



KISAN CREDIT CARDS AND INCLUSIVE GROWTH IN DIGITAL KERALA: A STUDY

Priya Sasidharan* **Sruthy Krishna**** **Prof. (Dr.) Manoj P. K.*****

**Ph.D. Scholar (UJRF), Department of Applied Economics, CUSAT, Kochi – 682 022 (Kerala).*

***Ph.D. Scholar (NFST), Department of Applied Economics, CUSAT, Kochi – 682 022 (Kerala).*

****Professor and Head, Department of Applied Economics, CUSAT, Kochi – 682 022 (Kerala).*

Abstract

Given the fact that balanced inclusive growth is vital for the sustainability of the economic development process in an emerging economy like India, this paper makes a critical analysis of the performance of Kisan Credit Cards (KCCs) scheme in India with special reference to Kerala State. The superior performance of Kerala State vis-à-vis India as a whole has been pointed out in the paper, and also the peculiar features of Kerala that could help the State to outperform the national average. In view of the vast ICT infrastructure, internet penetration, universal literacy, intensive banking network etc., the paper argues for further expansion of the KCC coverage in this digitally advanced State in India for its faster, equitable, and inclusive growth. Added thrust on agriculture sector through expansion of KCCs by leveraging the high ICT infrastructure and vast banking network of Kerala is suggested as it ensures that growth pattern of this service oriented Indian State is more balanced, inclusive and equitable.

Keywords: Financial Inclusion, Inclusive Growth, Agriculture, Women Empowerment, KCC, ICT.

Introduction

Inclusive development has emerged as a key goal of economic policy in developing economies like India. Faster economic growth has often been linked with persistent sectoral, social, and regional inequalities. Such inequalities should be corrected for sustained growth. Stiglitz and Weiss (1981) could provide a basic explanation for credit exclusion using their theory of credit rationing under conditions of imperfect information. In the context of India, from a global viewpoint, Manoj, P. K. (2009) 'Revival of Indian agriculture for sustainable development: a global perspective' has pointed out the need for boosting agriculture sector for India's sustained economic growth, through inclusive growth. In fact, the notion of inclusive growth stresses not merely on acceleration on economic output, but also on the equitable distribution of the fruits of development among the diverse segments of the society, particularly the marginalized and vulnerable. In this context, access to formal institutional sources of finance (e.g. bank loans) is of utmost importance, as financial exclusion has widely been recognized as a crucial barrier to inclusive, balanced and sustained economic growth. A later study by Manoj, P.K. (2019), 'Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options', has noted the role of ICT-based interventions (like, ICT-based bank products) for social banking and inclusive growth. Theoretical as well as empirical studies have consistently highlighted the role of financial systems in reducing inequality, enhancing productive capacity, and enabling broader participation in economic activity. Agriculture continues to be a crucial sector in the Indian economy, not only as a source of livelihood for a large proportion of the population, but also as a determinant of rural welfare and food security. However, the sector has historically suffered from inadequate access to timely and affordable institutional credit, leading to dependence on informal sources and perpetuating cycles of indebtedness and vulnerability. In response to these challenges, the Government of India (GOI) introduced the Kisan Credit Card (KCC) scheme with the objective of providing flexible, timely, and cost-effective credit to farmers. Over the years, the KCC scheme has evolved into a vital instrument



of agricultural finance and financial inclusion, particularly with its integration into the formal banking system and recent digital initiatives.

Beck, Demirgüç-Kunt, and Levine (2007) could empirically demonstrate that well-developed financial systems promote economic growth and could reduce inequality simultaneously also by improving access to finance for weaker sections. The observation by Manoj, P. K. (2009) in 'Revival of Indian agriculture for sustainable development: a global perspective' regarding the vital need for reviving India's agriculture sector for the sustained national economic development, and also the subsequent observation by the author Manoj, P.K. (2019) in 'Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options', regarding the utmost significance of ICT-based initiatives for better delivery of social banking and hence inclusive growth deserve special mention. Another macro level study by Ali, O.P. and Manoj, P. K. (2018) 'A review of current noticeable trends in institutional credit to agriculture in India' which includes the case of KCCs too, point out the need for expansion of bank credit to small and marginal farmers, instead of simple quantitative expansion that favours large and rich farmers. In this context, the relevance of KCCs becomes very significant in the backdrop of *Digital India* regime at the national level, wherein ICT every sector of Indian economy, including banking and financial services. ICT could ensure wider outreach, reduced transaction costs, improved transparency and customer service, thus strengthening the effectiveness of financial inclusion initiatives in India. Empirical evidence shows that ICT-enabled banking solutions play a key role in extending financial services to rural and semi-urban populations, especially when supported by a dense banking network and proactive policy frameworks.

Within the above national context, the State of Kerala presents a unique and instructive case. In spite of its relatively small size and limited industrial base, Kerala has consistently outperformed most other States in India in terms of social development indices like literacy, public health, women empowerment, human development etc. Kerala is distinguished by its vast banking infrastructure, high internet penetration, widespread digital literacy, and early adoption of digital governance and ICT drives to transform itself into a 'Knowledge Economy'. These structural advantages create favorable conditions for the effective implementation and expansion of schemes like that of KCCs. Notably, Kerala has demonstrated superior performance in several dimensions of banking outreach and financial inclusion compared to the national average. The strong presence of commercial banks, cooperative banks, regional rural banks, and microfinance institutions has facilitated deeper penetration of institutional credit, including agricultural credit. At the same time, the state's service-oriented growth pattern raises concerns regarding the relative neglect of agriculture and allied sectors, underscoring the need for a more balanced and inclusive growth strategy. The Commercial banks (CBs) have a key role to play in promoting KCCs. While promoting KCCs (or other ICT-based products), the bank staff need the requisite skills and training be given to them as noted by Manoj (2019) in 'Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks'. Against this backdrop, this study makes a critical analysis of the KCC scheme of the CBs in India with a focus on Kerala. Focusing on the experience of CBs in Kerala within the broader national framework of India as a whole, it highlights how Kerala can effectively leverage its ICT infrastructure, banking networks, and human capital to promote KCCs and ensure inclusive growth. It argues that further expansion and digital deepening through KCCs strengthens agricultural development, empower farmers, including women engaged in this sector and can place the emerging knowledge economy of Kerala on a more equitable and sustainable growth trajectory.



Objectives of the Study

- i. To study the relevance of financial inclusion in India with a focus on the performance of Kisan Credit Card (KCC) Scheme by the commercial banks (CBs) in India for the period FY 2020 to FY 2024;
- ii. To study the specific case of Kerala State in particular in respect of KCC scheme by the CBs, especially with reference to the higher digital infrastructure and banking intensity in Kerala; and
- iii. To suggest strategies for promoting KCC scheme in Kerala, based on the findings of the study, for the inclusive and equitable economic growth.

Methodology

This study is based mainly on the authentic data from secondary sources and these include publications of the SLBC (State Level Bankers' Committee)-Kerala, the RBI, the State and Central Governments etc. For instance, the SLBC data contain the time series data on the bank credit by the CBs in Kerala. The publications of the Govt. of India (like, Economic Survey) provide the national level data including those on KCCs while publication of the Govt. of Kerala (like, Economic Review) provide the State level (Kerala) statistics. This study covers a period of four financial years from 2020 to 2024. It uses a descriptive-analytical approach. It uses trend analysis, CAGR and other popular statistical tools.

Significance of the Study

Credit facilities provided by commercial banks (CBs) is an important component for financial inclusion which in turn enables inclusive, balanced and equitable economic development. Financial inclusion in general and agricultural credit in particular, especially through digital tools like KCCs, can ensure greater share of agriculture in the total GDP of the nation and make the macro level development more balanced. Moreover, KCCs can increase the access to formal sector credit to farmers and can ensure that the growth process is more inclusive and equitable, and that too through digital means. So, increasing the number of KCCs in Kerala State is sought to be studied in detail from the broader picture of KCCs at the national level (India as a whole). Such a comparative study shows the trend in issuance of KCCs (2020-2024) in Kerala vis-à-vis India as a whole, which in turn help to frame strategies for the expansion of KCCs.

Literature Review

Bank Credit, Financial Intermediation, Agriculture and Inclusive Growth:

The relationship between institutional credit and inclusive economic growth has been a central concern of development economists worldwide for many decades. Stiglitz and Weiss (1981) give a basic explanation for credit exclusion through their theory of credit rationing under conditions of imperfect information. They argue that even creditworthy borrowers, especially small farmers and marginal producers, may be deprived of institutional credit owing to asymmetric information, absence of collaterals, perceived risks etc. prompting banks to ration credit instead of adjusting interest rates. This theoretical insight is very relevant in Indian agricultural credit market where small and marginal farmers often excluded from the formal credit markets. Financial intermediation theory emphasizes the role of banks in mobilizing savings, reducing transaction and information costs, and allocating capital efficiently to productive uses. Beck, Demirgüç-Kunt, and Levine (2007) empirically demonstrate that well-developed financial systems promote economic growth while simultaneously reducing inequality by improving access to finance for weaker sections. Their findings underline the importance of inclusive financial systems, because in agrarian economies, access to timely and affordable agricultural credit is



vital for enhancing productivity and stabilizing rural livelihoods and reducing vulnerability. Erstwhile models like SEZs (of early 2000s) have lost steam. The SEZ-based route for inclusive growth, Manoj, P.K (2009) ‘Special economic zones in India: financial inclusion: challenges and opportunities’ has its own limits. Rather, today the finance-growth nexus can play a key role in development discourses, since a large body of evidence shows that efficient financial intermediation can accelerate economic growth by savings mobilisation, capital allocation, innovation etc. While Rangarajan and Dev (2014) emphasise financial inclusion and access to institutional credit are critical for inclusive growth, Manoj, P. K. (2012), ‘Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the Kudumbashree Programme in Kerala’ has observed the key role of financial inclusion of women through SHGs under the GOK-controlled ‘Kudumbashree’ project for grassroot level industrialization and financial security. Manoj, P.K. (2015) ‘Housing Microfinance: A Study on Quality, Cost and Default Rate with Respect to Bhavanashree in Kerala’ suggests microfinance way to housing development and hence national economic growth.

Given Kerala’s unique banking system characterised by the dense branch network, robust system of cooperative banking, high financial literacy levels. RBI publications viz. *State Finances* and RBI’s reports and state-wise data (RBI, 2022, 2024) show that Kerala has constantly scored high in CD (credit–deposit) ratio. This suggests significant use of bank credit by the State. While more growth avenues (e.g. Vizhinjam port in south Kerala besides ICTT in central Kerala, IT parks) are being created to boost the services, commensurate support to boost the industries too, especially small industries, is vital. As Manoj, P.K (2015), ‘International Container Transshipment Terminal (ICTT) and its impact on coffee exports from India: An analysis’ remarks that ICTT aids faster growth in exports, ways to boost industries too is vital to balance growth pattern. However, many studies have noted a mismatch between the credit supply and sectoral demand for credit. For instance, Manoj, P.K(2016) ‘Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI’ has noted the need for innovative financing models like REITs for better credit into the construction sector so that linkage effects could translate housing development into overall economic growth. As suggested by Manoj, P.K (2017), ‘Segmentation Strategy for Promotion of Ecotourism Products: Evidence from Thenmala Ecotourism’, a clear segmentation strategy as per specific customer groups is vital to lure more foreign visitors. Despite Kerala’s economic growth in absolute terms driven mainly by services, structural weaknesses persist in Kerala’s growth trajectory; the share of agriculture to Kerala’s GSDP must go up.

Chakravarty and Pal (2013) suggest an axiomatic model to bring about financial inclusion, indicating that just access to various banking services is inadequate unless such access is duly aligned with relevant developmental goals. In Kerala, a suitable reorientation of bank credit in favour of agriculture (especially KCCs), housing, tourism, micro enterprises, rural financing etc. is of utmost significance for creation of employment and sustained growth. As noted by Manoj (2023) ‘Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India’ an integrative and holistic approach, along with ICT adoption, in two key sectors (healthcare and housing) is vital for sustained growth of Kerala. Within the Indian context, agriculture continues to be a key sector for employment, food security, and rural income generation, even as the economy diversifies towards services. But, persistent problems of credit inadequacy, dependence on informal lenders, and volatility in farm incomes have constrained inclusive growth. Rangarajan (2008) underscores that financial inclusion—particularly access to institutional credit—is indispensable for inclusive growth, especially in rural and agricultural sectors. Chakrabarty (2011) further emphasizes that banking-led financial inclusion



must go beyond mere access and ensure effective usage of credit aligned with development objectives.

Kisan Credit Card Scheme and Agricultural Finance:

The Kisan Credit Card (KCC) scheme represents one of the most significant institutional interventions aimed at improving farmers' access to credit in India. Introduced to provide flexible, timely, and cost-effective short-term credit for cultivation and allied activities, the scheme seeks to reduce farmers' reliance on informal credit sources. Govt. of India (2019) outlines the operational framework of the KCC scheme, emphasizing simplified procedures, revolving credit limits, interest subvention, and integration with insurance and digital payment systems. NABARD (2022, 2023) reports steady expansion in KCC coverage across states, with variations reflecting differences in banking infrastructure, literacy, and institutional capacity.

The 'inclusive growth' as a concept, as articulated by Sen (1999) and then espoused in policy discourses since Twelfth Five-Year Plan (Planning Commission of India, 2013), emphasises on income generation and also employment, financial security etc. Besides agriculture rural prosperity is possible through rural tourism which in turn should be adopted in an environment-friendly and sustainable manner, suggests Manoj, P. K. (2016) in 'Impact of Rural Tourism on the Environment and Society: Evidence from Kumbalangi in Kerala, India'. Thus, there is utmost need for encouraging rural tourism and allied sectors for the sustained and environment-friendly growth of farm tourism in Kerala.

Datt and Ravallion (2011) empirically show that growth processes differ markedly in poverty-reducing impact. This highlights the key need for balancing the sectoral composition and a re-orientation of relevant policies. Manoj, P. K. (2012), 'Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the Kudumbashree Programme in Kerala' points out the key role of financial inclusion of women through SHGs under the GOK-controlled 'Kudumbashree' project for the grassroots level industrialization and financial security. It is noted that enhancing the share of agriculture in Kerala's GSDP through digital financial inclusion is an imperative from an equity perspective. Public sector banks (PSBs) should upgrade their ICT capabilities as their ICT products (e.g. E-CRM) are noted to be lower, says Manoj (2018) in 'CRM in old private sector banks and new generation private sector banks in Kerala: A comparison' by comparing PSBs with private banks.

Kerala's Banking Structure, ICT Advantage and Agricultural Credit:

Kerala offers a distinctive regional setting for examining agricultural credit and inclusive growth. Despite its service-dominated economy, the state is characterized by a dense banking network, strong cooperative banking institutions, high financial literacy, and universal literacy. RBI reports on banking trend and patterns (RBI, 2022; 2023) consistently show Kerala achieving a high credit–deposit ratio, indicating active deployment of bank credit. NABARD's State Focus Papers for Kerala further highlight the state's relatively strong performance in institutional credit delivery, including agricultural finance. However, the literature also points to structural imbalances in Kerala's growth trajectory. While services, remittances, and tourism have driven income growth, agriculture and manufacturing have experienced relative stagnation. Need for proper ICT skills and suitable training to them is noted by Manoj (2019) in 'Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks' in view of the vast and fast changes going on.



Financial Inclusion, Sectoral Balance and Inclusive Growth:

The broader literature on inclusive growth stresses that economic expansion must be accompanied by employment generation, sectoral balance, and social equity. Sen (1999) conceptualizes development as the expansion of capabilities, implying that access to finance is instrumental rather than merely instrumental. Chakravarty and Pal (2013) caution that financial inclusion must be aligned with developmental outcomes rather than treated as an end in itself. In Kerala, several studies point to the disconnect between output growth and employment generation, particularly in labour-intensive sectors. Manoj (2015, 2016) highlights the importance of agriculture, MSMEs, rural tourism, and housing for employment-led growth due to their strong multiplier and linkage effects. World Bank (2018) similarly underscores that inclusive growth requires strengthening financial consumer protection and ensuring that credit flows to productive sectors. Digital financial inclusion has gained prominence in recent years. Das and Kumar (2021) find that digital financial inclusion significantly enhances inclusive growth outcomes in India by reducing transaction costs and expanding access. In the agricultural context, digitization of KCCs and integration with ICT platforms can improve credit monitoring, reduce delays, and enhance farmer participation.

Gaps in Existing Literature:

Despite extensive literature on financial inclusion, agricultural finance, and digital banking, several gaps remain. First, relatively few studies provide a focused, state-level analysis of the performance of the KCC scheme, particularly in digitally advanced states like Kerala. Second, while ICT and banking penetration in Kerala have been widely discussed, their specific role in enhancing KCC outreach and agricultural credit effectiveness remains under-researched. Third, much of the literature examines agricultural credit in isolation, without adequately linking it to broader objectives of inclusive and balanced growth. The present study seeks to bridge these gaps by critically examining the performance of the KCC scheme in Kerala vis-à-vis India, and by analyzing how Kerala's unique ICT infrastructure, banking density, and human development profile can be leveraged to strengthen agricultural finance and promote inclusive growth.

Performance of KCC Scheme in Kerala vis-à-vis India as a Whole

The KCC scheme has emerged as one of the most significant policy instruments aimed at strengthening institutional credit delivery to the agricultural sector in India. By providing timely, flexible, and affordable credit to farmers, the scheme seeks to address long-standing issues of financial exclusion, dependence on informal moneylenders, and volatility in farm incomes. An examination of the performance of the KCC scheme at the national level and at the state level, particularly in Kerala, offers valuable insights into how regional characteristics, banking infrastructure, and digital readiness influence the effectiveness of financial inclusion initiatives. The data for the period FY 2020 to FY 2024 clearly bring out Kerala's superior performance vis-à-vis India as a whole, both in terms of outreach and credit deployment.

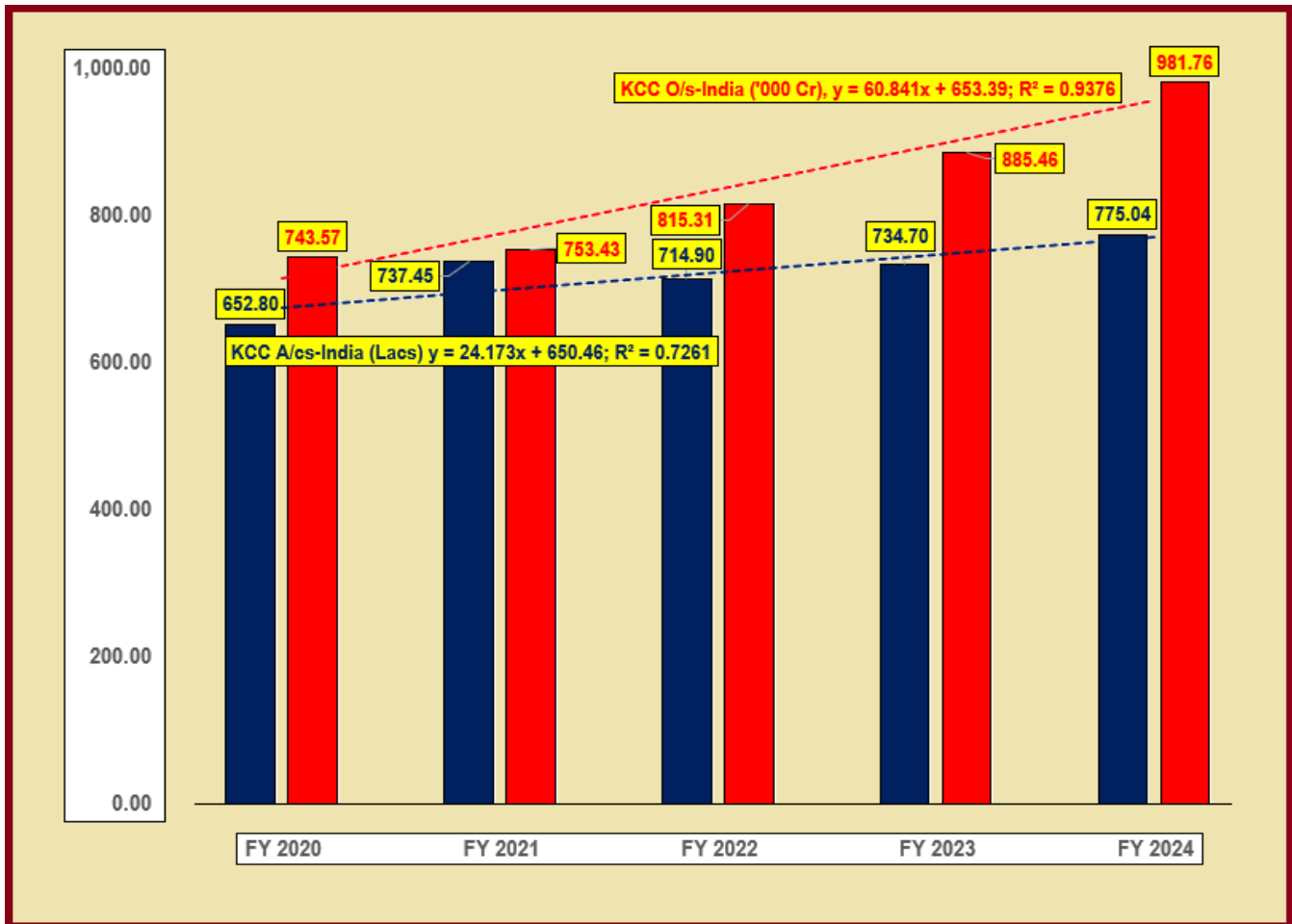
National-Level Trends in KCC Performance

At the all-India level, the number of KCC accounts increased from 652.80 lakh in FY 2020 to 775.04 lakh in FY 2024. This represents a net increase of about 122 lakh accounts over five years, indicating sustained expansion of the scheme's outreach despite disruptions caused by the COVID-19 pandemic during the early part of the period. However, the growth has not been uniform. While there was a sharp increase in the number of accounts in FY 2021, a marginal decline was observed in FY 2022, followed by a steady recovery in FY 2023 and FY 2024. This uneven trend reflects structural issues such as



periodic account rationalisation, regional disparities, and varying pace of implementation across states. (Figure I).

Figure I: KCC scheme in India – Trends (Nos. and Outstanding amounts) (FY 2020 to FY 2024)



Source: Based on RBI Banking Statistics (FY 2020 to FY 2024)

In contrast, the outstanding amount under KCCs at the national level shows a more consistent upward trend. Outstanding credit increased from ₹743.57 thousand crore in FY 2020 to ₹981.76 thousand crore in FY 2024. This substantial rise of nearly ₹238 thousand crore indicates a significant enhancement in the average credit per account, suggesting deeper credit penetration and greater reliance on institutional finance by farmers. The increase in outstanding amounts, even in years when the number of accounts stagnated or declined marginally, points to improved credit limits, higher input costs in agriculture, and growing acceptance of KCCs as a primary source of working capital. Overall, at the national level, the KCC scheme has succeeded in expanding the scale of agricultural credit, though challenges remain in terms of equitable regional distribution and inclusion of small and marginal farmers in certain states.

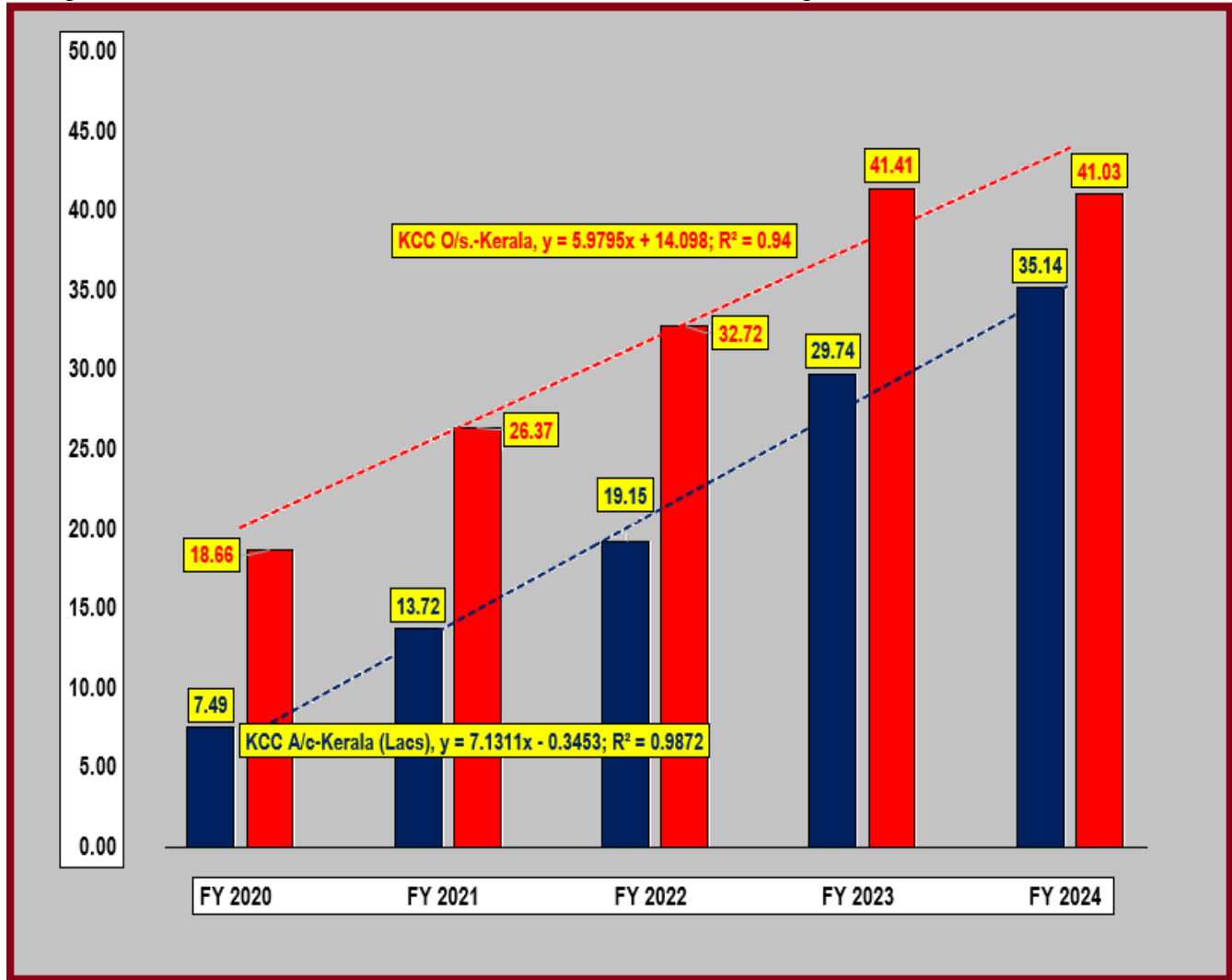
Kerala's Performance under the KCC Scheme

Kerala's performance under the KCC scheme during the same period stands out as remarkably strong, both in absolute growth and relative terms. The number of KCC accounts in the state increased from 7.49 lakh in FY 2020 to 35.14 lakh in FY 2024. This nearly fivefold increase within five years reflects an aggressive expansion of KCC coverage in the state. The growth trajectory is particularly striking



between FY 2021 and FY 2023, during which the number of accounts more than doubled, indicating effective policy push, administrative efficiency, and strong demand from farmers. (Figure II).

Figure II: KCC scheme in Kerala – Trends (Nos. and Outstanding amounts) (FY 2020 to FY 2024)



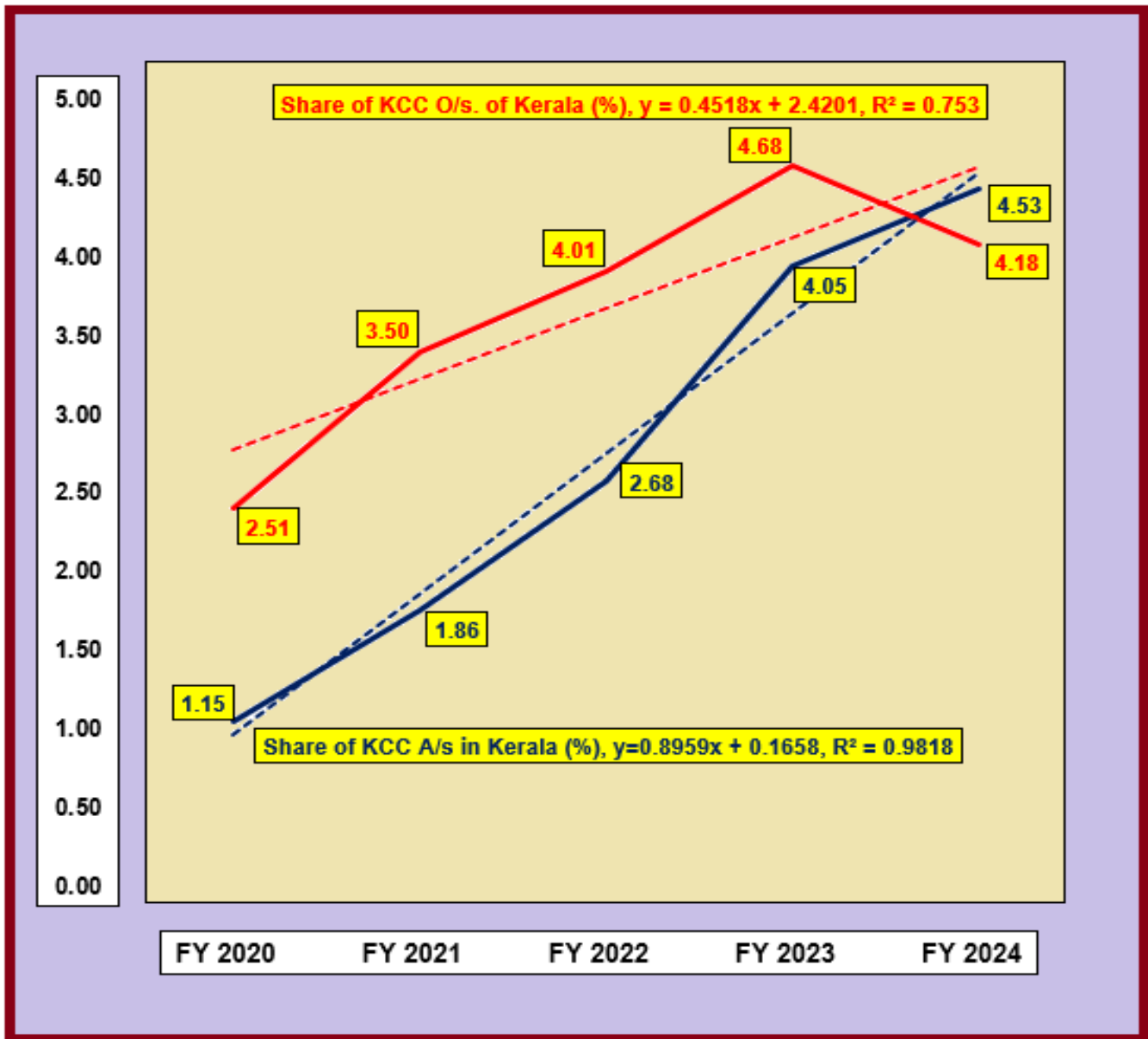
Source: Based on SLBC-Kerala Statistics (FY 2020 to FY 2024)

The outstanding amount under KCCs in Kerala also increased significantly, from ₹18.66 thousand crore in FY 2020 to ₹41.03 thousand crore in FY 2024. Although there is a marginal decline in outstanding credit between FY 2023 and FY 2024, the overall trend remains strongly upward. The temporary moderation in FY 2024 may be attributed to factors such as repayment cycles, loan restructuring, or cautious lending amidst economic uncertainties, rather than a structural slowdown in credit delivery.

What is particularly noteworthy is that Kerala’s growth in KCC accounts has far outpaced the national average. While India as a whole recorded an increase of about 19 per cent in the number of KCC accounts during the period, Kerala achieved an increase of over 360 per cent. This sharp contrast highlights Kerala’s exceptional performance in expanding financial inclusion in agriculture. (Figure III).



Figure III: The Share of Kerala in KCCs (Nos. and Outstanding amounts) (FY 2020 to FY 2024)



Source: Based on SLBC (Kerala State) and RBI (India) Statistics on KCCs

Kerala's Share in National KCC Performance

Kerala's share in the total number of KCC accounts in India increased from 1.15 per cent in FY 2020 to 4.53 per cent in FY 2024. This fourfold increase in share is significant, especially considering Kerala's relatively small geographical size and limited share in India's total agricultural land and farming population. The steady rise in Kerala's share indicates that the state has been able to leverage the KCC scheme far more effectively than many other states. Similarly, Kerala's share in the total outstanding KCC credit increased from 2.51 per cent in FY 2020 to 4.18 per cent in FY 2024. Although the increase in the share of outstanding amounts is slightly lower than the increase in the share of accounts, it still reflects a substantial deepening of agricultural credit in the state. The relatively higher share of outstanding amounts compared to account share in the initial years suggests higher average credit per



account, which may be linked to the prevalence of commercial and plantation crops, higher input costs, and better credit absorption capacity in Kerala. The slight decline in Kerala's share of outstanding amounts in FY 2024, despite an increase in the number of accounts, may indicate a broadening of coverage to smaller farmers and new entrants, which aligns well with the objectives of inclusive growth. (Figure III).

Factors behind Kerala's Superior Performance

Several structural and institutional factors explain Kerala's superior performance under the KCC scheme.

First, Kerala possesses one of the densest banking networks in India, encompassing commercial banks, cooperative banks, regional rural banks, and a strong presence of microfinance institutions. This extensive network facilitates easy access to institutional credit even in rural and semi-urban areas.

Second, the state's high literacy rate and financial awareness contribute to better understanding and utilisation of formal credit products. Farmers in Kerala are relatively more receptive to institutional finance and digital banking solutions compared to many other states.

Third, Kerala's advanced ICT infrastructure and high internet penetration have significantly improved the delivery of banking services. Digitalisation of KCC operations—such as online applications, Aadhaar seeding, DBT integration, and mobile banking—has reduced transaction costs and processing time, making KCCs more attractive to farmers.

Fourth, proactive implementation by banks and state-level coordination mechanisms has played a crucial role. The emphasis on digital governance under the "Digital Kerala" initiative has strengthened the interface between farmers and financial institutions.

Implications for Inclusive Growth in Digital Kerala

The strong performance of the KCC scheme in Kerala has key implications for inclusive growth. Agriculture, though no longer the dominant contributor to Kerala's GSDP, continues to support livelihoods, ensure food security, and provide employment in rural areas. Expansion of KCC coverage enhances farmers' access to working capital, reduces dependence on informal credit, and stabilises farm incomes. Moreover, by integrating KCCs with digital banking platforms, Kerala is demonstrating how ICT can be leveraged to deepen financial inclusion and make growth more equitable. The widening of KCC coverage to smaller farmers and new beneficiaries contributes to a more balanced growth trajectory in an otherwise service-oriented economy.

A comparative analysis of KCC performance clearly establishes that Kerala has outperformed the national average in both outreach and credit deployment under the scheme. The rapid increase in the number of accounts, rising outstanding credit, and growing share in national totals underscore the effectiveness of Kerala's banking infrastructure, ICT readiness, and institutional capacity. These strengths position Kerala as a model for leveraging digital finance to promote agricultural development and inclusive growth. Further expansion and digital deepening of the KCC scheme can play a pivotal role in ensuring that Kerala's growth path remains balanced, equitable, and sustainable.



Analysis and Discussion

The empirical analysis of the Kisan Credit Card (KCC) scheme clearly demonstrates Kerala's superior performance vis-à-vis India as a whole in terms of outreach, credit expansion, and relative share in national totals. This section situates these findings within the broader theoretical and empirical literature on financial inclusion, agricultural credit, ICT-enabled banking, and inclusive growth. The steady growth in KCCs (numbers and outstanding amounts) nationally (India as a whole) confirms the need for institutional agricultural credit in India's development strategy. However, as highlighted by Stiglitz and Weiss (1981), access to formal credit is often constrained by asymmetric information, risk perceptions, and collateral requirements, particularly for small and marginal farmers. The uneven growth of KCC accounts at the all-India level, including periods of stagnation and rationalisation, reflects these structural constraints. Despite policy interventions, credit rationing remains a persistent challenge in many regions, limiting the transformative potential of agricultural credit. In contrast, Kerala's sharp increase in KCC accounts and credit outstanding suggests that the state has been more successful in overcoming these structural barriers. This aligns with the arguments of Beck, Demirgüç-Kunt, and Levine (2007), who emphasize that well-developed financial systems enhance both growth and equity by expanding access to finance for weaker sections. Kerala's dense banking network, high credit-deposit ratio, and strong cooperative banking system have significantly reduced transaction costs and information asymmetries, enabling broader access to formal credit. The high presence of private banks in Kerala from over the last many centuries and even today, one-third of the total old private sector banks (OPBs) in India, 4 out of 12) are in Kerala. which in turn work on much higher-end technological platforms would have contributed to ICT-based products like KCCs. As noted by Manoj (2018) in 'CRM in old private sector banks and new generation private sector banks in Kerala: A comparison' new private sector banks are ahead of the old private sector banks, and that ICT integration can enhance customer service especially for modern products like E-CRM. The rapid expansion of KCC coverage in Kerala also corroborates Rangarajan's (2008) assertion that financial inclusion is a prerequisite for inclusive growth. Kerala's experience indicates that when access to credit is combined with institutional capacity and supportive infrastructure, targeted schemes like KCCs can achieve scale as well as depth. The rise in outstanding credit per account at the national level, and particularly in Kerala during the initial years, indicates deepening of credit rather than mere numerical expansion. This supports Chakrabarty's (2011) view that financial inclusion must focus on effective usage of credit, not merely account ownership. Joju et. al. (2017) has noted in that even in this ICT era, brick and mortar banking and 'human touch are relevant in his joint paper 'Future of brick and mortar banking in Kerala: Relevance of branch banking in the digital era'. Manoj (2007) identifies ICT as a key enabler of efficiency and outreach in the Indian economy, while cautioning against digital divides. Kerala's high internet penetration, digital literacy, and early adoption of e-governance initiatives have minimized such divides, enabling ICT-based banking to function effectively. Empirical studies in Kerala (Lakshmi & Manoj, 2017; Joju, Vasantha & Manoj, 2017; Joju & Manoj, 2019) confirm that ICT-enabled banking improves access, service quality, and customer confidence, especially in rural areas. The digitalisation of KCC processes—such as Aadhaar linkage, DBT integration, and mobile banking—has likely reduced delays and procedural barriers, making institutional credit more attractive to farmers.

The rising share of Kerala in national KCC accounts and outstanding credit further reinforces Chakravarty and Pal's (2013) argument that financial inclusion must be aligned with developmental objectives. Kerala's agricultural structure, characterised by relatively smaller holdings, high-value crops, and higher input costs, necessitates greater reliance on institutional finance. The expansion of KCCs thus supports not only agricultural production but also livelihood stability, which is central to Sen's



(1999) conception of development as expansion of capabilities. The findings also resonate with Manoj's (2009, 2019) emphasis on revitalising agriculture and social banking for sustainable development.

Kerala's service-oriented growth pattern has raised concerns regarding sectoral imbalance and limited employment generation. By strengthening farm credit through KCCs, Kerala can address key structural weaknesses in its growth trajectory. The need for pro-poor housing models like housing microfinance (HMF) has been reiterated citing global experiences by Manoj (2008) in his 'Learning from Cross-country Experiences in Housing Finance: a Microfinance Approach. World Bank (2018) argues that inclusive growth requires financing productive sectors that create broad-based employment and financial security.

The slight moderation in Kerala's outstanding KCC credit in FY 2024, despite continued growth in account numbers, merits careful interpretation. Rather than indicating a slowdown, it may reflect diversification of beneficiaries, inclusion of smaller farmers, repayment cycles, or cautious lending practices. This aligns with global evidence suggesting that financial inclusion often initially improves stability and resilience rather than rapid credit expansion (World Bank, 2020). Such a trend is consistent with inclusive growth objectives, as it signals wider coverage and reduced concentration of credit. Studies that review institutional credit to agriculture, like, Ali and Manoj (2018) 'A review of current noticeable trends in institutional credit to agriculture in India' note that while overall agricultural credit has increased considerably in India, issues like regional imbalance, skewed distribution, very low coverage of small and marginal farmers, etc. still persist. Manoj (2009) Manoj, P. K. (2009) in 'Revival of Indian agriculture for sustainable development: a global perspective'. Underscores the need for revitalizing India's agriculture sector for sustained development, arguing that institutional credit plays a key role in improving productivity and resilience. Later study by Manoj (2019), 'Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options' seeks to place farm credit within the broader framework of social banking and financial inclusion, emphasizing the potential of ICT-based banking tools to improve outreach, transparency, and efficiency. Manoj (2009, 2017) argues that neglect of agriculture and allied sectors could undermine long-term sustainability and inclusive growth. So, expanding KCCs in Kerala is not just a credit policy matter but a key strategic tool for rebalancing sectoral growth. ICT adoption could further strengthen Kerala's advantage in financial inclusion. Manoj (2007) has made a SWOT analysis of India's ICT sector, noting its potential to transform banking and service delivery. Empirical studies in Kerala confirm that ICT-based banking products improve access, service quality, and customer satisfaction, especially in rural areas (Lakshmi & Manoj, 2017; Joju, Vasantha, & Manoj, 2017). The Kerala's ICT initiatives have enhanced internet penetration, digital payments, and e-governance, creating a conducive environment for digitally enabled schemes like KCCs (Joju & Manoj, 2019).

Overall, empirical evidence strongly corroborates the literature which argues that financial inclusion, if supported by formal institutions and ICT structure, can lead to inclusive and balanced growth. Kerala's experience shows that KCCs can be a powerful tool for agricultural revitalization and financial inclusion.

Summary of Findings and Suggestions

Summary of Findings:

First, the KCC scheme has expanded significantly at the national level between FY 2020 and FY 2024,



both in terms of number of accounts and outstanding credit. While growth in account numbers has been uneven, the steady increase in outstanding amounts indicates deepening of agricultural credit and rising dependence on institutional finance.

Second, Kerala has recorded exceptional growth in KCC coverage during the study period. The number of KCC accounts in the state increased nearly fivefold, far exceeding the national growth rate. This reflects Kerala's superior institutional capacity, proactive banking system, and strong demand for formal credit.

Third, Kerala's share in national KCC accounts and outstanding credit has increased substantially. Despite its relatively small agricultural base, the state's growing share highlights its effective utilisation of the scheme and better absorption of institutional credit.

Fourth, ICT infrastructure has emerged as a critical enabler of KCC expansion in Kerala. High digital literacy, internet penetration, and ICT-enabled banking have reduced transaction costs, improved access, and enhanced farmer participation.

Fifth, the expansion of KCCs in Kerala contributes to inclusive growth by strengthening agricultural livelihoods, reducing dependence on informal credit, and supporting sectoral balance in a service-dominated economy.

Suggestions

Based on the findings, the following policy suggestions are offered:

- (i) *Further Digital Deepening of KCCs*: Kerala should intensify the digitalisation of KCC operations, including mobile-based credit access, real-time monitoring, and integration with agri-tech platforms, to enhance efficiency and transparency.
- (ii) *Focus on Small and Marginal Farmers*: Expansion of KCCs should target small and marginal farmers, tenant farmers, and oral lessees to ensure that inclusive growth objectives are fully realized.
- (iii) *Strengthening Cooperative and Regional Rural Banks*: Given their grassroots presence, cooperative banks and RRBs should be further strengthened to expand KCC outreach in remote and agriculturally vulnerable areas.
- (iv) *Linking KCCs with Allied Activities*: KCC coverage should be extended more effectively to allied activities like dairy, fisheries, and livestock, which are vital for Kerala's agricultural economy.
- (v) *Capacity Building and Financial Literacy*: Continuous training and financial literacy programmes for farmers can enhance effective utilisation of KCC credit and reduce defaults.
- (vi) *Replication of Kerala's Best Practices*: Other states may draw lessons from Kerala's ICT-driven, institutionally robust approach to KCC implementation to improve their own performance.

Conclusion

The KCC scheme has emerged as a cornerstone of India's agricultural finance architecture and a vital instrument for promoting financial inclusion and inclusive growth. The comparative analysis undertaken in this study clearly establishes that Kerala has outperformed the national average in terms of expansion of KCC accounts, growth in outstanding credit, and rising share in national totals.



Kerala's superior performance can be attributed to a unique combination of factors, including a dense and diversified banking network, high levels of literacy and financial awareness, and advanced ICT infrastructure. The state's experience demonstrates that digital readiness and institutional strength significantly enhance the effectiveness of financial inclusion initiatives. The integration of KCCs with ICT-enabled banking has reduced barriers to access, improved efficiency, and widened outreach, particularly among smaller farmers.

From a broader development perspective, the expansion of KCCs in Kerala contributes to rebalancing the state's growth trajectory by strengthening agriculture and allied sectors in an otherwise service-oriented economy. This aligns with the inclusive growth framework that emphasizes not only economic expansion but also equity, employment, and livelihood security.

The study underscores that financial inclusion through schemes like KCCs must be viewed as a dynamic process, shaped by regional characteristics and institutional capacities. Kerala's experience offers valuable lessons for other states seeking to leverage digital finance for agricultural development. With continued policy support, digital innovation, and inclusive targeting, the KCC scheme can play a pivotal role in ensuring balanced, equitable, and sustainable growth in Digital Kerala and beyond.

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