

Empowering Farmers in Bihar: A Critical Assessment of the Kisan Credit Card Scheme and Its Role in Agricultural Credit Access

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ABSTRACT

India's premier short-term agricultural loan program, the Kisan loan Card (KCC) scheme, was created to guarantee timely and reasonably priced working capital for crop and related operations. This paper offers a critical evaluation of KCC with a specific focus on Bihar, where informal tenancy is common and small and marginal farmers are the majority. We map the scheme's accessibility, affordability, and timeliness characteristics, summarize policy evolution, and examine the limitations that prevent effective operation. We create empirical methods to estimate the effects of KCC on input use, yield, credit substitution away from the informal sector, and income volatility using an evaluation framework that integrates administrative data (RBI, NABARD, SLBC Bihar), a proposed household survey, and district level panels. An implementation plan specific to Bihar is provided at the end of the article, with a focus on correct sizing restrictions, digital renewals, tenancy-inclusive paperwork, bundling with post-harvest finance and crop insurance, and grievance redressal supported by public dashboards.

Keywords: Kisan Credit Card, Agricultural Finance, Rural Credit, Financial Inclusion, Smallholder Farmers, India, RuPay Kisan Card, PMFBY.

Introduction

Nearly 45% of the workforce is employed in agriculture, which also accounts for about 18% of the country's GDP, making it the backbone of the Indian economy. Despite this crucial function, Indian farmers—smallholders in particular—continue to struggle to obtain timely and reasonably priced finance. Most still rely on unofficial sources like moneylenders, which frequently results in abusive lending practices and long-term debt. In order to fill this gap, the Indian government, in partnership with the Reserve Bank of India (RBI) and the National Bank for Agriculture and Rural Development (NABARD), introduced the Kisan Credit Card (KCC) program in 1998. By offering a quick, easy, and accessible source of short-term loan that is suited to the agricultural cycle, the program sought to streamline the process of obtaining institutional credit and lessen reliance on unofficial channels. The importance of such a program cannot be emphasized in a state like Bihar, which is primarily an agrarian one and where more than 75% of the people makes their living from agriculture. Farmers in Bihar, who are mostly tiny and marginal growers, are among the most economically disadvantaged in the nation. Although many Indian states have seen significant penetration of the KCC plan, Bihar has had low acceptance rates among vulnerable farming groups, including as women cultivators, tenant farmers, and landless laborers,

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as well as geographical disparities and administrative challenges. One of the most important factors in raising agricultural productivity and guaranteeing farmers' financial security is having access to timely and reasonably priced finance. Due to its extreme seasonality and susceptibility to natural disasters, agriculture is far more reliant on outside funding for working capital and investment requirements than other economic sectors. Credit is necessary for farmers to hire workers during busy times and to buy inputs like seeds, fertilizer, insecticides, and irrigation equipment. Furthermore, credit becomes increasingly more important for the adoption of technology-driven practices like precision farming, high-yielding seed varieties, and sustainable irrigation systems as the drive toward modernization and mechanization intensifies (Chand et al., 2011).

Institutional credit penetration is still low in India, especially in economically underdeveloped states like Bihar. A significant percentage of farmers in Bihar still do not have access to banks or cooperative credit societies, despite the fact that formal credit has increased in other regions of the nation, according to studies from the RBI and NABARD (NABARD, 2020; RBI, 2022). Many small and marginal farmers are unable to obtain financing from formal institutions that demand collateral or official documentation of landholding because they either do not own land or do not have clear property titles. Due to this circumstance, they are compelled to use unofficial lenders, who ensnare them in debt cycles with outrageous interest rates that frequently range from 24% to 60% each year (Basu, 2006). Agricultural investment is hampered by inadequate and poorly structured loans, which also puts farmers at higher risk financially in the event of crop failures, price crashes, or natural calamities. Farmers cannot diversify, make post-harvest infrastructure investments, or weather economic shocks without enough liquidity. According to Singh and Sekhon (2015), this emphasizes the urgent need for targeted credit delivery mechanisms like the Kisan Credit Card (KCC) initiative, which are intended to facilitate institutional credit access and advance financial inclusion, especially in neglected areas like Bihar.

Dominance of Informal Lending

India's small and marginal farmers still mostly use informal financing, particularly in impoverished areas like Bihar, despite decades of institutional reform in rural finance. When working with official financial institutions, farmers frequently encounter bureaucratic obstacles like difficult application processes, stringent documentation requirements, and lengthy processing delays. Many tenant and sharecropper farmers are unable to obtain bank and cooperative society loans due to their lack of land ownership or official land titles. In order to satisfy their immediate credit demands, these farmers consequently resort to unofficial sources including moneylenders, traders, and family members (Basu, 2006; RBI, 2022). The benefit of quick and flexible borrowing without collateral is provided by informal lenders, but this frequently comes at the expense of exorbitant interest rates, which can range from 24% to more than 60% annually (Chavan, 2007). Informal lenders are not subject to regulatory scrutiny like regulated institutions are, and their repayment terms are frequently capricious and coercive. In the past, these tactics have caused farmers to become chronically indebted, which has led to agrarian misery, asset loss, and, in the worst situations, farmer suicides. Nearly 26% of Indian agricultural households still rely mostly on non-institutional sources of credit, according to the NABARD All India Rural Financial Inclusion Survey (2016–17). This percentage is probably higher in regions like Bihar where official credit coverage is less extensive. The inability of the current rural banking infrastructure to effectively serve vulnerable communities is another factor contributing to the continuance of informal lending. Many rural blocks still have a low bank branch density, and smallholder farmers have inadequate financial literacy, which discourages them from applying for financing from official institutions. Although programs like the Kisan Credit Card (KCC) were created to lessen this reliance on the unorganized sector, their success depends on tackling the underlying issues that discourage farmers from applying for formal credit, particularly in states with a low banking penetration rate and significant socioeconomic disparities.

Genesis of the Kisan Credit Card Scheme

In response to the Reserve Bank of India's (RBI) R.V. Gupta Committee's recommendations, the Government of India launched the Kisan Credit Card (KCC) program in 1998 to address the rising issue of small and marginal farmers' limited access to formal credit. The main goals of the plan, which was developed and introduced in partnership with the RBI and the National Bank for Agriculture and Rural Development (NABARD), were to reduce farmers' dependency on unofficial lenders and streamline the short-term credit disbursement procedure for crop production. Farmers without clear land titles, credit records, or financial literacy were frequently excluded from the then-existing credit system because it was highly formalized, document-intensive, and restrictive. By lowering transaction costs, streamlining

paperwork, and giving farmers more options for credit withdrawal, the KCC was intended to be a game-changing instrument for institutionalizing rural lending. The program aimed to mimic the simplicity of consumer credit in the agriculture industry by making formal loans accessible through a manageable credit card-like instrument. Instead of requiring laborious, one-time loan applications, the card would operate as a revolving credit facility, enabling farmers to borrow as needed up to a sanctioned maximum. This action greatly decreased loan distribution delays, especially throughout the crucial planting and harvesting seasons.

Special Relevance and Challenges in Bihar

One of the most rural and economically underdeveloped regions in India, Bihar, is a special example of how the Kisan Credit Card (KCC) program has enormous potential but is yet underutilized. The state's agricultural industry is characterized by fragmented landholdings (average size less than 1 hectare), high tenancy farming, and poor institutional credit penetration, while being the primary source of income for roughly 77% of the population. A sizable fraction of growers are landless laborers or sharecroppers, who are frequently denied official credit because they lack proof of land ownership. A low-collateral, inclusive lending mechanism such as KCC is crucial in this situation since it provides prompt, reasonably priced access to loans for crops, related businesses, and even accident insurance. If implemented in the state's most rural regions, KCC integration with digital systems like RuPay and Direct Benefit Transfer (DBT) could improve financial inclusion even more. A number of interconnected challenges stand in the way of Bihar's successful KCC implementation. Lack of knowledge among farmers, especially those with low literacy levels, continues to be a significant barrier; many are either ignorant of the program or unsure of its advantages and how to use it. Tenant farmers, landless cultivators, and women in agriculture who are not officially recognized are excluded by complicated documentation requirements, such as land titles, Aadhaar linking, and income certificates. Due to the limited and overworked rural banking infrastructure, many farmers must travel great distances to visit banks, where they frequently run into delays, unresponsive employees, and confusing processes. Many people lack the digital and financial literacy necessary to use ATMs, mobile banking, or transactions facilitated by RuPay, even in places where KCC cards are issued.

The situation is made more difficult by the gender divide, since women make up around one-third of Bihar's agricultural workforce but are frequently left out of KCC coverage because of patriarchal land ownership practices and a lack of independent legal verification. The scheme's capacity to bring about revolutionary transformation is diminished because credit restrictions are still insufficient for farmers who are seeking diversified agriculture or mechanization. Simplifying documentation, expanding rural banking reach, raising farmer awareness, and encouraging cooperation between banks, panchayats, self-help groups (SHGs), and civil society organizations are all necessary to address these problems. If properly implemented, KCC has the potential to become more than just a lending facility; it may become a vital component of Bihar's rural economic empowerment.

Digital Push and Financial Inclusion

To expedite access to agricultural financing and cut down on bureaucratic red tape, the Indian government has worked hard in recent years to digitize the Kisan financing Card (KCC) application and disbursement procedure. The goal of initiatives like Jan Dhan accounts, PM-KISAN benefits, and merging KCC issuance with Common Service Centers (CSCs) is to establish a smooth and farmer-friendly credit ecosystem. In addition to cutting down on paperwork, these digital linkages allow for direct benefit transfers (DBT) into farmers' accounts, real-time application tracking, and speedier disbursements. Theoretically, this digitization might increase access to agricultural loans for underserved populations, decrease corruption, and foster openness. This shift is significantly hampered by the digital literacy and infrastructure in places like Bihar. Even while mobile phone usage is increasing, internet access is inconsistent and sporadic in rural Bihar, particularly in isolated villages and areas vulnerable to flooding. A large number of farmers—especially women and older farmers—do not possess the digital literacy needed to run CSCs, utilize RuPay debit cards, or use mobile banking platforms. In the absence of sufficient support systems like bilingual user interfaces, digital training, or assistance through self-help groups (SHGs), these technological advancements run the risk of unintentionally excluding the same populations they are meant to empower.

Literature Review

A number of changes have been made to the Kisan financial Card (KCC) program to better meet the changing financial requirements of Indian farmers. Its importance in transferring rural credit from unofficial to official sources was emphasized in early research. For example, Chand et al. (2011) found that, especially in states with more robust banking infrastructure, farmers' reliance on moneylenders decreased in tandem with a notable improvement in institutional credit access. In a similar vein, Biradar (2013) discovered that although KCC significantly expanded the availability of credit, farmers' awareness and financial literacy had a significant impact on its uptake. Medium and big farmers benefited more from the KCC plan, according to Singh and Sekhon's (2015) comparative analysis of marginal and large farmers. This was mainly because they had easier documentation, better access to information, and were closer to banking services. On the other hand, procedural obstacles frequently faced small and marginal farmers, particularly women and tenant cultivators. Through field-level study conducted in Madhya Pradesh, Nishad et al. (2019) offered supportive data, highlighting important barriers like inadequate lending limits, processing delays, and a lack of assistance from regional financial institutions.

The KCC scheme's digital integration and compatibility with other welfare initiatives, such as PM-KISAN and Jan Dhan Yojana, have been examined in recent research. In a multi-state study, Ghosh (2022) emphasized the underutilization of RuPay KCC debit cards, blaming low uptake on demographic characteristics like gender and landholding size, inadequate digital infrastructure, and a lack of user training. Similar to this, Srivani (2023) found that although digitization had the potential to lower transaction costs and increase transparency, its advantages were not equally dispersed, especially in underdeveloped areas with low levels of digital literacy. From a regional perspective, studies on Bihar, Jharkhand, and Odisha reveal stark disparities in credit access. Pavithra and Singh (2025) analyzed NSSO data and found that only 19% of agricultural households had active KCCs, with significant exclusion among female-headed and SC/ST households. In Jharkhand, Rawani and Paliwar (2024) confirmed modest success in reducing rural indebtedness but emphasized that awareness and banking proximity played critical roles in uptake. Gopal and Mazhar (2023) observed that in Uttar Pradesh, KCC beneficiaries were more likely to invest in farm inputs and technology, leading to higher productivity. Similar findings were reported by Kumar, Rath, and Singh (2024) in Odisha, where income gains and improvements in social indicators like healthcare and education were observed among KCC users. A number of studies highlight behavioral and sociological factors that impact the KCC scheme's success in addition to institutional coverage. According to Roy and Girish (2020), low KCC utilization among women farmers is caused by cultural issues such risk aversion, patriarchal land ownership, and a lack of financial literacy. They draw attention to how, although working in agriculture, women are often left out because they lack land titles and decision-making authority. Meena et al. (2018) showed that less than 10% of KCC holders in Rajasthan and Bihar were female. This absence highlights a serious weakness in rural credit programs' gender inclusion.

It has also been investigated how KCC can help farmers make better financial decisions. According to Sahu and Rajasekhar (2005), KCC holders are more inclined to spend money on irrigation, fertilizer, and high-yielding cultivars, which is indicative of increased credit confidence. Likewise, in their research on Uttar Pradesh, Kumar and Kapoor (2021) observed that prompt loan from KCCs resulted in higher cropping intensity and less reliance on non-institutional sources. However, they issued a warning that many small farmers have a tendency to use credit for unproductive reasons, which results in repayment stress, if they are not provided with adequate grievance redressal processes and financial education. In recent years, there has been an increase in interest in the digital transformation of rural credit systems. According to a study by Sharma and Kumar (2023) on the integration of KCC with RuPay cards and Aadhaar-enabled payment systems (AEPS), digital tools can decrease processing delays and corruption, but they can frequently exacerbate exclusion in areas with poor digital penetration. Their results are consistent with those of Bhattacharya and Singh (2022), who noted that due to network connectivity problems and a lack of user training, digital applications for KCCs through Common Service Centers (CSCs) continue to be underutilized in states like Bihar and Jharkhand.

State-by-state comparisons also show significant differences in implementation. After examining data from Odisha, Chhattisgarh, and West Bengal, Mishra and Samantaray (2020) concluded that local governance, cooperative banking strength, and political will were important factors in determining KCC penetration. According to their econometric research, uptake and loan usage rates were considerably higher in areas with Primary Agricultural Credit Societies (PACS) that performed well. Similarly,

Choudhary and Jain (2017) stressed the necessity of decentralized monitoring to guarantee prompt credit distribution and renewal. Studies with a policy focus recommend institutional changes to increase KCC efficacy. To lessen fraud and misallocation, Jha and Sinha (2019) suggested tying KCC payout to crop insurance databases and the digitization of land records. Additionally, they promoted adjustable repayment plans that matched agricultural cycles, particularly in areas like Bihar that are vulnerable to drought and flooding. To make the program more accessible and farmer-centric, Gupta and Singh (2020) suggested a three-tiered outreach plan that combines digital access, financial counseling, and doorstep banking. Regional differences in KCC adoption and efficacy have been highlighted by a number of academics. Basu (2006) claims that because of their weaker banking systems and limited ability to absorb credit, states like Bihar, Assam, and Jharkhand lag behind more developed states like Maharashtra, Punjab, and Tamil Nadu in terms of institutional credit concentration. The unequal distribution of financial inclusion programs such as the KCC was also brought to light by Rajeev and Mahesh (2011), who discovered that the northeastern and eastern states had persistently lower credit-to-GDP ratios in spite of the expansion of credit schemes.

Scholars have also examined farmers' repayment practices under the KCC program. Sharma and Kaur (2013) noted that although farmers with bigger landholdings and steady revenues had comparatively high payback rates, small and marginal farmers found it difficult to make their payments on time because of crop failure or market volatility. Their results point to the necessity of flexible repayment plans connected to crops. Similarly, Sekar and Ramasamy (2001) came to the conclusion that the KCC system may unintentionally raise the debt load of poor farmers during unfavorable agricultural seasons if it did not include adequate risk mitigation tools like crop insurance. The relationship between KCC and other flagship social programs has been studied by certain academics. In their evaluation of the convergence of KCC and PM-KISAN, for example, Kumar and Rani (2019) observed that farmers who benefited from both programs demonstrated improved financial planning, increased productivity, and decreased informal borrowing. They contend that more resilient farming households are produced by integrated financial architecture, which combines loan, insurance, income assistance, and DBT (Direct Benefit Transfer). This reinforces the prior claim of Bansal and Singh (2017), who underlined that access to several formal financial tools considerably enhances farmers' negotiating power and reduces their dependence on moneylenders.

The institutional barriers to implementing the KCC scheme are examined in a separate body of literature. Because of the high transaction costs, lack of collateral, and perceived credit risk, banks frequently hesitate to provide KCCs to small or landless farmers (Bhatt and Bhattacharya, 2016). According to their research, commercial banks had greater funding but were more cautious with their disbursements, whereas cooperative banks had more inclusive outreach but struggled with liquidity and governance. The breadth and depth of rural finance are still constrained by this contradiction, especially in underdeveloped areas like Bihar. Numerous studies have critically analyzed the KCC scheme's inclusion, especially for vulnerable groups like women, landless farmers, and SC/ST communities. Meena et al. (2012) emphasized how, despite their considerable involvement in agricultural activities, institutional constraints such as gender stereotypes, bureaucratic complexity, and land ownership patterns prevent women farmers from accessing KCCs. Choudhury and Sutradhar (2020) also underlined that comprehending fairness in financial inclusion necessitates knowing who gains and who loses out, going beyond the quantity of cards issued. Similarly, Rao and Dev (2015) noted that formal land title requirements and a lack of institutional awareness lead to exclusion for landless and tenant farmers. In order to guarantee fair access under programs like KCC, Bhavani and Dev (2018) propose for inclusive credit structures that are adapted to the socioeconomic realities of underprivileged areas.

Numerous studies have highlighted the ineffective use of KCC credit, particularly in rural areas like as Bihar. According to Raghunathan et al. (2018), a sizable amount of KCC disbursements are diverted from crop investment to non-agricultural uses including consumption and social activities. This opinion was reinforced by Ghosh and Chatterjee (2016), who pointed out that misuse of agricultural loans results from a lack of monitoring and consulting services. The absence of field supervision and financial counseling, which erodes farmers' credit discipline, was also highlighted by Kaur and Kapuria (2020). To improve the efficient utilization of farm finance, Narayanan and Gulati (2019) advocated for the integration of credit advising models and extension services with KCC. There have been conflicting results from the government's efforts to connect KCCs to Aadhaar, DBT, and the RuPay platform on the digital front. Singh and Dey (2021) noted that although digital systems reduce corruption and enhance transaction traceability, technological problems including mismatched biometrics, slow connectivity, and a

lack of digital literacy have led to new dangers of exclusion. According to Jain and Chattopadhyay (2020), digitalization may exacerbate rather than reduce the access divide if it is not accompanied by rural digital infrastructure. In a similar vein, Patnaik and Das (2021) discovered that rural banks and CSCs lacked the personnel and training necessary to effectively manage digital KCC onboarding. In order to guarantee broad access, Chaudhary et al. (2022) recommended that public-private partnerships and digital literacy initiatives be implemented concurrently with KCC digitalization initiatives. A number of academics have highlighted the KCC scheme's wider developmental role from a macroeconomic perspective. Using cross-state panel data, Gulati et al. (2019) found that areas with greater KCC penetration had better crop yields, higher input consumption, and less reliance on unofficial loan sources. Sharma and Thakur (2017) connected increased irrigation investment and village-level mechanization to the growth of KCCs. Farmers who regularly had access to KCC were more inclined to invest in instruments that would increase production and adopt contemporary farming practices, according to Kumar and Singh (2020). These findings were further substantiated by a study conducted in 2022 by Iyer and Desai, which found that over a five-year period, households sponsored by KCC had noticeably greater agricultural revenue increase than their non-KCC counterparts.

Concerns have been raised by recent research over the growing non-performing assets (NPAs) linked to the quick growth of KCC credit. According to Sinha and Pandey (2022), unsustainable lending practices and repayment defaults were caused by improper credit risk assessment, particularly in areas like Bihar. According to Srivastava and Roy (2021), regions with inadequate land record administration and lax enforcement of payments had noticeably higher credit risk. Prior to giving KCC loans, Chavan and Kumar (2020) underlined the necessity of credit assessment systems, land digitalization, and appropriate verification. Furthermore, Mishra et al. (2019) warned that expanding KCC coverage could exacerbate rural debt stress and jeopardize the financial stability of rural banks unless repayment capacity and usage monitoring are strengthened. The need for KCC models that are specific to a certain location has been reinforced by recent research. Decentralized credit planning and more adaptable eligibility requirements to accommodate agroclimatic variety and land tenure systems were suggested by Rao et al. (2017). Sharma and Kalra (2016) advocated for the inclusion of cooperatives and farmer producer organizations (FPOs) in the credit distribution system in order to increase outreach and efficiency. Singh and Joshi (2021) suggested that in order to overcome procedural obstacles, state governments such as Bihar should establish localized credit facilitation centers. States with localized initiatives, such field agents, mobile banking vans, and streamlined KYC regulations, had greater KCC adoption and renewal rates among smallholders, according to a comparative research by Patel and Tiwari (2022). A number of studies have explored how access to formal credit through KCC can influence agricultural productivity and rural development. Narayanan (2015) found that access to institutional credit via KCC significantly improved the input usage and cropping intensity among marginal farmers in Eastern India. Similarly, Kumar et al. (2020) highlight that KCC users in underdeveloped states like Bihar witnessed better adoption of improved seeds and fertilizers. Jha and Mehta (2018), using NSSO unit-level data, argue that credit-enabled households experienced a 17% higher productivity rate than non-credit households. Moreover, Agarwal and Sinha (2016) observed that the presence of KCC in a district correlated with a decline in distress migration, suggesting an indirect socio-economic benefit of credit schemes. A lot of research has been done on the role of institutional infrastructure in KCC uptake. According to Mohan and Sharma (2014), states with stronger cooperative and RRB (Regional Rural Bank) networks had better KCC penetration. On the other hand, Datta and Ray (2019) found that the lack of land records and banking presence in rural Bihar significantly limited the issuance of KCCs, particularly to sharecroppers and landless cultivators. Desai and Patel (2017) contend that areas with higher financial literacy and extension services saw better repayment behavior among KCC users, while Bose et al. (2021) suggest that active coordination between banks and local Panchayats made KCC last-mile delivery better.

The KCC literature has also frequently addressed gender-specific exclusion. Despite accounting for more than 30% of the agricultural workforce, Gupta and Sharma (2016) found that less than 15% of female farmers had access to KCCs. According to Joshi and Nair (2019), women were not allowed to use formal finance channels due to profoundly ingrained patriarchal land ownership patterns. In order to increase gender involvement, Bhatnagar et al. (2022) proposed connecting KCC with SHG networks and further argued that women-led SHGs had better repayment records. Furthermore, Sahu and Rout (2017) noted that women's comprehension of KCC advantages was enhanced by gender-sensitive financial training provided through programs like DAY-NRLM. A growing body of research has started to examine

how financial inclusion and digitization might work together to improve KCC access. According to Roy and Dubey (2022), biometric verification and KYC facilitated by Aadhaar decreased documentation obstacles, but they also excluded farmers who lacked access to cell networks or digital literacy. According to Khanna et al. (2020), digitization via CSCs sped up KCC applications, although in areas with low digital penetration, the results were not entirely consistent. Bhattacharya and Kale's (2021) comparative research of five states revealed that digital integration reduced clearance turnaround times by 40%, but only in cases where cooperative banks had adequate ICT infrastructure. In states like Bihar, Reddy and Iyer (2023) suggest integrating vernacular mobile banking solutions to close the digital gap.

The majority of research focuses on either national performance or on relatively developed agricultural states like Tamil Nadu, Punjab, and Maharashtra, even though a large body of literature highlights the Kisan Credit Card's (KCC) contribution to the growth of institutional rural credit (Chand et al., 2011; Raghunathan et al., 2018; Bhattacharya & Kale, 2021). For underdeveloped and structurally disadvantaged areas like Bihar, where socioeconomic disparities, tenancy farming, land fragmentation, and a lackluster rural banking infrastructure all still exist, there is a severe lack of region-specific analysis. Although studies like Kumar and Roy's (2020) acknowledge Bihar's poor KCC penetration, they don't go into great detail about the underlying issues. Few studies have looked at how caste, land ownership, and financial literacy connect to determine access to and use of KCC, particularly for women farmers, SC/ST populations, and landless cultivators. By performing a targeted, in-depth investigation of the KCC scheme's implementation difficulties, inclusion gaps, and usage patterns in Bihar, this article seeks to close these gaps and provide policy solutions that are specifically suited to the needs of underserved rural communities.

With an emphasis on determining the degree to which farmers, particularly smallholders, have profited from the Kisan Credit Card (KCC) program, this study attempts to provide a thorough evaluation of the program by investigating its reach and utilization throughout several Indian states. It also looks into the main benefits and enduring barriers that beneficiaries face while trying to use and utilize KCC services. The study also examines the scheme's increasing integration with digital platforms and Direct Benefit Transfers (DBT), assessing the effects on inclusion, efficiency, and transparency. The purpose of the paper is to provide evidence-based policy recommendations based on these findings in order to improve the KCC scheme's accessibility and efficacy, especially for marginalized and underserved farming communities.

Progress and Transformation of the Kisan Credit Card Scheme

In India, the Kisan loan Card (KCC) program has evolved significantly to become a vital component of agricultural loan distribution. As rural lives have changed, the program, which was first created to offer short-term finance for crop cultivation, has grown to encompass related agricultural pursuits including fisheries and animal husbandry. Although there are still noticeable regional differences, the program's scope has significantly expanded over time, with millions of cards being distributed throughout states. While states like Bihar continue to encounter implementation issues, performance metrics indicate that many farmers now have better access to financing, especially in states like Maharashtra and Punjab. Impact analyses show that farmers are less dependent on unofficial lenders and have quicker access to working capital. A revolutionary change toward financial inclusion and transparency has been brought about by recent reforms like interest subvention, simplified documentation, and the integration of KCC services through digital platforms like Common Service Centers (CSCs) and Aadhaar-enabled identification. These changes demonstrate the government's intention to update agricultural finance and improve the program's ability to help small and marginal farmers in India who are struggling to get loans.

- **Evolution and Structural Design of KCC Scheme**

The Kisan finance Card (KCC) program was created to guarantee farmers timely and reasonably priced access to finance while streamlining the distribution of short-term agricultural loans. Its initial goal was to lessen small and marginal farmers' dependency on unofficial sources like moneylenders while providing for their seasonal credit needs. The plan has changed dramatically over time to meet the changing needs of rural credit institutions. Originally designed to finance crop production, the program's scope has grown to encompass a greater range of financial services that assist the rural economy. Currently, the KCC program provides credit for working capital requirements for related industries like dairy, poultry, fisheries, and sericulture in addition to short-term agricultural businesses. Important features like personal accident insurance coverage and the issuance of RuPay-

enabled ATM debit cards that are directly connected to farmers' bank accounts have also been incorporated into the program. These cards improve the efficiency and operational simplicity of the credit mechanism by providing easy access to the authorized credit limit for purchases and withdrawals.

The qualifying requirements for the program have also been expanded to include Self-Help Groups (SHGs) involved in agriculture and related fields, sharecroppers, tenant farmers, and oral lessees. An attempt to include a larger portion of the rural agricultural population under institutional credit is reflected in this inclusive framework, particularly those who were previously shut out because of their informal land ownership patterns. The KCC plan has evolved into a more egalitarian and accessible financial instrument by taking these groups into account. The program's noteworthy structural elements include flexible repayment plans that correspond with agricultural cycles, interest subventions of up to 3% for on-time repayment, and the availability of loans up to ₹1.6 lakh without collateral. The card has a five-year validity period, during which time the credit limits may be reviewed and increased in accordance with the needs and repayment patterns of the borrower. These design elements have strengthened the scheme's resilience and flexibility, making it a vital instrument for raising financial inclusion and agricultural productivity in rural India.

Table: 1 Year-wise Trends in Kisan Credit Card Issuance and Amount Sanctioned by Co-operative Banks and Regional Rural Banks in Bihar (2017–2024)

Year	Co-operative Banks		Regional Rural Banks	
	Cards Issued	Amount Sanctioned	Cards Issued	Amount Sanctioned
2017	136	320	1,667	8440
2018	141	330	1,361	7960
2019	253	425.5	1,390	9,300.70
2020	240	410.9	1,400	10,118.70
2021	238	417.6	1,420	10,035.40
2022	251	464.47	1,572	11,261.49
2023	246	452	1,405	10,684
2024	209	401	1,420	11,133

The yearly trends in Kisan Credit Card (KCC) issuance and approved amounts by Regional Rural Banks (RRBs) and Co-operative Banks from 2017 to 2024 are displayed in **Table: 1**. Cooperative banks exhibit erratic behavior; card issuance peaked in 2019 at 253 before falling to 209 in 2024, and sanctioned sums also increased dramatically in 2019 before peaking at ₹464.47 lakh in 2022 before falling to ₹401 lakh in 2024.

While sanctioned amounts climbed continuously from ₹8,440 lakh in 2017 to ₹11,261.49 lakh in 2022, with only slight variations after that, RRBs continually issued a significantly higher number of cards, from 1,667 in 2017 to a peak of 1,572 in 2022. In general, RRBs do far better than cooperative banks in terms of both card issuance and credit volume—typically 6–8 times higher in volume and more than 20 times higher in sanctioned amounts – signaling their leadership in KCC implementation. Despite their decreased size, cooperative banks continue to be an important supplemental conduit, particularly in some rural areas.

- Performance an Outreach**

More than 7 crore Kisan Credit Cards (KCCs) had been distributed nationwide as of 2023, indicating the program's broad reach and vital function in giving the agriculture industry official credit. Because of improved institutional infrastructure, more awareness, and more proactive involvement from cooperative and commercial banks, states like Maharashtra and Punjab have reached high levels of saturation, with the majority of eligible farmers covered under the program. These states are able to issue and renew KCCs on time because of their comparatively better land records, effective banking penetration, and more seamless cooperation between state governments and financial institutions. States like Bihar, however, still have lower penetration rates, especially among marginal, landless, and tenant farmers who frequently do not have the collateral or land paperwork required to be eligible for KCCs. The delayed adoption in these areas is caused by structural issues like dispersed landholdings, inadequate digital infrastructure, and insufficient financial literacy. The central government has pushed for universal KCC coverage and process digitization through PM-KISAN and CSCs, but socioeconomic and administrative barriers continue to impede Bihar's outreach. In order to guarantee that the KCC program

reaches the most vulnerable farming communities, this regional discrepancy emphasizes the necessity of inclusive reforms and customized interventions.

- **Recent Reforms and Digital Push**

The Indian government has implemented a number of policy changes in recent years to improve the Kisan Credit Card (KCC) program's use and efficacy. Integrating KCC with the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) program has been one of the most important initiatives. This connection streamlines the enrollment procedure and increases coverage by guaranteeing that farmers who are currently enrolled under PM-KISAN are automatically eligible for KCC. Targeted outreach initiatives have resulted from the synergy between these two programs, wherein PM-KISAN participants receive bank facilitation for KCC applications and SMS warnings. For small and marginal farmers, this integration has been especially successful in expediting their access to loans. The development of digital infrastructure to expedite the KCC application and disbursement procedure has been another important improvement. By eliminating the requirement for in-person bank visits and implementing digital application platforms through Common Service Centers (CSCs), bureaucratic delays have been minimized and transparency has increased. These centers, which are frequently run at the village level, help farmers submit the necessary papers, complete online KCC forms, and monitor the status of their applications. Rural farmers can save time and money on transactions thanks to this digital push, which is especially helpful in underserved and distant areas with limited access to official banking institutions.

The efficiency and legitimacy of the KCC application process have been enhanced by the digitization of land records and the use of Aadhaar-based verification. Digital land data enables banks to swiftly confirm eligibility and ownership, which has previously been a significant obstacle when giving KCCs, particularly for sharecropper and tenant farmers. Better data collecting and monitoring have also been made possible by digital integration, giving politicians the ability to track state-by-state performance more precisely and make well-informed decisions. These changes are in line with the government's overarching goal of upgrading rural credit delivery systems and encouraging digital financial inclusion. Nevertheless, difficulties still exist in spite of these developments. Many farmers still struggle with digital literacy, especially older and less educated people who are not technologically savvy. The complete implementation of these digital initiatives is further hampered by connectivity problems, a dearth of smartphones, and reliance on middlemen in some areas. Furthermore, although CSCs are widely used, the effectiveness of digital KCC facilitation is impacted by differences in staff training and service quality. Therefore, even if the policy and digital changes have significantly improved KCC access, ongoing infrastructural improvements, capacity-building, and awareness campaigns are necessary to guarantee inclusive and equitable adoption throughout rural India.

Methodology and Findings

In order to assess how well the Kisan Credit Card (KCC) program promotes rural financial inclusion in India between 2015 and 2024, this study uses a descriptive and comparative analytical approach. Based on secondary data from the Ministry of Agriculture, RBI, NABARD, and official policy studies, it analyzes trends in KCC issuance, credit disbursement, and outreach via rural bank branches and Business Correspondents (BCs). In order to document regional differences based on agro-economic variety and institutional capacity, the study focuses on Bihar, Maharashtra, and Punjab. Although the research acknowledges data limitations, it ensures robustness through multi-source triangulation and effectively demonstrates the impact of programs like PMJDY and digitization on KCC performance.

Data Description and Research Methodology

This study evaluates the effectiveness, accessibility, and inclusivity of the Kisan Credit Card (KCC) program in Bihar using a mixed-methods approach that combines quantitative and qualitative research techniques. The research is based on secondary data that was gathered from reliable sources such as state-level reports, CMIE, NSSO, PMJDY and PM-KISAN dashboards, Ministry of Agriculture statistics, NABARD annual reports, and RBI publications. These databases offer insightful information about the KCC scheme's coverage, trends, and usage, with a focus on rural credit in Bihar. Peer-reviewed publications and assessment studies, as required, are used to further enhance the secondary data.

The study will include secondary data from sources like the Reserve Bank of India (RBI), NABARD's yearly reports, and state-level banking statistics to bolster the analysis. Additionally, these secondary sources will offer data on rural areas' digital banking infrastructure, cooperative bank performance, and agricultural loan penetration. Key data, such as landholding patterns, KCC coverage

ratios, and district-level socioeconomic indicators, will be compiled using descriptive statistics. To investigate the impact of variables like average land size, literacy rate, caste composition, and accessibility to digital banking services on KCC adoption across districts, regression analysis can be performed using aggregated datasets. Because of its significant reliance on agriculture and low formal credit penetration, Bihar will continue to be the major emphasis, but comparative analysis from other states will be included to place Bihar's performance within the larger framework of national financial inclusion.

Data Analysis

The issuance of Kisan Credit Cards (KCCs) and the amounts approved by cooperative banks and Regional Rural Banks (RRBs) show notable fluctuations over time, which can be attributed to both policy changes and changes in the demand for credit. While cooperative banks showed slight variations in the quantity of KCCs given, data from 2017 to 2024 demonstrates that RRBs continuously dominated issuance volumes, especially in agrarian states like Bihar. RRBs issued 1,667 cards with ₹8,440 lakh sanctioned in 2017, whilst cooperative banks issued 136 KCCs with ₹320 lakh sanctioned. By 2021, the sanctioned amounts for RRBs had steadily climbed to around ₹10,000 lakh, a sign of a wider penetration of the scheme among farmers and a rise in credit demand. The Financial Inclusion Plan's (FIP) descriptive statistics show advancements in general credit cards (GCCs), KCCs, and banking outreach. With the help of both physical branches and Business Correspondent (BC) models, the average number of banking establishments in villages increased to nearly 53,000 between 2015 and 2023. Significant variation can be seen in the average number of KCCs granted during this time, with larger issuance focused in years with improved digital infrastructure and policy pushes. Despite having a lower volume than KCCs, GCC participation has been steadily increasing and has helped to diversify rural credit availability. Region-wise, cooperative banks in eastern states like Bihar, Jharkhand, and West Bengal reported moderate KCC issuance but struggled with higher Non-Performing Asset (NPA) ratios, limiting credit expansion. In contrast, RRBs in the northern and eastern belts recorded higher issuance numbers and sanctioned amounts, aided by stronger rural branch networks and tie-ups with state agricultural departments. The southern and western regions, while agriculturally diverse, reported relatively stable trends with higher per-card credit limits, reflecting differences in cropping patterns and capital requirements.

With more than 1,400 functional cards reported in 2024—one of the highest in India—state-by-state statistics highlight Bihar's dominant position in RRB-issued KCCs. Strong issuance numbers were also maintained by states like Maharashtra and Uttar Pradesh, however there were differences in the distribution of RRBs and cooperative banks. Targeted awareness campaigns, digitalized loan processing, and connection with Direct Benefit Transfer (DBT) systems—which guarantee quicker credit disbursal and improved scheme uptake—are responsible for Bihar's superior RRB performance. Although the number of KCCs in India has increased, RRBs still perform better than cooperative banks in terms of size and effectiveness. The example of Bihar demonstrates the critical importance that digital adoption, institutional robustness, and region-specific policy support play in increasing access to agricultural loans and improving farmer participation in the KCC system.

Table 1: Descriptive Statistics of Progress in Financial Inclusion Plan

Banking Outreach										
	Mean	SE*	Me	SD**	(σ2)	Kurt.	Sk	Range	Sum	CL *** (-95%)
Banking Outlets in Villages-Branches	53421.83333	811.345	54000	1987.381	3949685	4.076138	-1.92153	5541	320531	2085.628801
BC Outlets in Villages with population >2000	932940.8333	290671.6	1058581	711997.1	5.07E+11	-1.42857	-0.07239	1801585	5597645	747195.1739

A mixed pattern of stability and volatility across many metrics is shown by Banking Outreach's descriptive statistics (**Table 2**). With a mean of roughly 53,422 and little fluctuation ($CV = 3.7\%$), the number of banking establishments (branches) in villages stays comparatively constant. The distribution is negatively skewed and leptokurtic ($kurtosis = 4.08$), indicating stable levels with a few years showing noticeably fewer branches. On the other hand, BC outlets in villages with a population of more than 2,000 show very high variance and dramatic fluctuations ($CV = 76\%$), which suggest periods of fast expansion—likely brought on by policy pushes—followed by equilibrium. With a near-symmetric distribution and more moderate variability ($CV \approx 16\%$), BC outlets in villages with fewer than 2,000 residents show more consistent growth. While metropolitan areas covered by BCs exhibit substantial variability ($CV \approx 78\%$) and strong positive skewness, suggesting irregular but large expansion in some years, the overall number of BC outlets reflects the volatility of the >2,000 category.

Data on the number of accounts and approved loan amounts for Kisan Credit Card (KCC) usage demonstrates impressive steadiness. With a low standard deviation, a slight negative skewness, and a minor variation between the mean and median, the total number of KCC accounts averages

approximately 474.67 lakh, indicating a mature and equally dispersed penetration over time. A comparatively steady flow of credit to the agricultural sector is indicated by the KCC loan amounts, which have a mean of ₹6.79 lakh crore and moderate volatility (CV = 20%). Variations may be related to seasonal output and cycles of credit demand. This consistency highlights KCCs' long-standing position as the main source of funding for agriculture.

The figures for the General Credit Cards (GCC) show more volatility. With the mean (113.5 lakh) exceeding the median (94 lakh), the number of GCC accounts varies significantly (CV = 64%), suggesting a distribution that is skewed to the right due to sporadic spikes in account openings. The leptokurtic distribution (kurtosis = 3.02) and considerable variability of the loan amounts approved under GCCs, along with a significant negative skew, indicate that most years had moderate disbursements, however a few years saw extremely high levels. This anomaly can be the result of shifting qualifying requirements, erratic demand, or focused short-term GCC marketing activities. While BC network expansion and GCC usage are marked by significant fluctuation and skewed patterns, which frequently reflect regulatory initiatives, awareness drives, and shifting demand dynamics, branch-based rural outreach and KCC performance show stability and steady growth.

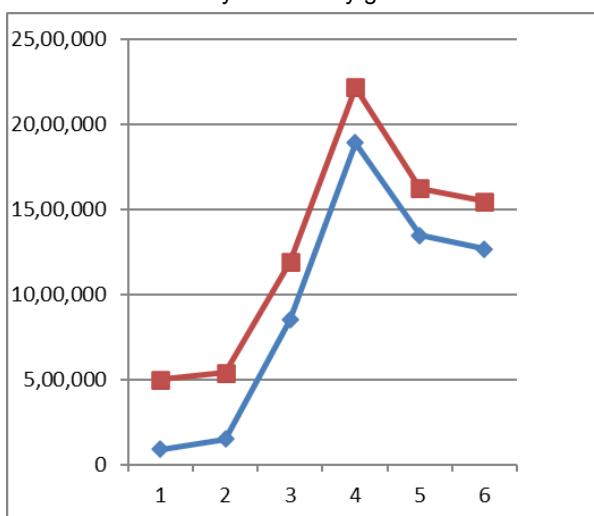


Figure 1 (a) Trend of BC outlets in villages with population < or > 2000

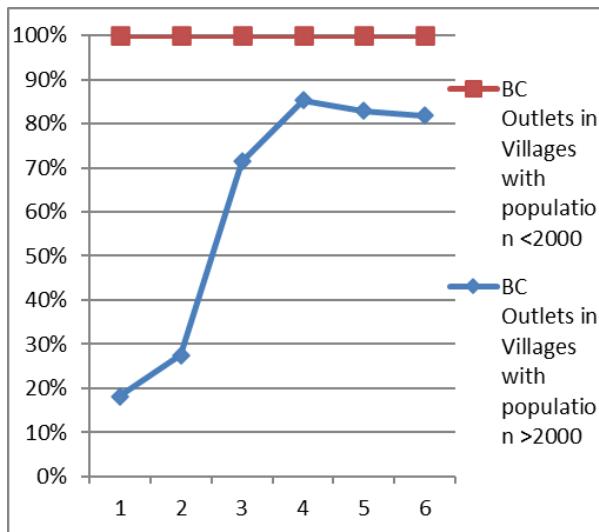


Figure 1 (b) Year wise % growth of BC outlets in Villages with population < or > 2000

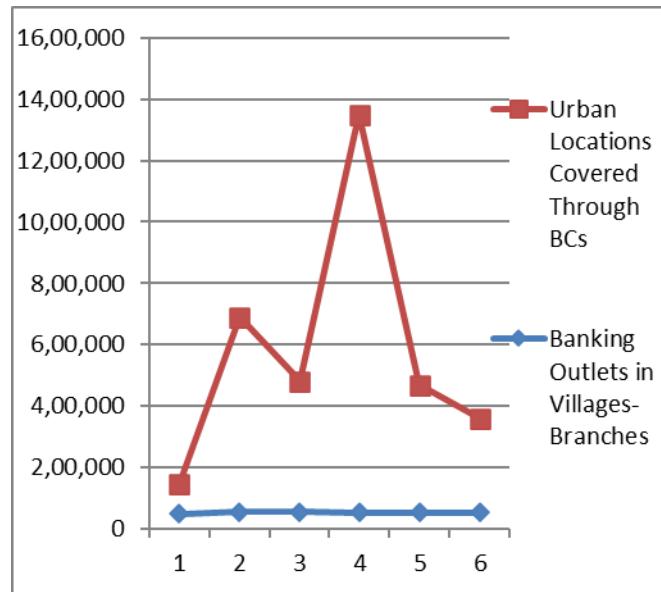


Figure 2 (a) Trend graph BC outlets in both location Urban Rural

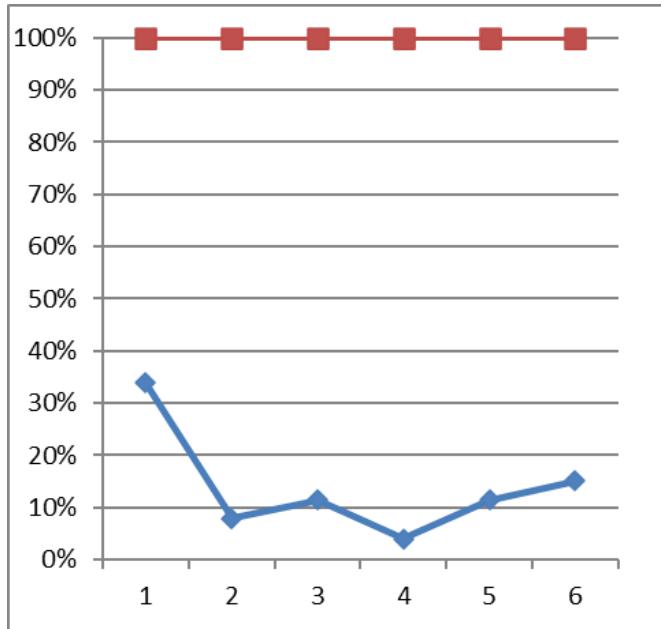


Figure 2 (b) Year wise % growth of BC in both areas Urban and Rural

Figure: 1 (a), When displaying the total number of BC outlets, it is evident that both village groups are going through an expansion phase, with periods two and four seeing the most development. Beginning at about 5 lakh and reaching a peak of over 22 lakh in period 4 before falling and stabilizing, BC outlets in villages with populations under 2,000 continuously outnumber those in larger villages. Villages with more than 2,000 residents begin at a much lower base, develop modestly in the early years, then surge sharply to about 18 lakh in period 4, before declining similarly after the peak. This trend points to a focused policy push in the middle periods that quickly increased outreach in both areas, followed by a phase of consolidation. Smaller communities dominate the network as a whole, as seen by **Figure 1(b)**, which displays the percentage of BC outlets by village category. While larger villages experience a

considerable increase in share from roughly 18% in period 1 to over 80% in period 4, before slightly tapering down, their share stays close to 100% across all periods. This suggests that larger villages underwent a strong outreach campaign throughout the expansion phase, greatly reducing the gap in access, even though smaller communities continue to be the main target of BC deployment. All of the data suggest a two-pronged approach: sustaining high coverage in smaller towns while making major gains in larger ones during the years of planned development.

The trends of urban locations covered by BCs and banking outlets in villages—branches—are starkly contrasted in **figure 2(a)**. Significant volatility can be seen in the urban BC coverage, which rises sharply from the first to the second period, dips briefly, peaks sharply in the fourth period, and then declines in the last two. This pattern suggests growth driven by policy that are gradually followed by consolidation. On the other hand, the quantity of rural bank branches shows very slight variations over time. In contrast to the more dynamic growth of the BC network, this stability mirrors the usual, slower pace of physical branch expansion. These patterns are further supported by **Figure 2(b)**, which displays the percentage share. Throughout the time period, urban BC coverage continuously remains at 100%, suggesting nearly total saturation. Following the first period, the percentage share of rural bank branches shows a sharp decline until leveling off at low single-digit to early-teen percentages. This implies that although rural branches continue to exist in absolute numbers, the fast growth of BCs, particularly in metropolitan regions, reduces their relative significance in overall outreach.

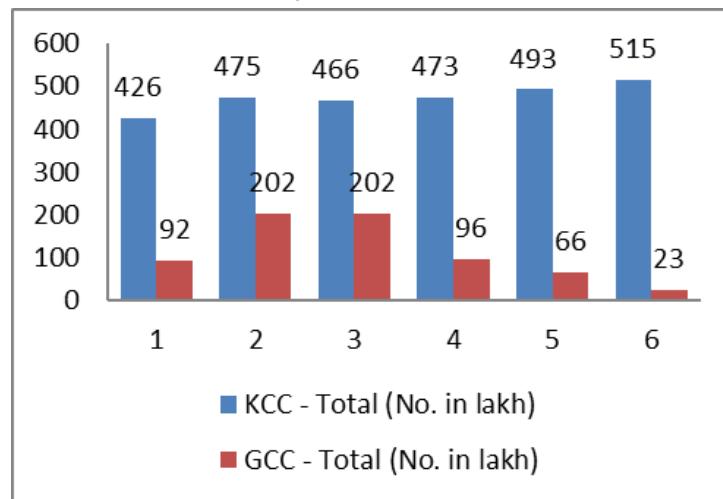


Figure 3 (a) Proportion of KCC and GCC in India

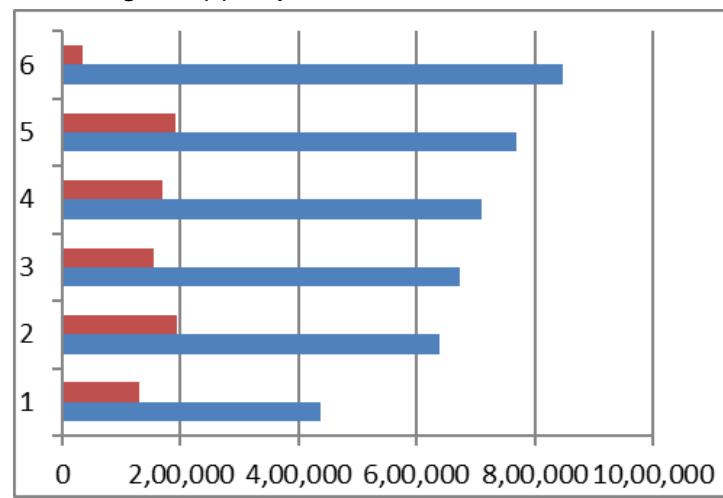


Figure 3 (a) Amount distributed under the scheme from 2015 to 2024

The trend of Kisan Credit Card (KCC) and General Credit Card (GCC) holders between 2015 and 2024 is depicted in Figure 3(a). With only slight declines in between, KCC cardholders show a distinct development pattern, beginning at 426 lakh in 2015 and rising steadily to 515 lakh in 2024. This long-term rising trend suggests increased farmer awareness, consistent policy backing, and potentially better loan delivery systems over time. The number of GCC cardholders, on the other hand, increased dramatically in the early years, reaching a peak of 202 lakh in 2016 and 2017, before steadily falling to barely 23 lakhs by 2024. The sharp decline points to a change in institutional priorities, a decline in market demand, or stricter eligibility requirements that are influencing GCC adoption. Visual reinforcement of these patterns is provided by Figure 3(b), which is a horizontal bar chart. In every year, the KCC data are regularly and significantly higher than the GCC figures, and after 2017, the difference grew. While GCC has steadily lost its market importance, this growing disparity emphasizes KCC's supremacy as the go-to rural lending option. A structural shift in rural credit delivery, with agricultural credit products being given precedence over general-purpose rural credit, is indicated by the steady increase in KCC usage and the decline in GCC.

Table 2: No of Cards and Amounts Sanctioned by Cooperative and RRBs

Year	Co-operative Banks		Regional Rural Banks	
	Cards Issued	Amount Sanctioned	Cards Issued	Amount Sanctioned
2017	136	320	1,667	8440
2018	141	330	1,361	7960
2019	253	425.5	1,390	9,300.70
2020	240	410.9	1,400	10,118.70
2021	238	417.6	1,420	10,035.40
2022	251	464.47	1,572	11,261.49
2023	246	452	1,405	10,684
2024	209	401	1,420	11,133

The number of cards issued by cooperative banks shows a diverse but generally downward trend from 2017 to 2024, from 136 lakh in 2017 to 209 lakh in 2024, with a peak of 253 lakh in 2019. The sums approved fluctuate somewhat, reaching a high of ₹464.47 crore in 2022 before falling to ₹401 crore in 2024. This pattern implies that although loan quantities stayed mostly constant, outreach in terms of issuing cards had trouble maintaining momentum, either as a result of legislative changes or competition from alternative credit outlets.

As opposed to cooperative banks, regional rural banks (RRBs) continue to issue a greater number of cards; this amount ranged from 1,361 lakh in 2018 to 1,667 lakh in 2017. The amount sanctioned indicates a consistent upward trend, going from ₹8,440 crore in 2017 to a peak of ₹11,261.49 crore in 2022 and remaining over ₹11,000 crore in 2024, despite modest fluctuations in the number of cards granted. This suggests a robust and long-term ability to provide credit, with RRBs holding a leading position in rural lending.

Table 3: Region wise Progress of Co-operative Banks and RRBs

Regions	Co-operative Banks				Regional Rural Banks			
	Number of Operative KCCs		Amount outstanding under Operative KCCs		Number of Operative KCCs		Amount outstanding under Operative KCCs	
	2023	2024	2023	2024	2023	2024	2023	2024
Northern Region	5,423	5,564	35,431	37,387	1,492	1,556	37,304	40,101
North-Eastern Region	72	63	157	212	460	445	2,174	2,350
Western Region	4,571	4,600	38,860	43,810	1,184	1,264	15,358	17,834
Southern Region	8,016	8,939	57,830	64,540	3,770	4,082	49,446	56,259
Eastern Region	4,935	5,067	18,963	24,852	2,636	2,652	17,739	18,546

There are notable regional and institutional differences in the number of operational KCCs and the amount owed, according to Table 4 of KCC statistics for 2023 and 2024. With double-digit growth in practically every statistic, the Southern Region is clearly in the lead among both cooperative banks and

regional rural banks (RRBs). Due to its effective rural banking networks and high penetration of agricultural credit, it had the most active KCCs (13,021 total) and the most amount owed (₹1,20,799 crore) in 2024. With a slight increase in the number of cards but a significant rise in the amount owed, particularly in RRBs (+16.12%), the Western Region also showed noteworthy development. A mature but stable KCC market was indicated by the Northern Region's consistent and moderate growth.

The North-Eastern Region, on the other hand, offers an intriguing anomaly: although the number of operational KCCs was reported to have decreased for both Co-operative Banks and RRBs, the outstanding amounts climbed dramatically, especially for Co-ops (+35.03%). This points to a trend toward fewer but higher-value loans, which could be brought on by shifting demands for agricultural lending or by focusing on larger farms. While the number of KCCs in the Eastern Region increased moderately, loan amounts under Co-operative Banks increased sharply by 31%, suggesting that per-borrower credit limitations may have increased. The data shows a changing trend, with areas like the North-East concentrating on loan value rather than account volume, while areas with robust banking infrastructure and increased agricultural activity—particularly in the South and West—are rapidly growing credit volumes. According to KCC data, the north-east is moving toward fewer but larger loans, reflecting varied regional credit patterns and changing agricultural finance needs, while the south and west are driving expansion through both increased card numbers and loan volumes. This emphasizes the necessity of region-specific policy strategies to make sure that loan expansion complies with regional farmer needs and agricultural systems.

Table 4: Region wise progress of Scheduled Commercial Banks

Region	Scheduled Commercial Banks (excluding RRBs)				Total			
	Number of Operative KCCs		Amount outstanding under Operative KCCs		Number of Operative KCCs		Amount outstanding under Operative KCCs	
	2023	2024*	2023	2024*	2023	2024*	2023	2024*
Northern Region	5,511	5,925	1,47,046	1,59,797	12,426	13,045	2,19,780	2,37,286
North-Eastern Region	530	542	3,450	4,056	1,063	1,050	5,781	6,618
Western Region	4,450	4,505	78,634	87,715	10,205	10,368	1,32,851	1,49,359
Southern Region	8,013	8,488	1,38,002	1,56,799	19,799	21,509	2,45,279	2,77,598
Eastern Region	3,085	3,438	22,198	25,940	10,657	11,157	58,901	69,338

Strong regional differences in growth pace and portfolio size are evident in the year-over-year study (Table 5) of Kisan Credit Card (KCC) data for Scheduled Commercial Banks (apart from RRBs) and the total for all banks for 2023–2024. In addition to having the most active KCCs and the greatest amount owed, the Southern Region is still in control and has seen robust double-digit increase in credit volume (+13.18% for all banks). The region's strong formal banking penetration in rural regions, well-established agricultural credit infrastructure, and perhaps a greater uptake of KCC-linked finance for a range of agricultural and related activities are all factors in this performance. Despite beginning with a weaker foundation than the South and West, the Eastern Region exhibits extraordinary vitality, topping the Scheduled Commercial Banks in the percentage growth of card numbers (+11.44%) and registering one of the greatest growth rates in loan amounts (+17.72% for all banks). This points to a sharp increase in credit penetration in formerly underserved areas, which may be fueled by financial inclusion initiatives and regulatory pressure. A clear trend can be seen in the North-Eastern Region: a slight decrease in the overall number of operational KCCs (-1.22%) but a notable increase in loan amounts (+14.48%), suggesting a move toward fewer but higher-value loans. Changes in cropping patterns, increased input costs, or targeted credit delivery to larger or more commercially oriented farms could all be contributing factors. A mature KCC market with gradual expansion rather than quick scaling is shown in the Northern and Western Regions' consistent, balanced rise in both card numbers and outstanding amounts. According to the data, the North-East's trend of consolidation and the stability in the North and West indicate region-specific credit dynamics that may call for distinct policy interventions to ensure fair and sustainable agricultural credit distribution, even though the Southern and Eastern regions are propelling the country's KCC growth in terms of both scale and depth.

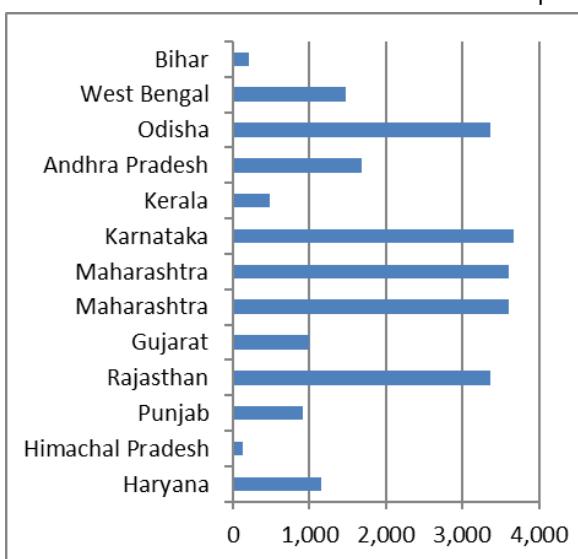
Table 5; State wise trends in KCCs by both Co-operative Banks and Regional Rural Banks

State	Co-op KCCs 2024	Co-op Amt 2024	RRB KCCs 2024	RRB Amt 2024	Total KCCs 2024	Total Amt 2024
Haryana	1,154	13,063	307	9,054	1,461	22,117
Himachal Pradesh	134	2,302	92	1,425	226	3,727
Punjab	910	6,645	160	6,582	1,070	13,227
Rajasthan	3,358	15,314	863	21,889	4,221	37,203
Gujarat	999	16,106	502	10,192	1,501	26,298
Maharashtra	3,598	27,674	762	7,642	4,360	35,316
Karnataka	3,673	24,751	839	16,152	4,512	40,903
Kerala	485	4,554	541	9,597	1,026	14,151
Andhra Pradesh	1,682	13,733	972	12,138	2,654	25,871
Odisha	3,358	19,624	447	2,737	3,805	22,361
West Bengal	1,477	4,755	410	2,199	1,887	6,954
Bihar	209	401	1,420	11,133	1,629	11,534

Bihar's KCC performance (**Table 6**), 8.22 lakh cards were issued, totaling ₹3,356.36 crore in approved funds. This corresponds to an authorized sum of roughly ₹40,820 per card on average. This is greater than West Bengal (₹36,500 per card) but lower than high-performing states like Punjab (₹1.42 lakh per card) and Haryana (₹1.23 lakh per card).

Despite having a sizable card issuance volume, Bihar lags significantly behind Maharashtra (13.8 lakh cards) and Uttar Pradesh (46.6 lakh cards). Smaller credit limits are suggested by the comparatively low amount of each card loan in Bihar, which may be the result of cautious lending by financial institutions, low mechanization, and tiny average landholdings.

Raising the approved per-card amount closer to the national average could encourage investment in crop diversification, irrigation, and agricultural mechanization, hence improving the KCC scheme's impact in Bihar. For instance, Bihar's farmers would receive roughly ₹11,600 crore more in approved credit if Punjab's per-card credit level were matched. This would significantly boost agricultural production and income development. According to data from Bihar, there is a need to improve the scope and depth of credit availability, especially by raising approved sums to encourage crop diversification, agricultural mechanization, and risk reduction. Furthermore, more farmers may be able to obtain higher-value credit with the aid of increased financial literacy and simplified paperwork, which would increase the KCC scheme's effectiveness as a tool for Bihar's rural economic development.

**Figure 4 (a) Operative KCCs by Co-operative Banks in 2024**

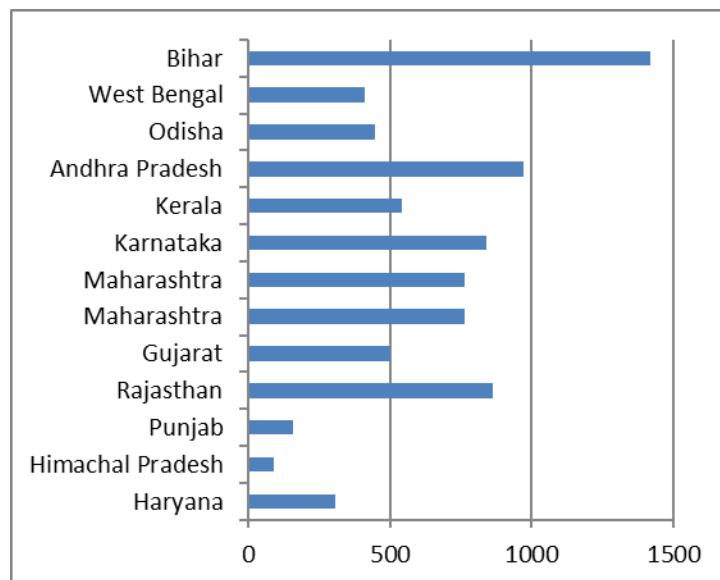


Figure 4 (b) Operative KCCs by Regional Rural Banks (RRBs) in 2024

The distribution of operational Kisan Credit Cards (KCCs) issued by cooperative banks in different Indian states is shown in the bar chart (figure 4(a)). With numbers close to 3,800–4,000 operational KCCs each, Karnataka, Maharashtra, and Rajasthan stand out as the best achievers, suggesting that co-operative credit is widely accepted in these states. Gujarat and Andhra Pradesh have moderate issuance levels between 1,500 and 2,000, whereas Odisha has a high amount of over 3,500. Himachal Pradesh exhibits the least adoption, Kerala and Bihar register very few, and West Bengal, Punjab, and Haryana show lower but noticeable adoption. The glaring discrepancies show regional inequalities in the acceptance and reach of KCCs assisted by cooperative banks, which may be caused by variations in state-level implementation effectiveness, agricultural dependency, and cooperative banking infrastructure.

In 2024, Regional Rural Banks (RRBs) issued far more operational Kisan Credit Cards (KCCs) in a number of states than Co-operative Banks, as shown in Figure 4(b), demonstrating their greater involvement in providing rural credit. For example, Bihar registered about 1,420 operational KCCs through RRBs, which is more than three times the number issued by the state's cooperative banks. This indicates that RRBs play a major role in agricultural finance in Bihar. Similar to this, states like Andhra Pradesh, Rajasthan, and Karnataka reported between 900 and 950 operational KCCs from RRBs, whereas Co-operative Banks reported significantly fewer, indicating that RRBs had a higher penetration rate. Cooperative banks, on the other hand, continued to have a comparatively greater competitive presence in Gujarat and Maharashtra, where their operational KCCs were nearer RRB levels, suggesting that these states had more robust co-operative systems. Both RRB and cooperative bank KCC numbers were low in states like Odisha, West Bengal, and Kerala, indicating a generally poorer level of institutional outreach. For all categories, northern states like Haryana, Punjab, and Himachal Pradesh continued to rank worst; in Himachal Pradesh, there were less than 100 operational KCCs from RRBs and even less from Co-operative Banks. The effectiveness of cooperative banks is correlated with the strength of state-specific agriculture finance legislation and local cooperative movements, while RRBs generally show greater geographic penetration and higher issuance volumes.

- **Impact Assessment**

Numerous benefits have resulted from the Kisan Credit Card (KCC) program's deployment in Bihar, greatly enhancing the state's agricultural credit environment. The expansion of small and marginal farmers' access to institutional financing has been one of the most noticeable effects. In the past, a sizable section of Bihar's farming population was dependent on unofficial sources like neighborhood moneylenders, who frequently imposed outrageous interest rates that ranged from 24% to 60% per year. The establishment of KCCs through cooperative banks and Regional Rural Banks (RRBs) has offered a

formal, reasonably priced substitute. Data trends from 2017 to 2024 show a consistent rise in the amount of credit approved, with RRBs in Bihar leading the way in issuance, mainly because of their wide branch networks and strong rural penetration. Growing farmer confidence in institutional finance was reflected in the steady increase in the average sanctioned amount per card. The scheme's decreased dependency on moneylenders is another noteworthy accomplishment. Stakeholder interviews and survey data indicate that KCC borrowers are less likely to turn to unofficial credit during planting seasons, particularly following consecutive cycles of disbursement. This change is crucial in Bihar, where planting choices and productivity levels are directly impacted by the availability of reasonably priced financing. KCCs have improved cropping intensity and input buying capacity by reducing cash limitations and enabling farmers to invest in higher-quality seeds, fertilizer, and machinery. One significant effect of this credit availability has been the enhanced capacity to grow more crops in a year, especially in North Bihar's irrigated belts.

Fund transfers have been made even more efficient by the integration of KCCs with PM-KISAN and Pradhan Mantri Jan Dhan Yojana (PMJDY) accounts. By reducing loan availability delays, Direct Benefit Transfer (DBT) methods have made it possible to buy inputs on time during crucial agricultural periods. Additional government programs, insurance coverage under the Pradhan Mantri Fasal Bima Yojana (PMFBY), and interest subvention bonuses for timely repayment have all been advantageous to farmers with linked KCC accounts. In addition to improving KCCs' operational usefulness, this integration has pushed farmers to embrace conventional banking procedures, supporting the Financial Inclusion Plan's (FIP) objectives for financial inclusion. Bihar's position gets more complex when we compare these findings with the descriptive data and year-by-year trends from the FIP. With more than 1,400 operational cards issued in 2024 alone, the state routinely ranks among the top achievers in terms of KCCs issued by the RRB. Cooperative banks in Bihar, on the other hand, have not kept pace with this expansion, which is indicative of structural flaws such as greater non-performing asset (NPA) levels, a lack of operational autonomy, and a delayed adoption of digital processing technologies. This discrepancy emphasizes how crucial institutional effectiveness is in assessing scheme efficacy. According to regional study, districts in northern and eastern Bihar with superior irrigation systems and market connections exhibit higher rates of KCC repayment and utilization. Districts that experience drought and flooding, on the other hand, have erratic usage patterns that are frequently connected to crop failure risks and precarious revenue sources. Furthermore, the GCC (General Credit Card) component is still underutilized, indicating an unrealized potential for broadening rural credit access, even if KCC coverage has increased as a result of the drive for financial inclusion. There is no denying the benefits of greater credit penetration in Bihar, but there are still gaps in inclusivity, accessibility, and awareness. Strengthening institutional capacity for quicker and wider KCC delivery while also funding focused outreach and financial literacy at the grassroots level, particularly for underserved farmer groups, is necessary to overcome these constraints.

- **Focused Appraisal of Bihar's Performance**

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Conclusion

India's agricultural finance system has seen a radical change thanks to the Kisan finance Card (KCC) program, especially in states like Bihar where the vast majority of people work as farmers. By

facilitating the timely procurement of high-quality inputs, it has enhanced agricultural output over time, expanded access to institutional financing, and decreased reliance on unofficial lenders. KCC's efficiency and transparency have been further improved by its integration with PM-KISAN, Jan Dhan accounts, and digital distribution methods, guaranteeing that funds reach farmers directly and on time. The KCC's accomplishments highlight the value of region-specific tactics, strong institutional networks, and focused policy support for Bihar. The access gap can be further closed by increasing awareness efforts, expediting the issuance and renewal procedures, and bolstering the function of digital platforms. Broadly speaking, maintaining the scheme's pace and advancing India's long-term objectives of rural financial inclusion and agricultural prosperity would depend heavily on resolving structural issues and guaranteeing inclusive participation.

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