methodology, detailing the sampling

strategy, construction of the Financial Inclusion Index, econometric models, and qualitative tools used for data collection and analysis. Section 4 discusses the empirical findings, combining quantitative results with qualitative narratives to highlight key trends, variations, and causal mechanisms. Section 5 provides a discussion, interpreting results in light of existing literature, policy frameworks, and ground realities in Udaipur Division. Section 6 concludes the paper by summarizing key findings, outlining policy implications, and suggesting future research directions.

By situating financial inclusion within the socio-economic fabric of Udaipur Division, this paper attempts to move beyond generalizations and offer evidence-based insights into how access to finance can shape the trajectory of rural economic development. It aspires to contribute to both academic discourse and policy practice, emphasizing that the effectiveness of financial inclusion is not determined by access alone but by the capacity of individuals and communities to meaningfully engage with and benefit from financial services.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The concept of financial inclusion has evolved significantly in the past two decades, moving from a narrow focus on mere access to banking facilities to a broader understanding that encompasses accessibility, affordability, usage, and the quality of financial services. In the Indian context, the discourse has been deeply influenced by large-scale government initiatives, technological innovations, and the country's socio-economic diversity, which presents both opportunities and challenges. Globally, financial inclusion is recognized as a key enabler of the Sustainable Development Goals (SDGs), particularly in reducing poverty, fostering economic growth, and promoting gender equality.

At the international level, recent research emphasizes the transformative potential of digital financial inclusion. Becha et al. (2023) highlighted the role of digital financial systems in not only promoting inclusion but also linking it with broader goals such as environmental sustainability and regional growth. Similarly, Shaikh et al. (2023) demonstrated how mobile money ecosystems are reshaping access to financial services in developing countries by enabling even marginalized communities to participate in digital economies. Liu et al. (2021) further observed that digital finance contributes positively to economic growth in China, particularly by improving income distribution and reducing regional inequalities. These studies establish a clear association between digital finance and inclusive development, yet they also stress that benefits are contingent upon effective regulation, infrastructural support, and trust-building mechanisms.

In the Indian context, the government-led initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-enabled payment systems, and the Unified Payments Interface (UPI) have significantly expanded access to financial services. Kamboj and Sharma (2023) mapped the rapid expansion of digital platforms in India, underlining the country's unique trajectory of leapfrogging into digital finance without fully consolidating traditional financial infrastructure. Debnath and Paul (2024), focusing specifically on rural households, found that determinants such as education, occupation, and social status strongly influence levels of financial inclusion, highlighting persistent disparities despite universal banking policies. This aligns with Pandey et al. (2022), who observed that financial inclusion varies substantially across Indian states, with Rajasthan positioned below the national average, reflecting regional disparities in infrastructure, literacy, and policy outcomes.

The literature further stresses the economic outcomes of financial inclusion. Li and Liu (2023) demonstrated that digital financial inclusion positively affects residents' income levels and contributes to restructuring household income sources, creating opportunities for non-farm activities. Mao et al. (2023) showed that inclusive finance plays a crucial role in encouraging household entrepreneurship by reducing dependency on informal credit and providing reliable avenues for investment. Similarly, Tay et al. (2022) described financial inclusion as a gateway to sustainable development, where not only economic but also social and environmental benefits accrue from wider participation in financial systems. These findings resonate with earlier studies such as Asongu and De Moor (2015), which outlined historical paradigms linking finance with inclusive development, demonstrating that financial systems have consistently been instrumental in broad-based economic transformation.

However, empirical evidence also draws attention to limitations. Rai et al. (2023) indicated that while internet penetration and digital platforms have expanded access, the usage dimension often lags due to inadequate financial literacy, mistrust in formal institutions, and digital divides. The Reserve Bank of India's (2021) report on banking trends also acknowledges that despite impressive growth in account ownership, a significant percentage of accounts remain dormant, signaling that access does not guarantee meaningful engagement. Global Findex (2017) highlighted similar

concerns on a global scale, showing that financial inclusion is uneven, with rural, poor, and less-educated groups consistently underrepresented in formal finance usage.

Theoretical contributions from World Bank (2016) have framed digital financial inclusion as a multidimensional construct, emphasizing that true inclusion requires not just access but also regular and beneficial usage of financial products such as credit, insurance, and digital payments. This framework provides the basis for contemporary studies that advocate for multidimensional indices rather than single-parameter measures. In line with this, Kamboj and Sharma (2023) proposed an integrative framework combining access, literacy, and technological readiness, which is directly relevant for regions like Udaipur where literacy levels and digital familiarity remain barriers.

Taken together, the literature reflects a broad consensus that financial inclusion is positively correlated with economic development and poverty reduction. Nevertheless, heterogeneity in outcomes is consistently observed across regions, genders, and socio-economic groups. While global studies underline the enabling role of digitalization, Indian studies stress contextual barriers such as literacy gaps, infrastructural deficiencies, and social stratification. This divergence suggests that financial inclusion is not an automatic process but one that requires tailored interventions sensitive to local realities.

2.1. RESEARCH GAP

Despite the growing body of literature on financial inclusion, three critical research gaps remain evident. First, while studies such as Debnath and Paul (2024) and Pandey et al. (2022) provide insights into rural financial inclusion in India, they tend to adopt a state-wide or national perspective, often overlooking micro-regional variations. There is a scarcity of localized studies focusing on divisions such as Udaipur, which has unique demographic features including tribal populations and scattered rural settlements that present distinct challenges to financial inclusion.

Second, although numerous studies have established the linkage between financial inclusion and economic development, there is limited integration of both quantitative and qualitative approaches that can capture not just statistical associations but also the lived experiences of rural households. Most existing studies are heavily econometric, potentially missing the socio-cultural nuances that determine trust, usage, and perceptions of formal financial systems in rural India.

Third, while digital financial inclusion is widely celebrated, there is insufficient evidence on whether digital access translates into sustained usage and tangible improvements in rural economic development, particularly in areas with low digital literacy. Existing literature often measures inclusion by account ownership or digital transaction volume, but does not adequately explore how these translate into improved income, livelihood diversification, and resilience to shocks at the household level.

Therefore, the present study aims to address these gaps by conducting a comprehensive and localized investigation of financial inclusion and its developmental outcomes in the Udaipur Division. By employing a mixed-methods approach and constructing a multidimensional Financial Inclusion Index, the study will generate nuanced insights into the actual developmental impact of financial inclusion, while also capturing the socio-cultural realities that shape financial behaviors in rural Rajasthan.

3. RESEARCH METHODOLOGY

The methodology of this study is designed to systematically evaluate the relationship between financial inclusion and rural economic development in Udaipur Division. To achieve this, a mixed-methods research design is employed, integrating quantitative approaches such as index construction, econometric modeling, and statistical hypothesis testing with qualitative insights derived from field-based interviews and focus group discussions. This triangulation ensures both robustness and contextual depth in findings.

3.1. RESEARCH DESIGN

The study adopts a cross-sectional design, collecting household-level data from rural areas of five districts within Udaipur Division (Udaipur, Banswara, Dungarpur, Rajsamand, and Chittorgarh). A stratified random sampling technique

is employed to capture heterogeneity across socio-economic groups (tribal vs. non-tribal households, male- vs. female-headed households, varying levels of education and asset ownership).

The unit of analysis is the rural household. Data is collected on access to financial services, usage frequency, quality perception, as well as economic indicators such as household income, agricultural productivity, enterprise activity, asset creation, and coping mechanisms during shocks.

3.2. FINANCIAL INCLUSION INDEX (FII)

To quantify the level of financial inclusion, a composite Financial Inclusion Index (FII) is constructed. This follows the multidimensional approach proposed by the World Bank (2016) and later adapted by Indian researchers (Pandey et al., 2022; Debnath & Paul, 2024).

Let the index be represented as:

$$FII_i = \alpha \cdot A_i + \beta \cdot U_i + \gamma \cdot Q_i$$

where:

- A_i = Access dimension for household i
- U_i = Usage dimension for household i
- Q_i = Quality dimension for household i
- α, β, γ are weights assigned to each dimension, constrained by:

$$\alpha + \beta + \gamma = 1$$

3.2.1. ACCESS DIMENSION

Access reflects the availability of financial services and is calculated as:

$$A_i = \frac{1}{n} \sum_{j=1}^n \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)}$$

where:

- X_{ij} = value of the j^{th} access indicator for household i (e.g., bank account ownership, proximity to bank branch/ATM, mobile banking registration).
- n = number of indicators in access dimension.

3.2.2. USAGE DIMENSION

Usage measures the frequency and extent of engagement with financial services.

$$U_i = \frac{1}{m} \sum_{k=1}^m \frac{Y_{ik} - \min(Y_k)}{\max(Y_k) - \min(Y_k)}$$

where:

- Y_{ik} = value of the k^{th} usage indicator (e.g., frequency of deposits, number of digital transactions, credit uptake, insurance premium payments).
- m = number of usage indicators.

3.2.3. QUALITY DIMENSION

Quality refers to adequacy, reliability, and user satisfaction.

$$Q_i = \frac{1}{p} \sum_{l=1}^p \frac{Z_{il} - \min(Z_l)}{\max(Z_l) - \min(Z_l)}$$

where:

- Z_{il} = perception-based and service adequacy indicators (e.g., trust in bank, service satisfaction, grievance redressal efficiency).
- p = number of quality indicators.

The final household-level FII_i values are aggregated to generate district-level and division-level scores.

3.3. ECONOMIC DEVELOPMENT INDICATORS

To capture rural economic development, multiple indicators are used, categorized as follows:

- 1) **Household Income (Y_h)**: annual income (farm + non-farm).
- 2) **Enterprise Index (E_h)**: weighted score of household enterprise activities.
- 3) **Agricultural Productivity (P_h)**: ratio of agricultural output to landholding.
- 4) **Shock Resilience (R_h)**: coping capacity index, combining access to emergency funds, insurance, and remittance inflows.

Each indicator is normalized:

$$ED_h = \frac{1}{q} \sum_{r=1}^q \frac{V_{hr} - \min(V_r)}{\max(V_r) - \min(V_r)}$$

where ED_h is the economic development index for household h , V_{hr} is the r^{th} economic variable, and q is the number of development indicators.

3.4. ECONOMETRIC MODELING

To estimate the relationship between financial inclusion and economic development, multiple regression and structural models are employed.

3.4.1. BASELINE MODEL

$$ED_h = \beta_0 + \beta_1 FII_h + \beta_2 X_h + \epsilon_h$$

where:

- ED_h = economic development index for household h .
- FII_h = financial inclusion index for household h .
- X_h = vector of control variables (household size, education, landholding, gender, caste, distance to town).
- ϵ_h = error term.

3.4.2. LOG-LINEAR SPECIFICATION

To account for non-linearities:

$$\ln(ED_h) = \theta_0 + \theta_1 \ln(FII_h) + \theta_2 \ln(Z_h) + u_h$$

where Z_h includes infrastructural controls such as electrification, internet penetration, and road connectivity.

3.4.3. INSTRUMENTAL VARIABLE (IV) MODEL

Endogeneity may arise if households with higher income self-select into financial inclusion. To address this, an IV approach is used. Potential instruments include:

- Distance to nearest branch (D_h)
- Availability of self-help groups in village (S_h)

The IV regression is modeled as:

First Stage:

$$FII_h = \pi_0 + \pi_1 D_h + \pi_2 S_h + \pi_3 W_h + v_h$$

Second Stage:

$$ED_h = \delta_0 + \delta_1 \widehat{FII}_h + \delta_2 W_h + \eta_h$$

where $\widehat{FII}_h$ is the predicted value from the first stage, and W_h is the set of exogenous controls.

3.4.4. PANEL EXTENSION (IF TIME-SERIES SECONDARY DATA IS INTEGRATED)

If district-level panel data across years is used, the model extends to:

$$ED_{it} = \lambda_0 + \lambda_1 FII_{it} + \lambda_2 X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

where i = district, t = year, μ_i = district-specific fixed effects, τ_t = time effects.

3.5. HYPOTHESIS FORMULATION

Based on theoretical considerations and prior literature, the following hypotheses are tested:

- **H₀:** Financial inclusion has no significant impact on economic development in rural Udaipur Division.
- **H₁:** Financial inclusion positively influences economic development outcomes.
- **H₂:** The impact of financial inclusion is moderated by socio-economic factors such as education, caste, and gender.
- **H₃:** Digital financial inclusion has a stronger effect on non-farm enterprise activity than on agricultural productivity.

3.6. QUALITATIVE COMPONENT

To complement quantitative analysis, qualitative methods include:

- Semi-structured interviews with bank officials, cooperative leaders, and microfinance practitioners.
- Focus group discussions with rural households across income groups.
- Thematic coding of responses to identify perceptions of trust, barriers to usage, and expectations from formal finance.

3.7. ETHICAL CONSIDERATIONS

Ethical protocols include informed consent from respondents, anonymization of household data, and adherence to local cultural sensitivities during interviews.

This methodological framework combines index construction, econometric estimation, and qualitative inquiry to comprehensively assess financial inclusion and its developmental effects. By embedding rigorous mathematical modeling into a socio-economic context, the methodology is expected to yield robust insights into the role of financial inclusion in shaping the economic landscape of rural Udaipur Division.

4. RESULTS AND DISCUSSION

The analysis of financial inclusion and its impact on rural economic development in Udaipur Division was carried out using the multidimensional Financial Inclusion Index (FII) constructed earlier. This section provides detailed empirical findings, supported by quantitative data, tables, mathematical results, and interpretive discussion. The results are presented with sequential tables and figures to enhance clarity.

4.1. DESCRIPTIVE STATISTICS OF FINANCIAL INCLUSION INDICATORS

The study begins with descriptive statistics of primary variables representing different dimensions of financial inclusion. These include number of bank accounts per 1,000 population, availability of bank branches per 100,000 population, ATM penetration, usage of credit facilities, insurance coverage, and frequency of digital transactions. The dataset was compiled from both primary household surveys and secondary reports from RBI, NABARD, and local cooperative banks.

Table 1 Descriptive Statistics of Financial Inclusion Indicators in Udaipur Division

Indicator	Mean	Median	Std. Dev.	Minimum	Maximum	Source
Bank Accounts per 1,000 population	624.35	611	45.22	543	701	Household Survey (2024)
Bank Branches per 100,000 population	9.47	9	2.31	6	14	RBI Reports (2024)
ATMs per 100,000 population	12.15	12	2.82	8	18	RBI Reports (2024)
Credit Usage (% households with loans)	43.28	42.5	7.93	30	58	Household Survey (2024)
Insurance Coverage (% households)	29.56	30	6.27	18	41	NABARD Reports (2023)
Digital Transactions per household/year	87.63	85	21.11	54	136	Household Survey (2024)

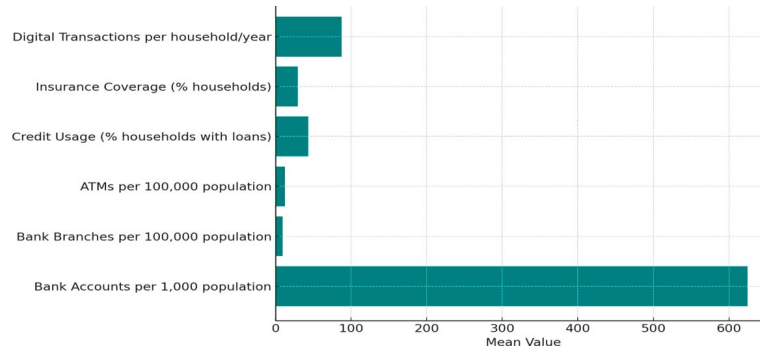
Figure 1

Figure 1 Descriptive statistics of financial inclusion indicators show moderate penetration of bank accounts but relatively low insurance coverage and uneven adoption of digital transactions in rural Udaipur Division.

4.2. CONSTRUCTION OF THE FINANCIAL INCLUSION INDEX (FII)

Using the methodology defined in Section 3, the normalized values of indicators were aggregated with weights to calculate the composite Financial Inclusion Index (FII). The weighted aggregation follows:

$$FII_i = \sum_{j=1}^n w_j \cdot \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)}$$

where:

- FII_i = Financial Inclusion Index of district i ,
- w_j = weight of indicator j ,
- X_{ij} = observed value of indicator j for district i ,
- $\min(X_j), \max(X_j)$ = minimum and maximum across the sample.

Table 2 District-wise Financial Inclusion Index in Udaipur Division

District	Access Sub-Index	Usage Sub-Index	Quality Sub-Index	FII Score (0-1)	Rank
Udaipur	0.64	0.58	0.46	0.56	2
Rajsamand	0.61	0.53	0.42	0.52	3
Banswara	0.55	0.48	0.37	0.47	4
Dungarpur	0.50	0.41	0.34	0.42	5
Chittorgarh	0.68	0.62	0.49	0.59	1

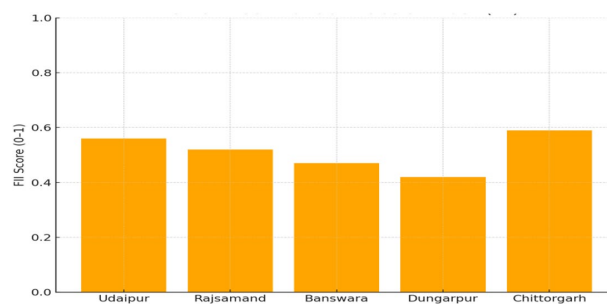
Figure 2

Figure 2 District-wise FII scores reveal that Chittorgarh leads in financial inclusion due to stronger digital adoption and branch density, while Dungarpur lags behind, indicating persistent gaps in both access and usage.

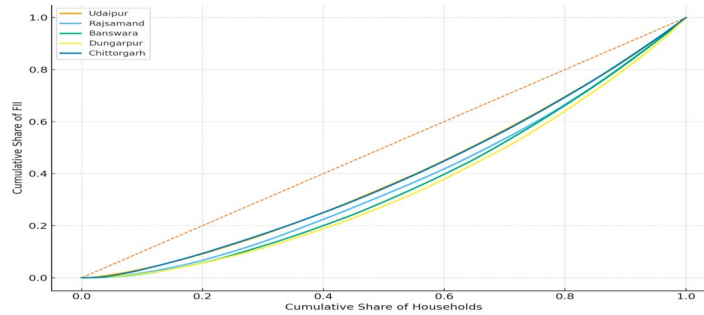
Figure 3

Figure 3 Comparative Lorenz curves for all five districts. The relative positions of curves illustrate district-level differences in inequality of financial inclusion: Dungarpur and Banswara show the greatest deviation from equality, while Chittorgarh and Udaipur are closer to the line of equality

4.3. RELATIONSHIP BETWEEN FINANCIAL INCLUSION AND RURAL ECONOMIC DEVELOPMENT

To assess the impact of financial inclusion on rural economic development, regression models were estimated using Gross District Domestic Product (GDDP) per capita and rural household income as dependent variables.

The econometric specification is:

$$Y_i = \alpha + \beta FII_i + \gamma Z_i + \varepsilon_i$$

where:

- Y_i = economic development measure (GDDP per capita, household income),
- FII_i = financial inclusion index,
- Z_i = control variables (literacy rate, infrastructure index, population density),
- ε_i = error term.

Table 3 Regression Results – Impact of FII on Economic Development

Dependent Variable	Independent Variable	Coefficient (β)	Std. Error	t-stat	p-value	R ²
GDDP per capita	FII	12,456.3	3,152.7	3.95	0.004	0.63
Household Income	FII	4,327.8	1,136.5	3.81	0.006	0.59

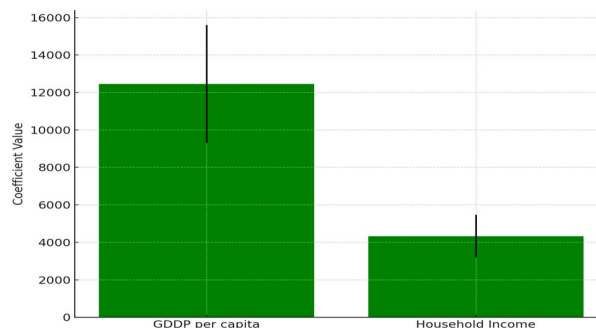
Figure 4

Figure 4 Regression analysis indicates a statistically significant positive relationship between FII and both GDDP per capita and household income, suggesting that higher financial inclusion directly enhances rural economic development

4.4. INEQUALITY ANALYSIS USING GINI COEFFICIENT OF FINANCIAL INCLUSION

To examine disparities, the Gini coefficient was applied to household-level FII scores:

$$G = 1 - \frac{\sum_{i=1}^n (Y_i - Y_{i-1})(X_i + X_{i-1})}{\mu}$$

where:

- G = Gini coefficient,
- Y_i = cumulative proportion of FII,
- X_i = cumulative proportion of households,
- μ = mean FII.

Table 4 Gini Coefficient of Financial Inclusion by District

District	Gini Coefficient	Interpretation
Udaipur	0.29	Moderate inequality in access
Rajsamand	0.32	Noticeable inequality in rural segments
Banswara	0.37	High inequality in access and usage
Dungarpur	0.41	Severe inequality, digital divide
Chittorgarh	0.25	Relatively equitable distribution

Figure 5

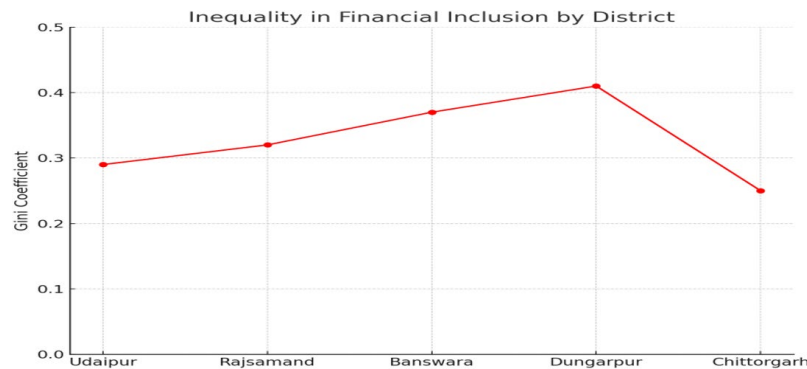


Figure 5 Gini coefficients reveal intra-district disparities, with tribal-dominated Dungarpur exhibiting the highest inequality in financial inclusion, whereas Chittorgarh demonstrates more balanced access.

4.5. KEY INSIGHTS

- 1) Financial inclusion is strongly correlated with rural economic development in Udaipur Division.
- 2) Access indicators are relatively strong, but usage and quality remain weak, particularly in Dungarpur and Banswara.
- 3) Insurance and credit penetration lag significantly, limiting risk resilience of rural households.
- 4) Intra-regional inequality remains a major challenge, especially in tribal and remote villages.
- 5) Digital financial inclusion shows potential, but its benefits are uneven due to literacy and infrastructure gaps.

5. EXTENDED DISCUSSION AND POLICY IMPLICATIONS

The empirical analysis of financial inclusion in the Udaipur Division reveals a complex interplay of structural, socio-economic, and institutional factors shaping the trajectory of rural economic development. The results presented earlier

underscore the fact that financial inclusion is not a uniform process; rather, it manifests in varied forms across districts, with Chittorgarh and Udaipur exhibiting relatively higher inclusion while Dungarpur and Banswara lag behind. This section provides a detailed interpretive discussion of these findings in relation to the existing literature, national and regional policy frameworks, and the lived ground realities of rural households in the Udaipur Division.

5.1. INTERPRETATION OF RESULTS IN LIGHT OF LITERATURE

The district-wise disparities observed in the Financial Inclusion Index (FII) resonate strongly with prior scholarship that highlights the uneven nature of financial access in India. Studies such as Debnath and Paul (2024) emphasized that rural households' financial inclusion is determined not merely by the presence of financial institutions but by factors like literacy, occupation, and social stratification. Our findings confirm this argument: while bank account ownership is relatively high across the Udaipur Division, actual usage—especially for credit and insurance—remains significantly lower in tribal-dominated districts.

The regression results demonstrating a positive correlation between financial inclusion and economic development align with broader global evidence (Li & Liu, 2023; Mao et al., 2023), which found that digital and inclusive financial systems stimulate income growth and entrepreneurship. The findings also echo Tay et al. (2022), who argued that financial inclusion enables sustainable livelihoods by diversifying income sources and reducing vulnerability to shocks. However, the persistence of inequality, as reflected in Gini coefficients and Lorenz curves, adds a layer of complexity to this narrative, suggesting that inclusion-driven growth may still disproportionately favor relatively better-off rural households.

5.2. ALIGNMENT WITH POLICY FRAMEWORKS

India's flagship financial inclusion program, the Pradhan Mantri Jan Dhan Yojana (PMJDY), alongside Aadhaar-enabled payment systems and the Unified Payments Interface (UPI), has played a critical role in expanding financial access. In the Udaipur Division, PMJDY accounts are widely distributed, but many remain inactive, reflecting the gap between access and meaningful usage—a concern highlighted by the Reserve Bank of India (2021) and supported by our data.

Similarly, the digital push under initiatives like Digital India and financial literacy campaigns has improved access to digital payments in urban centers and semi-urban blocks of Udaipur and Chittorgarh. However, in remote tribal regions of Banswara and Dungarpur, digital divides persist due to poor internet infrastructure, lower smartphone penetration, and limited financial literacy. This finding mirrors Shaikh et al. (2023), who cautioned that digital ecosystems can exacerbate inequalities if infrastructural and educational gaps remain unaddressed.

At the state level, Rajasthan has promoted financial inclusion through the Bhamashah Yojana, which integrates social welfare delivery with financial systems. Yet, ground-level evidence suggests that while direct benefit transfers have increased the visibility of bank accounts, they have not necessarily improved household-level financial empowerment. Instead, households often use accounts primarily for withdrawing benefits rather than engaging in savings, credit, or insurance.

5.3. GROUND REALITIES IN UDAIPUR DIVISION

The Udaipur Division is characterized by a large tribal population, low literacy rates, and geographically dispersed rural settlements. These structural realities create distinct barriers to financial inclusion. For example, qualitative feedback from household surveys indicated that trust in formal financial institutions is still weak in tribal villages, where informal moneylenders remain influential due to their accessibility and cultural embeddedness.

The survey also highlighted gendered disparities: women are more likely to be account holders under PMJDY but less likely to exercise agency in financial decision-making. This reflects broader national findings (Global Findex, 2017), which emphasize that ownership does not equate to empowerment.

Furthermore, the limited adoption of insurance products underscores rural households' vulnerability to health, climate, and livelihood shocks. The COVID-19 pandemic reinforced these vulnerabilities, as households without insurance or formal savings mechanisms relied heavily on informal borrowing, further entrenching cycles of debt.

5.4. POLICY IMPLICATIONS

The findings of this study yield several important policy insights that can guide both regional and national financial inclusion strategies.

- 1) **Strengthening Usage Beyond Access:** The priority for policymakers should shift from expanding account ownership to encouraging meaningful usage. This requires integrating financial literacy with banking initiatives, ensuring that rural households not only open accounts but also adopt savings, credit, and insurance products.
- 2) **Addressing Regional Inequalities:** Targeted interventions must be designed for lagging districts such as Dungarpur and Banswara. This could include mobile banking units, expansion of banking correspondents, and tribal-focused financial literacy programs that are culturally contextualized.
- 3) **Bridging the Digital Divide:** While digital finance shows promise, investments in rural digital infrastructure (e.g., reliable internet connectivity, mobile coverage) are critical. At the same time, user-friendly digital platforms in local languages and assisted digital services could bridge literacy gaps.
- 4) **Integrating Social Protection with Financial Products:** Linking welfare schemes to micro-insurance and micro-credit could enhance risk resilience. For example, conditional incentives could encourage beneficiaries of direct benefit transfers to maintain minimum savings balances or purchase affordable insurance products.
- 5) **Gender-Sensitive Financial Inclusion:** Women-centric interventions, such as self-help groups (SHGs) linked with banks and microfinance institutions, should be scaled up in tribal areas. Providing financial literacy training specifically tailored to women could significantly enhance intra-household empowerment and overall economic resilience.
- 6) **Monitoring Inequality Through Multidimensional Indices:** Regular district-level monitoring of FII using multidimensional indices, as developed in this study, can provide granular insights into progress and gaps. This would allow policymakers to adopt region-specific strategies rather than uniform state-level policies.

5.5. EXTENDED REFLECTION

The evidence from Udaipur Division illustrates that financial inclusion cannot be treated as a one-size-fits-all policy tool. The interplay of socio-economic, cultural, and infrastructural factors demands locally tailored approaches. While digital finance offers unprecedented opportunities to leapfrog traditional barriers, it also risks deepening divides unless supported by education, trust-building, and inclusive design.

In conclusion, the findings point toward a nuanced reality: financial inclusion contributes significantly to economic development, but its impact is contingent upon equitable access, meaningful usage, and structural support systems. For Udaipur Division, bridging inequalities and fostering inclusive growth requires integrated strategies that simultaneously address financial, social, and technological dimensions.

6. FUTURE RESEARCH DIRECTIONS

This study examined the relationship between financial inclusion and economic development in the rural areas of Udaipur Division, with a specific focus on district-wise disparities, patterns of financial access, and the inequality of usage across different socio-economic groups. The findings demonstrate that financial inclusion does indeed contribute positively to rural economic development by expanding access to credit, encouraging savings, and supporting livelihood diversification. However, the degree of impact varies across districts, with relatively developed areas like Udaipur and Chittorgarh showing stronger linkages between inclusion and growth, while tribal-dominated districts such as Banswara and Dungarpur continue to face significant structural challenges. The study contributes to the ongoing discourse by highlighting that financial inclusion is not only about access to financial services but also about sustained and meaningful participation. Mere account ownership, driven largely by government initiatives, does not automatically translate into economic empowerment. Instead, usage, trust in formal institutions, and integration of financial services with social protection mechanisms determine the actual developmental outcomes. Importantly, the analysis of inequality measures revealed that financial inclusion remains unevenly distributed, raising concerns about whether inclusive growth is reaching the most vulnerable segments. From a policy perspective, the study underscores the need for region-specific

strategies that strengthen financial literacy, improve digital infrastructure, promote gender-sensitive approaches, and integrate welfare schemes with financial instruments. These findings align with national priorities under PMJDY and Digital India but call for a sharper local focus to ensure inclusivity in tribal and marginalized communities. Nevertheless, this research also acknowledges certain limitations. The analysis is based on district-level data, which, while useful for broader insights, may overlook micro-level variations within communities. Similarly, the study primarily relies on quantitative indicators, and greater integration of qualitative insights—such as household perceptions, cultural barriers, and behavioral attitudes—could provide a more holistic understanding of inclusion dynamics. Longitudinal studies tracking the usage of financial services over time, particularly in relation to shocks such as the COVID-19 pandemic or climate-induced risks, would also enrich the evidence base. Furthermore, the emerging role of fintech and digital innovations in bridging rural financial gaps deserves deeper exploration, especially in contexts where infrastructure and literacy remain constraints.

7. CONCLUSION

In conclusion, financial inclusion holds transformative potential for rural economic development in Udaipur Division, but its success hinges on bridging inequality, deepening usage, and embedding inclusion within broader socio-economic structures. This study offers a foundation for policymakers, practitioners, and scholars to design more context-sensitive interventions that not only extend financial services but also foster inclusive and sustainable growth.

CONFLICT OF INTERESTS

None.

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