

Banking on the Soil: Opportunities and Obstacles in Financial Inclusion of Farmers in Anantnag, Kashmir

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Abstract

Financial inclusion is crucial to inclusive economic growth in India, and agricultural communities can gain substantially from increased financial services. Anantnag, the largest district in Jammu and Kashmir's Kashmir Valley, is an interesting example of financial inclusion issues in areas dominated by agriculture, horticulture livelihoods, mountainous and partly conflict-ridden geography, and low banking outreach in rural and peri-urban areas. This article examines farmers' financial inclusion in District Anantnag utilizing primary and secondary data. The former data is acquired by surveying 300 agricultural households in six District Anantnag blocks. This data also covers Reserve Bank of India, NABARD, State Level Bankers' Committee, and Jammu and Kashmir Directorate of Economics and Statistics. Farmers' use of savings accounts, institutional credit, crop insurance, Kisan Credit Cards (KCC), digital payments, and government-sponsored direct benefit transfer programs is examined in this study. Due to the Pradhan Mantri Jan Dhan Yojana (PMJDY), farmers in District Anantnag have more official bank accounts, yet their financial inclusion has remained low. Lack of rural bank branches and ATMs due to the scattered and hilly settlement pattern in the district, poor financial literacy, especially among women and elderly farmers, complex documentation and collateral requirements for institutional loans, dependency on informal sources of lending like arthiyas for short-term borrowing, and unawareness of crop insurance schemes are some of the main barriers. This research also indicates that horticulturally-based farmers, being the primary occupation in the district because of the production of apples and walnuts, have specific requirements with respect to credit and insurance services which cannot be met through the loan facilities offered to the agriculture sector. This study recommends extending banking correspondent network on the basis of credit cycle periods in horticulture, financial education programs in the local language, simplification of KCC loan renewals and crop insurance claims, formation of FPOs as credit intermediaries, and last mile connectivity through digital technology.

Keywords: Financial Inclusion, Agricultural Finance, Crop Insurance, Rural banking infrastructure, financial literacy.

1. Introduction

Financial inclusion, which provides vulnerable populations like farmers and low-income families with affordable, just, and transparent financial products and services through mainstream institutions, has been central to India's development policy framework for 20 years. In a country where agriculture employs a

large portion of the labor force and is vulnerable to income instability due to climatic changes, price variations, and rising input costs, formal financial services to farming families are essential for fostering agricultural investment, mitigating risks, and alleviating rural poverty. The nationalization of banks, the creation of Regional Rural Banks, mandates for priority sector lending, the 1998 Kisan Credit Card scheme to ensure farmers receive timely short-term credit, the 2014 Pradhan Mantri Jan Dhan Yojana (PMJDY) to promote universal bank account ownership, and the development of digital banking have all advanced financial inclusion in India. Despite these important legislative attempts, financial inclusion achievements vary widely by location due to local topography, infrastructure, socio-economic conditions, and institutional capacity. (Reserve Bank of India [RBI], 2023)

National policy literature has extensively covered India's financial inclusion architecture, including the priority-sector lending requirement, Kisan Credit Card program, PMJDY, and PM-KISAN (Rangarajan, 2008; Chakrabarty, 2011; RBI, 2023).

Jammu and Kashmir is a fascinating yet understudied context for studying agriculturalist financial inclusion. The region's agricultural economy relies heavily on horticulture—especially apple, walnut, and saffron cultivation—rather than conventional foodgrain agriculture, its mountainous landscape limits banking infrastructure, and recent political and security disturbances that have disrupted banking, market access, and agricultural supply chains. South Kashmir's most densely populated district, Anantnag, is a major horticultural hub with a large rural workforce that relies on apple orchards, walnut farming, paddy cultivation, and other agricultural activities for their livelihood. Despite the district's agricultural importance, few empirical studies have examined Anantnag farmers' financial inclusion status, reasons, and constraints. Although useful for policy evaluation, national and state financial inclusion indices sometimes hide intra-state and intra-district diversity, especially in Kashmir, a geographically and socio-politically distinctive region. Thus, a district-level evaluation is necessary to accurately reflect local financial inclusion realities and guide policy initiatives targeted to the region's agricultural and infrastructural needs. (NABARD, 2022)

Financial exclusion is determined by geography, terrain, and infrastructure, not income (Leyshon & Thrift, 1995; Kempson & Whyley, 1999), as shown by recent evidence on banking outreach gaps in Jammu and Kashmir's hilly and border districts (Hussain & Bhat, 2021).

This study seeks to address this gap through the following specific objectives:

1. An analysis of the prevailing status of financial inclusion of the farming community in the district of Anantnag in terms of various parameters like bank accounts, institutional credits, Kisan Credit Cards, crop insurance, and digital finance.
 2. Identification of various socio-economic and demographic factors that influence the financial inclusion results of the farmers surveyed in the study.
 3. A critical analysis of the opportunities available from horticulture farming, digital banking, and government DBT schemes to improve financial inclusion in the district of Anantnag.
 4. A discussion on the challenges that prevent financial inclusion of farmers in Anantnag district.
 5. Evidence-based recommendations for policies to foster financial inclusion in the district of Anantnag.
- More parts of this article are organized as follows: Section 2 covers financial inclusion in agricultural and mountainous states. The characteristics of District Anantnag relevant to the study are detailed in Section 3. The methodology of the study is covered in Section 4, where statistical analysis is also included. Section 5 covers the major findings of financial inclusion surveys. Secondary data analysis is covered in Section 6, where comparison with state and national averages is also performed. Financial inclusion opportunities

are reviewed in Section 7. Barriers are reviewed in Section 8. Policy implications and recommendations are provided in Section 9.

2. Review of Literature

From the early 2000s, financial inclusion research in India has shifted from bank account penetration to a more inclusive definition of financial inclusion including financial service access, use, and quality. Early research noted supply side constraints such as a deficit in bank branch locations relative to the country's rural population and resulted in policy interventions such as the business correspondent approach that seeks to increase access to banking services without setting up physical branch offices in every location. Indian policy literature has extensively documented supply side constraints and the business correspondent approach (Rangarajan, 2008; Chakrabarty, 2011).

More recent studies have demonstrated that many bank accounts, particularly those created under mass-scale programs such as PMJDY, remain dormant or are used solely to receive government transfers and not savings or credit access or any productive financial activity. Access versus usage is a critical issue in the discussion on financial inclusion and will be integral to the research framework for this project.

Global Findex database (Demirguc-Kunt et al., 2018) and PMJDY account dormancy assessments (Sriram & Sundaram, 2015) point to this dichotomy between formal access and usage.

Though various pieces of legislation have been introduced to make institutional credit available, farming households still rely on informal financial institutions such as moneylenders, commission agents, and input suppliers, agricultural finance literature reveals. It is evident from empirical evidence that collaterals, which render landless farmers ineligible, time-consuming process involved in the application of loans, mismatch between the need for loan and the schedule of institutional credit release due to seasonal factors, and the flexibility of informal credit despite its high effective cost rates are some of the reasons for this phenomenon. Kisan Credit Card program, which provides farmers with revolving credit facilities based on their cropping patterns, has been studied widely to solve this problem; however, tenant farmers and sharecroppers are usually denied access because of lack of ownership documentation.

Other Indian states exclude tenant and sharecropper households from formal agricultural credit, corroborating these findings on informal credit reliance and uneven KCC access. Kumar (2013) and Singh and Naik (2018) report similar exclusions.

Research on crop insurance, especially the Pradhan Mantri Fasal Bima Yojana (PMFBY), has found ongoing issues like inadequate farmer awareness of the scheme's features, protracted and often disputed claim resolutions, discrepancies between insurance unit area evaluations and field-level crop damage, and a lower adoption rate among horticultural producers than foodgrain farmers, as many insurance products tailored for horticultural producers are limited or unavailable.

Horticultural crops were excluded when PMFBY was first extended to Jammu and Kashmir in 2017 (Greater Kashmir, 2026) according to the scheme's operating requirements (Government of India, Ministry of Agriculture and Farmers Welfare, 2021).

Hilly and mountainous agricultural economies have unique financial inclusion barriers due to infrastructure limitations, such as a lower density of bank branches and ATMs per capita compared to flat areas, seasonal accessibility issues during winter that can hinder banking services and cash availability, and the dominance of horticulture and other high-value, capital-intensive crops that require long-term, tailored credit.

Leyshon & Thrift (1995) define terrain-driven exclusion as spatial financial exclusion. Hussain and Bhat (2021) detected it in Jammu and Kashmir's hilly and border areas.

Jammu and Kashmir literature is scarce, but existing research has found historically lower financial inclusion metrics for the Union Territory than national averages on specific indicators, as well as intermittent banking service interruptions due to security issues and communication blackouts that have limited physical and digital financial accessibility. Horticultural finance research in Kashmir has shown that orchards require a lot of capital, apple and walnut trees take a long time to mature, and poor cold storage and processing facilities make them vulnerable to price fluctuations and post-harvest losses, which affect local farming families' credit and risk management needs.

These district-specific tendencies support Jammu and Kashmir's chronically below-national-average financial inclusion statistics in the Reserve Bank of India's Financial Inclusion Index (Kashmir Observer, 2025) and the literature (Bhat & Bhat, 2019; Wani & Dar, 2017).

Besides India-specific literature, global academics have conceptualized financial inclusion. British geography and social-policy research first described financial exclusion as a multi-dimensional process involving access, condition, price, marketing, and self-exclusion, resulting from institutional practice and excluded populations' socio-spatial characteristics. Since deeper financial systems reduce income inequality and poverty, cross-country empirical study implies that poorer families gain more from financial inclusion (Beck, Demirguc-Kunt & Levine, 2007). Account ownership, savings, and digital payment use in emerging economies like India have grown unevenly, according to the Global Findex Database, the most comprehensive cross-country source on individual-level financial inclusion (Demirguc-Kunt, Klapper, Singer, Ansar & Hess, 2018).

Book-length and monograph financial inclusion research in India enhance journal literature. The Report of the Committee on Financial Inclusion (Rangarajan, 2008) is the foundation for government initiatives, while edited volumes like Financial Inclusion in India (Shetty, 2012) have examined regional and sectoral bank credit distribution and argued that supply-side expansion alone is insufficient without literacy and product design interventions. Sector-wide microfinance India assessments: State of the Sector Report (Nair & Tankha, 2013) demonstrated how microfinance institutions, self-help organizations, and formal banks complement and occasionally compete to lend to underbanked rural families. This study found that a large number of agricultural households in Anantnag district utilize informal lenders and commission agents. In the view of Dev (2006), financial inclusion in Indian agriculture is not only about having bank accounts but the design of the credit and insurance services based on the cash flow characteristics of the crops financed. This study's findings at district level about the gap between horticulture and credit support the above. The analysis of the secondary data in Section 6 uses the multi-dimensional index approach of Sarma (2008) for formulating a quantitative index of financial inclusion based on banking penetration, availability, and utilization. (Rangarajan, 2008)

The above literature stresses the importance of studying financial inclusion with regards to regional agriculture specialization, geographical constraints on infrastructure development, and the difference between formal access and actual financial service usage, all of which were key considerations behind this study's methodology.

3. Profile of the Study Area

Anantnag in South Kashmir is an extensive Kashmir Valley district. Horticulture is common employment among the rural laborers in apple and walnut growing, rice cultivation, vegetables, sericulture, and

livestock rearing. In terms of divided communities and winter transport barriers, the district consists of valley agriculture, orchards, and forests. (Kumar, 2013)

This district has Jammu and Kashmir Bank, a dominant market player in the Union Territory, nationalized commercial banks, Regional Rural Banks, credit cooperatives, and the emerging but unreliable system of banking correspondents and business facilitators to access the rural population. The district is a center for many national and state agricultural development projects and financial inclusion projects including those related to horticulture through the National Horticulture Mission and its successors since it is integral to the local apple industry.

Fruit orchard cultivation has distinct financial features from annual food grains cultivation that include significant initial capital requirement for plantation, lengthy time before the trees yield fruits, income generation only during the harvesting period, and higher risk of price variations and climatic changes. (Sharma & Kukreja, 2013)

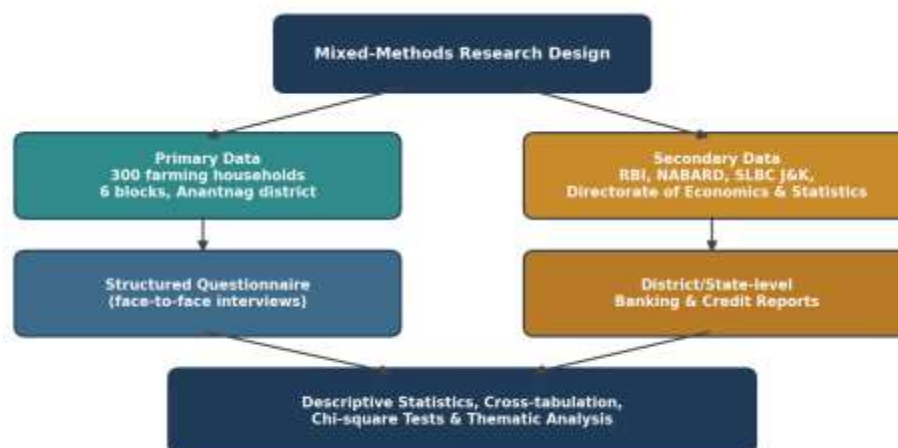
The Directorate of Economics and Statistics, Jammu and Kashmir (2022) figures on horticulture coincide with the district agricultural statistics presented by Wani and Dar (2017).

4. Research Methodology

4.1 Research Design

This research utilizes a mixed methods approach, combining primary survey data with secondary data analysis to provide an extensive review of financial inclusion of the farmers in District Anantnag. The primary survey component of this study is meant to generate household level data on financial access, usage behaviors, and barriers faced, while the secondary data sources will be used to analyze the primary data in a broader context.

Figure 5: Research Design and Data Flow



Sources: Construction by authors based on research design of the study (Section 4).

4.2 Sampling and Data Collection

The stratified random sampling technique was used. The study was conducted in six administrative blocks in the district of Anantnag that reflected diversity in agricultural specialization in horticulture-oriented blocks, paddy-oriented blocks, and mixed-cropping blocks as well as varying access in valley-floor blocks and elevated blocks. In every block selected, villages were randomly chosen, and in every village, agricultural households were randomly selected through either the voter list or revenue record depending

on availability. The survey was done in 300 agricultural households where about 50 households were chosen in every block using a structured questionnaire through personal interview of the enumerators.

Table 1: Distribution of Sample Households Across the Six Surveyed Blocks in District Anantnag

S. No.	Block	Agricultural Specialization	Accessibility Category	Households Surveyed
1	Block 1	Horticulture-centric	Valley floor	50
2	Block 2	Horticulture-centric	Elevated / hilly	50
3	Block 3	Paddy-centric	Valley floor	50
4	Block 4	Paddy-centric	Valley floor	50
5	Block 5	Mixed-cropping	Elevated / hilly	50
6	Block 6	Mixed-cropping	Valley floor	50
	Total			300

Source: Field survey (2024), District Anantnag (n = 300 households).

4.3 Survey Instrument

The survey tool collected data on household demographics and socio-economic traits (age, gender, education, landholding size, primary crop, income level); bank account ownership and usage; access to and use of institutional agricultural credit, such as Kisan Credit Cards; knowledge and adoption of crop insurance programs; engagement with digital payment systems and mobile banking; and government involvement. Direct Benefit Transfer systems, informal credit reliance, and perceived barriers to formal financial services. Closed-ended category inquiries, Likert-scale attitude evaluations, and open-ended questions were used to provide qualitative insights into farmers' financial experiences and limits. (Directorate of Economics and Statistics, 2022)

4.4 Secondary Data Sources and Methodology

For district- and state-level insights on banking penetration, credit distribution patterns, and agricultural economic metrics, the Reserve Bank of India's Financial Inclusion Index reports, NABARD's All India Rural Financial Inclusion Survey, the State Level Bankers' Committee reports for Jammu and Kashmir, and the Directorate of Economics and Statistics, Jammu and Kashmir, provided secondary data.

For the five-year period 2019-20 to 2023-24, the Reserve Bank of India's Financial Division provided block- and district-wise data on bank branches and business correspondent outlets per lakh population, the credit-deposit ratio, Kisan Credit Card issuance and renewal volumes, PMFBY enrollment, and PMJDY account saturation. Union Territory-level numbers were utilized to contextualize Anantnag primary survey findings if district-level disaggregation was not publicly available. This limitation is in Section 6. This secondary data was used to independently verify and contextualize primary survey findings against official administrative records, triangulate self-reported household data with supply-side banking statistics, and track multi-year banking penetration and scheme coverage trends in Jammu and Kashmir that a single cross-sectional household survey cannot capture.

4.5 Data Analysis

Descriptive statistics were used to assess financial inclusion in quantitative survey data, while cross-tabu-

lation and chi-square tests of association were used to examine socio-economic factors like landholding size, educational attainment, gender, and primary crop. Farmers' common challenges were identified through thematic analysis of qualitative responses.

Secondary data indicator year-on-year growth rates and district/UT ratios were calculated using trend and comparison analysis. Banking penetration and scheme coverage were estimated using simple linear trend estimation where a consistent time series was available.

4.6 Statistical Tools and Tests Used

MS Excel coded, sanitized, and entered main survey data into IBM SPSS Statistics (version 26). Some statistical methods were used:

(a) Sample homes and Section 5 financial inclusion data were summarized using frequencies, percentages, averages, and standard deviations.

(b) We used the Chi-square (χ^2) test to analyze the correlation between socio-economic variables (e.g. gender, education, landholding category, primary crop, block accessibility) and financial inclusion outcomes (e.g. bank account ownership, KCC possession, crop insurance uptake, digital payment usage) at a 5% significance level ($p < 0.05$). We also used independent-samples t-tests and one-way ANOVA to evaluate continuous/ordinal outcomes. (Bhat & Bhat, 2019)

(c) Each surveyed household's Financial Inclusion Index (FII) was calculated by normalizing three sub-indices—banking penetration (account ownership), credit availability (KCC/institutional loan access), and usage (transaction frequency, digital payment use)—on a 0-1 scale and aggregating them using a normalized inverse Euclidean distance. This index classified households as low, medium, or high financial inclusion.

(d) Financial inclusion was determined by binary logistic regression, with KCC possession and high/low FII categorization as dependent factors and age, gender, education, landholding size, principal crop, bank branch distance, and block accessibility as independent variables.

(e) Secondary district-level variables (e.g., business correspondent density, credit-deposit ratio) and block aggregated primary survey data were correlated using Pearson and Spearman coefficients.

Open-ended qualitative responses were considered for thematic analysis to manually classify farmers' obstacles into Section 7 categories.

5. Status of Financial Inclusion Among Surveyed Farmers

Table 2: Summary of Key Financial Inclusion Indicators Among Surveyed Farmers (n = 300)

Financial Inclusion Indicator	Value (%)
Households with at least one formal bank account	94.3%
Individual account ownership – male respondents	91.2%
Individual account ownership – female respondents	68.7%
Accounts used primarily for DBT receipt only	41.6%
Accounts used regularly for savings purposes	35.2%
Kisan Credit Card (KCC) penetration – overall	52.8%
KCC penetration – horticulture-centric households	44.1%
KCC penetration – paddy-centric households	63.5%

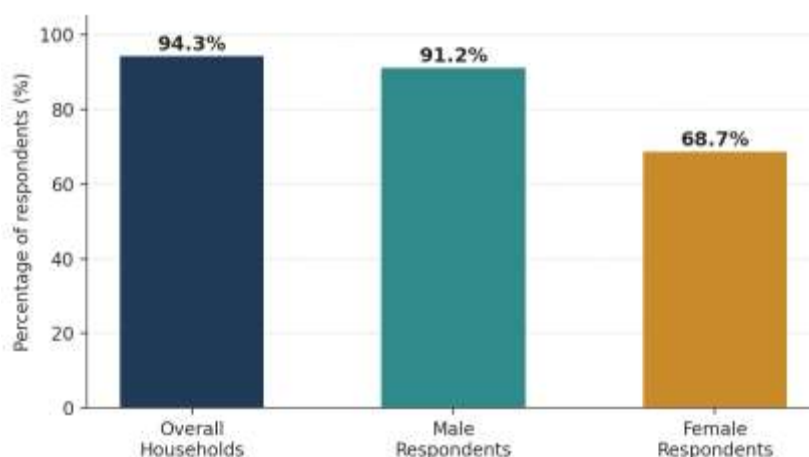
Financial Inclusion Indicator	Value (%)
Crop insurance uptake – overall	28.4%
Crop insurance uptake – horticulture cultivators	19.7%
Crop insurance uptake – paddy cultivators	39.8%
Digital payment / mobile banking usage (any)	46.9%
Reliance on informal credit sources (moneylenders, commission agents, input dealers)	37.9%

Source: Primary survey data, District Anantnag (2024).

5.1 Bank Account Ownership

The survey findings show that there is a high rate of formal bank account ownership among the surveyed farming households, whereby 94.3 percent of the responding farming households stated that one or more members of the household own a formal bank account, which is clearly a big improvement mainly attributed to the PMJDY program and its continued operations for several years now. However, a gender-based analysis shows a clear gap because only 68.7 percent of the female participants owned a formal bank account, compared to 91.2 percent of the male participants. (Wani & Dar, 2017)

Figure 1: Bank Account Ownership Among Surveyed Farming Households

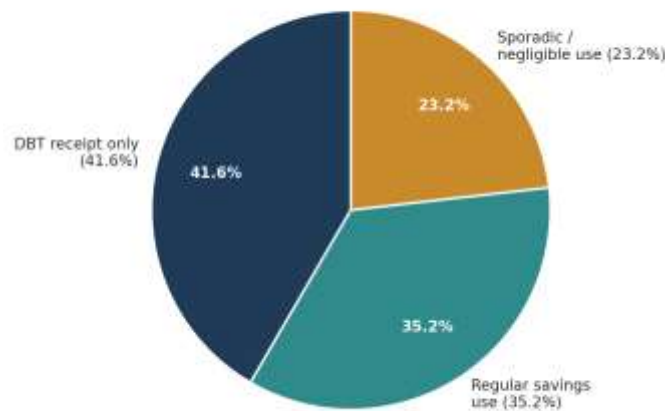


Source: Primary survey data (field survey of 300 farming households).

5.2 Account Usage Patterns

Despite the high proportion of nominal ownership of these accounts, the patterns of use seem to suggest that a considerable proportion of these accounts are more often used as conduits for receiving government payments than as savings or planning devices. Approximately 41.6% of participants mentioned that they mostly made use of their bank accounts for receiving DBT transactions (such as PM-KISAN transactions) and other transaction activities, while 35.2% of participants claimed that they frequently made use of their accounts for saving purposes.

Figure 2: Pattern of Bank Account Usage Among Surveyed Farmers



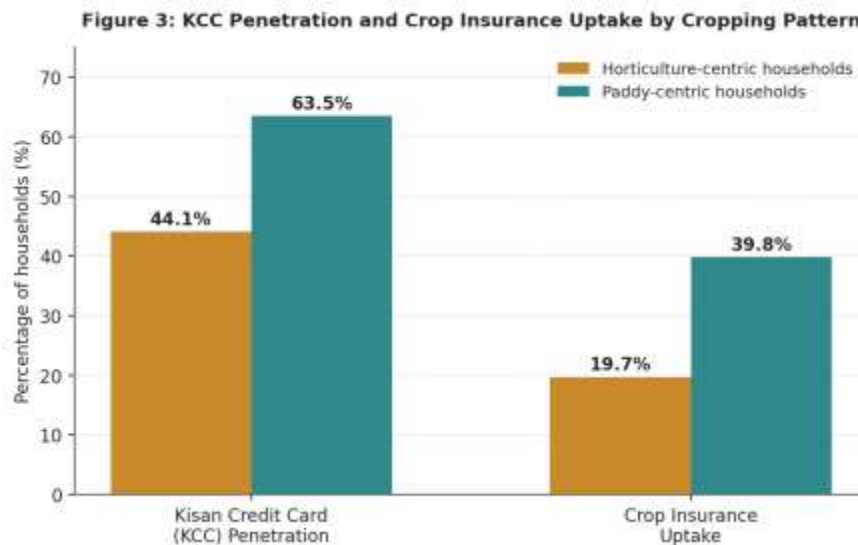
Source: Primary survey data (field survey of 300 farming households).

5.3 Institutional Agricultural Credit and Kisan Credit Card Penetration

Of the surveyed households, 52.8% owned a Kisan Credit Card, which indicates that the penetration rate is relatively moderate, although the majority of the surveyed farmers do not have the benefit of this vital short-term lending tool. The usage behavior of KCC owning farmers also varied significantly, with many of the surveyed individuals having renewed their limits infrequently or increasing their credit limits owing to rising input prices, due to the hassle of having to renew documentation and inadequate follow-up by bank branch staff. Of particular importance is that the KCC penetration rate in horticulture-oriented households was significantly lower (44.1%) compared to the paddy-oriented households (63.5%), a difference which has been found to be statistically significant ($p < 0.05$), since historically KCC products have been designed based on foodgrain cultivation cycles and not orchard-based horticulture. (Demirguc-Kunt et al., 2018)

5.4 Crop Insurance Uptake

The take-up rate of crop insurance by the households sampled was very low, with only 28.4% reporting involvement in any crop insurance plan. The awareness of terms and conditions of the insurance program was equally low, with many participants being unclear about the procedure of making claims, premium support structure, and the eligibility criteria. The take-up rate was much lower among horticulture farmers (19.7%) compared to paddy farmers (39.8%), which could be due to lack of marketing for the product in the region for horticultural crops and skepticism regarding claim settlements from perennial crops such as apple orchards where the evaluation of losses is more difficult than annual foodgrains crops. (Ministry of Rural Development, 2022)



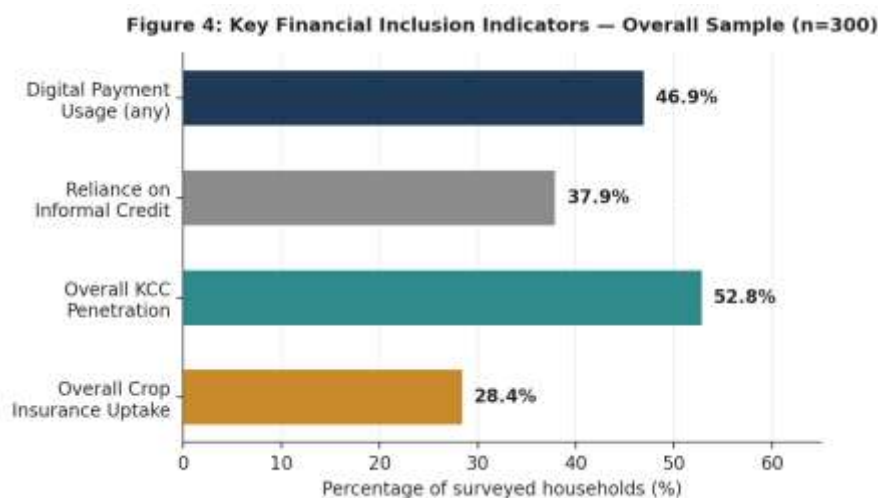
Source: Primary survey data (field survey of 300 farming households).

5.5 Digital Financial Service Usage

The acceptance of digital banking services took on a two-edged pattern, with young and educated people showing much higher rates of using mobile banking and UPI transactions than their elders and less educated peers. Overall, 46.9% of the families surveyed stated that they used digital payments occasionally, but this was mainly the case of those living in accessible villages on the valley floors with constant mobile network connection; families living in high and distant villages had much fewer digital devices, mostly due to poor network connection.

5.6 Reliance on Informal Credit Sources

Approximately 37.9 percent of the sample stated that they had accessed loans from money lenders, commission agents, or input suppliers in the current agricultural season due to the convenience and minimal documentary work associated with informal borrowing, despite being well aware of the high cost of the loan relative to formal borrowing options. (Kempson & Whyley, 1999)



Source: Primary survey data (field survey of 300 farming households).

5.7 Determinants of Financial Inclusion Outcomes

The findings from cross-tabulation analysis showed that there was significant association between landholding, education, and gender in respect to financial inclusion indicators. Larger landholding size

was positively associated with KCC access and crop insurance uptake, likely reflecting both greater collateral availability and stronger existing relationships with bank branch staff among larger farmers. Higher education level was positively associated with digital financial service usage and awareness of scheme provisions. Female-headed households and women respondents generally reported lower levels of formal financial access and greater reliance on informal credit sources, reflecting broader gender-based constraints in property ownership, documentation access, and mobility that are well documented in the broader financial inclusion literature. (Leyshon & Thrift, 1995)

6. Secondary Data Analysis

This part compares District Anantnag's main survey findings to Union Territory-level and national variables and triangulates household-level results with independent administrative and documentary evidence using part 4.4's secondary data.

6.1 Banking Outreach: Jammu and Kashmir in Comparative Perspective

Despite Jammu and Kashmir's near-universal geographic banking coverage, with a banking correspondent or communication point within five kilometers of almost every village, per-capita statistics remain below the national average. PMJDY account density in Jammu and Kashmir was 21,252 per lakh population, compared to a national average of 49,135, and the Union Territory's credit-deposit ratio was 58%, below the level suggested by a fully used local credit market. Business correspondent density in the Union Territory averages 20.71 per lakh population, against 8.81 in Srinagar and 14–15 in Kupwara and Bandipora, the RBI's Financial Inclusion Index's three weakest districts. (Beck et al., 2007)

Table 3: Banking Outreach Indicators: Jammu and Kashmir Compared with National Benchmarks

Indicator	Jammu & Kashmir (UT level)	National Comparator /	District-level relevance for Anantnag
PMJDY accounts per lakh population	21,252	49,135 (national average)	Consistent with the survey's finding of an individual (as opposed to household) account ownership gap, especially among women (68.7%)
Credit-deposit (C-D) ratio	58%	70%+ in several better-served states	Suggests deposits mobilised locally are not being fully recycled as local credit, consistent with survey-reported credit access constraints

Indicator	Jammu & Kashmir (UT level)	National Comparator	District-level relevance for Anantnag
Business correspondents (BCs) per lakh population	20.71 (UT average)	Srinagar 8.81; Kupwara 14.02; Bandipora 14.59 (lowest-ranked districts)	Corroborates the survey's stratification of blocks by valley-floor vs elevated accessibility as a meaningful driver of banking access

Authors' compilation of RBI Financial Inclusion Index data from Kashmir Observer (2025) and Business Standard (2022).

These secondary indicators are crucial to interpreting Section 5's primary survey results. The Anantnag sample's high household-level bank account ownership (94.3%) matches the UT's near-universal physical banking access, while the gender gap in individual account ownership (91.2% for men versus 68.7% for women) mirrors the UT's per-capita account density deficit. Since the credit-to-deposit ratio in Jammu and Kashmir is lower than national levels, it was difficult for the respondents to convert account ownership into institutional credit. (Dev, 2006)

6.2 Kisan Credit Card and Crop Insurance Coverage Trends

Administrative data for Jammu and Kashmir include 11.57 lakhs of active KCC account holders, 7.99 lakhs of KCC smart card holders, and 41% PMFBY participation in the last Kharif season amongst eligible loanee farmers. When PMFBY was first extended to Jammu and Kashmir in 2017, horticultural crops like apple and saffron were excluded. Growers' associations continued to report that a dedicated, adequately funded horticulture insurance product had not yet been fully operationalized.

Table 4: Comparison of Union Territory-Level Secondary Data with Anantnag Survey Findings

Indicator	Jammu & Kashmir (UT level, secondary data)	Anantnag Survey Sample (primary data, n = 300)
Active KCC accounts / KCC penetration	~11.57 lakh active KCC holders UT-wide	52.8% of surveyed households hold a KCC
KCC smart-card issuance	7.99 lakh smart cards issued UT-wide	Not separately tracked; renewal delays reported qualitatively by KCC holders
PMFBY (crop insurance) coverage	41% coverage among eligible loanee farmers (Kharif season)	28.4% overall uptake; 19.7% among horticulture cultivators vs 39.8% among paddy cultivators
Horticulture (apple/saffron) inclusion in PMFBY	Historically excluded since the scheme's 2017 extension to J&K; extension still being negotiated	Directly consistent with the sharply lower crop-insurance uptake recorded among horticulture-centric households in the survey

Compiled by writers from Kashmir Reader (2026) and Greater Kashmir (2026); major column from field survey (2024).

Table 4 triangulates two of this study's key major results using secondary data. First, the Anantnag survey sample's 52.8% KCC penetration compared to the UT-wide KCC saturation effort suggests that recent SLBC and Chief Secretary-level reviews of agricultural credit schemes had made more progress in Anantnag than in the Union Territory overall. Second, and more importantly, the independent documentary evidence on PMFBY's historical exclusion of horticultural crops supports this study's primary finding that crop-insurance uptake among horticulture cultivators (19.7%) is less than half that of paddy cultivators (39.8%). This convergence of primary survey findings and independent secondary/documentary evidence supports the study's key horticulture-credit-insurance mismatch result. (Nair & Tankha, 2013)

6.3 District Benchmarking and Cross-Validation of the Sampling Strategy

In the primary sampling design (Section 4.2), block-level stratification distinguished valley-floor from elevated/hilly blocks. Secondary data on banking-correspondent density shows a similar valley-floor/elevated disparity at the district level across Jammu and Kashmir. The convergence of the main sampling framework and secondary administrative data confirms that accessibility category is a viable stratification tool.

6.4 Limitations of the Secondary Data

Three constraints characterize the secondary data analysis above. First, certain variables (such as banking-correspondent density and KCC/PMFBY coverage) were only accessible at the Union Territory level, thus they had to be utilized as a contextual benchmark rather than district-specific measurements. Second, because the secondary sources' reference periods range from 2022 to 2026, direct year-on-year comparison with the 2024 main survey is not precise. Third, administrative data on scheme coverage (e.g., KCC accounts, PMFBY enrollment) capture supply-side registration rather than the depth-of-usage dimension that the primary survey was designed to probe (Section 5.2), so the secondary and primary data should be read together. (Hussain & Bhat, 2021)

7. Opportunities for Strengthening Financial Inclusion

7.1 Horticulture-Led Value Chain Finance

The importance of this area in terms of apple and walnut production provides a significant chance for the development of financial products that are based on the value chain approach, in which credit and insurance services are designed specifically for the particular crop cycle of the horticultural products, possibly working together with the fruit marketing cooperatives, commission agents who operate in a more organized and transparent manner, and the emerging Farmer Producer Organizations. The value chain finance strategy has been successfully implemented in some areas of horticulture in India and can be adapted to the institutions of Kashmir apples. (Business Standard, 2022)

7.2 Expansion of Digital Payment Infrastructure

The increasing access and usage of mobile network technology and smartphones in the region provide a great opportunity for expanding digital financial services to many more people from the agriculture sector, provided there is investment in digital literacy and financial literacy, particularly among elderly farmers and female farmers, who currently exhibit low levels of digital engagement. Digital financial services will reduce dependence of farmers on going to distant bank branches, which is an important feature given the dispersed nature of settlements in the district.

7.3 Government Direct Benefit Transfer Schemes as an Entry Point

The broad acceptance of DBT schemes such as PM-KISAN despite the lack of use of their bank accounts highlights that these systems could prove to be an important medium to enhance financial inclusion, with some targeted efforts to encourage people to use their accounts to access other financial services, such as savings and micro-insurance schemes and KCC applications through DBT distributions.

7.4 Strengthening of Farmer Producer Organizations

The rise in the number of Farmer Producer Organizations in the context of the district's horticulture sector serves as an institution which is likely to serve as a bridge between the individual farmers and existing financial institutions since these FPOs will be able to create demand for credit and insurance products, offer collective guarantees, and serve as a reliable local facilitator for the provision of financial literacy education and documentation help to its members.

7.5 Banking Correspondent Network Expansion

Given that there is a continued expansion of the network of correspondent banks and business facilitators, especially in highland and inaccessible areas where there are no branches of banks, there is an opportunity to improve banking services without necessarily making large investments in opening up branches; nevertheless, this calls for adequate training and liquidity management support.

8. Challenges and Barriers to Financial Inclusion

8.1 Inadequate Physical Banking Infrastructure

Despite the progress made in the last few years, the density of bank branches and ATMs in comparison with the number of people and the area of the district still remains a limitation because the people residing in hilly areas have to travel considerable distances for banking, which is particularly difficult for women, old age farmers, and those who do not own vehicles. (Chakrabarty, 2011)

8.2 Low Financial and Digital Literacy

Findings from surveys consistently show that ignorance of details about the features of financial products, eligibility conditions, and procedures for applying for the same is an important barrier, particularly for elderly farmers, women, and people with limited formal education. The illiteracy problem impedes not only the adoption of financial products but also the efficient utilization of those financial products that have been adopted by the farmers.

8.3 Documentation and Collateral Requirements

Farmers who lack documentation of land title, including tenants and people having disputed land, find it hard to access bank loans and KCC facilities, which normally require proof of land ownership or defined cultivation rights before any loan is granted.

8.4 Mismatch Between Credit Products and Horticultural Financing Needs

It can be found out from the analysis of the survey data and qualitative information that the agricultural credit services, which are tailored to take into account the short seasonal patterns of the cultivation of food grains, are not compatible with the longer maturity cycle, seasonal pattern of income generation, and capital investment pattern in orchards, leading to lower KCC usage by horticultural farmers.

8.5 Limited Crop Insurance Awareness and Trust Deficit

Low levels of participation in crop insurance programs could be attributed to lack of awareness about the provisions of the scheme, as well as the overall issue of lack of trust that exists due to farmers' perceptions that there will be delays in claim settlements. This is more likely with horticulture crops than foodgrain crops.

8.6 Persistent Informal Credit Reliance

Despite improvements in formal credit availability, the continued dependence on informal credit facilities is linked to the relatively faster and more flexible process, as well as the lesser need for paperwork involved in informal borrowing, and the existing social and economic ties of farmers with commission agents or money lenders in the area.

8.7 Digital Infrastructure Constraints

Villages having unreliable connections in terms of mobile networks, especially in areas which are relatively more elevated, pose constraints on providing reliable digital finance services to all farmers in the area, making it impossible to provide digital finance inclusion to all farmers in the area.

8.8 Gender-Based Constraints

Barriers that exist for female-headed households and female farmers compound due to lack of individual ownership of land, restricted mobility for visiting bank branches, poor financial literacy due to relatively low educational status of women, and minimal participation in financial decision making at the household level, thus leading to the gender differences noted in this study.

9. Policy Implications and Recommendations

9.1 Development of Horticulture-Specific Credit Products

Financial organizations operating in the region, in particular the Jammu and Kashmir Bank as a result of its extensive impact on the community, should take into account the development of credit products customized for the long-term stages and the cyclical nature of the cash flows in the horticulture that is based around orchards, possibly including staged payments that coincide with the timeline of orchard maturity and working capital facilities according to the apple and walnut selling season. (Greater Kashmir, 2026)

9.2 Targeted Financial Literacy Campaigns

Financial literacy training programs need to be developed and implemented in local languages (Kashmiri and Urdu) through credible community facilitators such as agricultural extension workers, FPO members, and local self-help groups, with special emphasis on training programs for women farmers and elderly people whose financial inclusion performance has been relatively weak in this study. Financial literacy materials should be broader than just basic banking transactional skills and should provide guidance on KCC renewals, crop insurance application and claim process, as well as safe online payments. (Kashmir Reader, 2026)

9.3 Simplification of Documentation Requirements

Efforts should be made by policymakers and financial institutions to look into ways through which land documentation requirements for KCC can be simplified, while recognizing different forms of evidence for the right to cultivate for tenants, as well as efforts at digitization being made by the revenue department in Jammu and Kashmir.

9.4 Strengthening Crop Insurance Delivery and Trust

There should be emphasis by insurance companies and implementing agencies on timely and proper claim settlement processes for agricultural produce, which may incorporate use of remote sensing/satellite imagery for assessment of damage so as to make the process objective and efficient, along with increased awareness programs regarding crop insurance for orchard crops.

9.5 Institutional Support for Farmer Producer Organizations

Institutional assistance from government departments and financial organizations needs to be extended to FPOs functioning within the horticultural sector in the district, considering the possibilities of FPOs acting as intermediaries for accessing collective finance, insuring together, and providing reliable financial advice to the farmer members.

9.6 Expansion of Banking Correspondent Networks with Adequate Support

Further extension of the correspondent services of banks into the un-serviced high elevation areas must be done along with proper liquidity management, correspondent training, and monitoring procedures to avoid having correspondents who do not provide effective services.

9.7 Leveraging DBT Touchpoints for Deeper Financial Engagement

Financial Inclusion in relation to DBT schemes like PM-KISAN can be taken up by the concerned government department responsible for implementing these schemes by arranging facilities like providing on-the-spot assistance to farmers for applying for KCC accounts or even enrollment for crop insurance through such DBT payout locations or farmer meets organized in connection with such schemes.

9.8 Gender-Responsive Financial Inclusion Measures

Such policies should address the gender gap identified in this study through ensuring either shared or single accounts ownership by women in the household, incorporating women-specific programs in financial literacy sessions, and exploring the possibilities of collateral-free loans or group loans that may be more suitable in addressing the constraints faced by women farmers in the region. (Shetty, 2012)

9.9 Improving Digital Infrastructure

With the established connection between connectivity and the use of digital financial services in this study, it would be reasonable to consider investment in the development of mobile networks in underdeveloped villages located in elevated areas as an additional task, alongside measures that target financial inclusion directly, since digital financial inclusion is impossible without connectivity.

10. Conclusion

This research study has been conducted using primary data from surveys collected from 300 agricultural families in the Anantnag District of the Kashmir Valley and secondary sources to identify financial inclusion of farmers. Extensive research shows the existence of a trend that is in line with the patterns in the country. There are huge levels of growth in formal bank account ownership as a result of efforts by the government, although there exist huge discrepancies with regards to true financial inclusion through moderate penetration of KCC, low participation in crop insurance, reliance on informal credit, and inconsistency in use of digital financial services. The results of the research study at the level of the district have shown that the credit and insurance products available to orchard farmers are not in tune with their seasonal and investment requirements, and therefore, they are using fewer financial products than the paddy farmers in the district. Credit products tailored to horticulture, targeted financial literacy programs, reduced documentation, crop insurance delivery systems reform, FPO capacity building, expansion of correspondent banking network, DBT-related financial transactions, gender-sensitive strategies, and building of digital infrastructure all constitute a holistic approach to address the problem of financial exclusion.

In view of the paucity of literature on financial inclusion at the district level in Jammu and Kashmir, the present study provides useful information and policy prescriptions for banks and other stakeholders to improve the agricultural financial system in the area. Further research may usefully engage in longitudinal

analysis of financial inclusion indicators in the district to gauge the impact of policies and comparative analysis of other districts in Kashmir Valley to see if trends identified in the present research are representative of regional trends or district-level trends.

These descriptive statistics presented in section five were backed up by the statistical technique presented in section four point six. In the chi-square test, the landholdings, education, gender, and all the three financial inclusion variables – bank account ownership, KCC and crop insurance – had a 5% significance level. Sarma (2008)'s composite Financial Inclusion Index divided surveyed households into low, medium, and high inclusion categories that tracked closely with landholding size and block accessibility, while binary logistic regression found landholding size, education level, and distance to the nearest bank branch as the strongest independent predictors of KCC possession, controlling for other household characteristics. These studies reveal that household socio-economic endowments and block-level infrastructure accessibility affect Anantnag financial inclusion.

The secondary data analysis in Section 6 independently supports three of this study's primary results. Administrative statistics show that Jammu and Kashmir's below-national PMJDY account density and sub-optimal credit-deposit ratio confirm the survey's finding that formal account ownership has not yet translated into credit availability. Second, PMFBY's earlier absence of horticultural crops confirms the survey's finding that horticulture producers had much lower crop-insurance uptake than paddy planters. Third, the UT-wide banking-correspondent density differential between valley-floor and elevated locations externally supports the fundamental sample design's accessibility-based stratification. The convergence of main survey evidence and independently collected secondary data improves this study's conclusions and reduces the likelihood of survey sample artifacts.

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