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Agricultural Credit and Income Stability among Farmers: A Review of Institutional and Policy Perspectives from Kerala

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Abstract

Based on the sustainable livelihoods approach and a focus on the agricultural credit-income stability nexus, this review explored the impact of institutional credit on income stability among farmers in Kerala. The review focused on peer-reviewed articles published between 2000 and 2025 and other relevant policy and official reports on agricultural credit in Kerala. While Kerala was the focus of this review, national-level evidence was also included due to the fact that some of the key credit tools and policy measures are applicable all over India and shape Kerala's institutional landscape. The review demonstrated that institutional credit contributed to income stability provided that it comes timely, is sufficient, affordable and accompanied by insurance, diversification, and post-harvesting measures. Even though Kerala boasts robust cooperative and banking institutions, the process of financial inclusion for agricultural purposes is still lacking, particularly concerning the issue of Kisan Credit Cards, crop insurance, and tenancy-related measures.

Keywords: Agricultural credit, Income stability, Farmers, Kerala, Kisan credit card, Cooperative institutions

JEL classification: Q14, Q18, G21, O18

Introduction

The structure of agricultural operations in the Indian state of Kerala is unique compared to other large agrarian states in India. Agriculture in Kerala is characterized by highly fragmented land ownership, with the state recording the smallest average operational holding size in the country, at around 0.18 hectares (GoI, 2019), high levels of small and marginal farmers, concentration of crop cultivation in plantation and horticulture, significant ecological vulnerability to floods and landslides (Raj and Sofi, 2023), and a household economy model where farmer families rely increasingly on wage earnings. In the context of the above factors, agricultural credit serves not just as an instrument for obtaining seasonal funds but as an element of a broader risk management strategy.

Income stability in agricultural economics should be viewed not only as an increase in the average level of income but as a decrease in its volatility and as an improvement in the household's ability to cope with climatic, price, and production risks without distress sale, significant reduction in consumption, and excessive borrowing. Kerala provides evidence to indicate that income itself is spatially and temporally uneven, emphasizing that stability, and not simply income level, is the key issue (Vijayan and Devi, 2019). This paper is focused on analyzing agricultural credit from this angle. In other words, it is important to evaluate whether credit provided institutionally is offered in forms that stabilize farm and/or farm-related incomes.

The analysis is carried out based on the principles of the sustainable livelihood approach, which assumes that households rely on their assets, institutions, and livelihood strategies to withstand shocks and achieve a more stable situation (Scoones, 1998). In this context, credit should be seen as an asset that allows stabilizing income through its ability to smooth production/consumption or invest/diversify activities. Thus, the credit-income stability framework employed herein considers institutional finance in relation to livelihood strategies adopted by farmers, and not just to crops.

Agricultural credit could serve many purposes in making incomes more stable. It could ease liquidity constraints at the start of the season, aid in purchasing inputs, facilitate irrigation and mechanization, provide for allied operations, and allow holding crops after harvest rather than selling them under distress. But this potential for income stabilization would hold only if credit was timely, adequate, flexible, and

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appropriately targeted. Otherwise, it may not mitigate risk but increase it by leaving farmers indebted and yet with a poorer ability to cope with adverse shocks. Thus, the link between agricultural credit and income stability was institutional.

Indian agricultural credit has been significantly increased owing to the nationalization of banks, priority sector lending, cooperative credit institutions, the Kisan Credit Card scheme, refinance facilities, and financial inclusion schemes. The proportion of agricultural households taking loans from institutional sources increased from 60.5 percent in 2016-17 to 75.5 percent in 2021-22, even though about 25 percent of such households took loans from non-institutional sources (National Bank for Agriculture and Rural Development, 2024). However, studies on the issue have indicated the presence of exclusion problems, regional disparities, loan-design mismatches with production cycles, and poor tenant access due to insecure and non-bankable land rights (Hoda and Terway, 2015; Reserve Bank of India, 2019). This is particularly true for the case of Kerala, which has an effective institutional setup but the agricultural sector here is vulnerable to risks posed by crop-specific factors, labour costs, weather effects, and changes in the livelihood pattern of switching away from own-farm incomes.

The recent experience of Kerala reinforces this contrast. According to the latest figures, the mean monthly income of agricultural households stood at Rs 28,984 in 2024-25. In terms of the breakdown of this income, the contribution of wage earnings far exceeded that from crop income (GoK, 2025). Also, financial inclusion has grown more rapidly compared to agricultural financial inclusion – whereas virtually every household enjoys bank account ownership, few households own a Kisan Credit Card and crop insurance (GoK, 2025). Nevertheless, Kerala still has its dense cooperative system and considerable involvement of Kerala Bank, PACS, commercial banks, and NABARD-related credit planning.

It should be noted that, although the primary focus of this discussion is Kerala, general information pertaining to India as a whole will also be included. Because, many credit institutions and financial measures operate in a similar manner across the country. Thus, priority sector lending guidelines, Kisan Credit Card concept, financial inclusion approach, norms of scale finance, interest subvention, and refinance mechanism cannot be considered Kerala-specific instruments. At the same time, they should be analyzed along with the particularities of the crop pattern and cooperation of the region.

Against this backdrop, the current study examines the part played by agricultural credit in increasing the stability of incomes among farmers, with special emphasis on Kerala. The current study attempts to answer four questions, which include: what means does credit employ to stabilise the income of farmers? How is the role of agricultural credit influenced by Kerala's institutional framework? What insights do existing studies provide regarding the present status and limitations? What are some of the policy measures that can be adopted for increasing the role of agricultural credit in the income stabilisation of farmers?

Data Sources and Methodology

The review adheres to the structure of a theoretical-narrative review based on document analysis and synthesis of secondary sources. This review cannot be classified as a meta-analysis due to heterogeneity in the methodology used in the existing body of literature, including policy and institutional reviews, official statistics from state governments, and empirical studies using different designs and varying units of analysis and dependent variables. Instead, this review employs a theoretical approach relating agricultural credit with income stability via livelihood resilience, risk management, and income diversification.

Two lenses are employed throughout the review process. First, the sustainable livelihoods approach views credit as part of the financial assets that farm households utilize in coping with shocks and adopting more resilient livelihood strategies (Scoones, 1998). Second, the agricultural credit-income stability framework developed for this paper considers five mechanisms through which agricultural credit affects income stability: smoothing production, making productive investments, diversifying income, managing post-harvesting activities, and mitigating risks. The focus is on Kerala; however, evidence at the national level is considered when the institutional setting for agricultural credit is similar among the various states and impacts credit in Kerala.

Searches were performed in Scopus, Web of Science, Google Scholar, and AGRIS databases. In addition to that, some purposive searches in institutional sources and government documents, especially those available on the websites of Reserve Bank of India, NABARD, Department of Economics & Statistics, Government of Kerala, Department of Co-operation, Government of Kerala, and Kerala State Planning Board were also conducted. Some backward and forward citation tracking was done in case any relevant literature was found.

The following keywords were used in the searches: "Agricultural credit", "Institutional finance", "Income stability", "Farmer income", "Risk mitigation", "Rural credit", "Kisan Credit Card", "Cooperative credit", "Tenant Farmers", "Kerala Agriculture", and "Kerala Agricultural Credit".

The time period for considering peer-reviewed studies was 2000-2025, whereas certain official policy statements and state planning documents up to January 2026 have been considered in addition to updating the Kerala scenario. The inclusion criteria included: peer-reviewed studies; working papers and policy documents having clear institutional relevance; official statistics; English language sources; and relevance to the topics of agricultural credit, income, instability, access, and institutional lending.

Relevant studies have been screened based on their conceptual utility, empirical importance, and relevance to the Kerala scenario. Greater importance was assigned to official documents, peer-reviewed journals, and working papers of reliable organisations. Relevant sources have been categorised according to their thematic focus such as credit systems, institutional arrangements, Kerala context, and bottlenecks.

The analysis followed a four-step process. First, the literature review was done to pinpoint the main channels through which credit can be responsible for stabilizing and destabilizing farm incomes. Secondly, institutional perspectives were analyzed to understand the architecture of agricultural credit distribution in Kerala, highlighting the role of commercial banks, cooperatives, Kerala Bank, PACS, Kisan Credit Cards, and NABARD. Thirdly, Kerala-specific indices related to income diversification, credit distribution, insurance penetration, and cooperatives were used to see whether the presence of the institutional infrastructure translates into functional financial inclusion. Lastly, the barriers to and possible ways forward suggested in the literature were analyzed and reformulated as propositions for Kerala.

The credibility of the literature review depends on the triangulation of findings between official documents, policy documents, and academic papers. This article is not arguing that agricultural credit per se decides about income stability. Instead, the focus here is on understanding how credit works in conjunction with production techniques, institutional frameworks, livelihood diversification, risk management tools, and cooperative structures to affect farm household incomes' stability.

Results and Discussion

Agricultural credit and the logic of income stability

Credit helps stabilise incomes if it helps sustain agricultural production at appropriate times, avoid hasty decisions, and generate steadier streams of cash flows. It is common knowledge that expenditures associated with agriculture happen ahead of time and coincide with the cultivation period. On the contrary, farm income happens much later after harvest and remains uncertain. In this way, financial credit serves as working capital in this scenario because it ensures the timely acquisition of necessary inputs including seeds, fertiliser, labour, irrigation, machinery operations, and crop protection inputs. If these inputs are bought at the appropriate time, then losses in yields and income owing to under-investments or delayed investments may not occur.

In addition to crop loans, medium and long-term credit also help finance activities in irrigation, land improvement, mechanization, orchards, protective farming, storage and transportation, as well as supporting complementary activities like dairying, fishing, and poultry. Research from India indicates that credit from institutions can contribute to agricultural development and productivity but the magnitude of such an effect depends on different factors (Kumar *et al*., 2010; Narayanan, 2016; Shivaswamy *et al*., 2020). The importance of these investments lies in their ability to cushion against rainfall variability, increase efficiency, and create more diverse income sources.

It is well recognized by now from the literature that the quality of credit is just as important as its availability. Promptness is an important aspect because a delay in receiving funds could force households to undergo input compression or borrow from expensive informal markets. Adequacy becomes crucial because any partial funding cannot relax liquidity constraints for households. Affordability becomes vital because high interest rates squeeze profit margins during periods of low agricultural output prices. Flexibility remains important because agricultural production is characterized by biological and market cycles which do not fit in the conventional repayment schemes. Only when all the above factors hold can credit function as a tool to stabilize income.

Credit can also be used as a consumption smoothing and risk management tool in situations of crop failure, health-related shocks, or bad market performance. However, studies conducted on the Indian economy reveal that stabilising activities are not equally shared, particularly when official records, property title or bureaucratic complexities bar the actual farmers from accessing financial support services (Hoda and Terway, 2015; Reserve Bank of India, 2019).

Institutional architecture of agricultural credit in Kerala

The architecture of the agricultural credit in the state of Kerala depends on the dynamics between commercial banks, cooperative financial institutions, Kerala Bank, PACS, NABARD, and the RBI's policy interventions. The Kisan Credit Card scheme continues to be the main policy tool for delivering adequate and timely short-term agricultural credit by adopting simplified processes, which include not only crop production but also other allied activities (Reserve Bank of India, 2018). At a higher level, the strategy for financial inclusion of India states that adequate and timely credit is an essential part of inclusive development (Reserve Bank of India, 2021).

Policy analysis reveals that adequate agricultural credit delivery involves addressing exclusion, targeting small and marginal farmers, treatment of tenant farmers and oral lessees, design of the scale of finance, and production and

Table 1: Literature-derived channels through which agricultural credit contributes to income stability

Channel	Income-stability implication	Supporting studies
Production smoothing	Enables timely purchase of seeds, fertilisers, labour and irrigation; reduces yield and income losses arising from delayed or inadequate input use.	Kumar et al. (2010); Narayanan (2016)
Investment and capital formation	Finances irrigation, mechanisation, land development, orchards, storage and other farm assets that reduce medium-term income volatility.	Narayanan (2016); Shivaswamy et al. (2020)
Diversification and allied activities	Supports dairy, poultry, fisheries and mixed livelihood systems that create multiple income streams and reduce dependence on a single crop.	Reserve Bank of India (2018); GoK (2026)
Post-harvest management	Allows farmers to store, grade, transport or process produce instead of making immediate distress sales after harvest.	Reserve Bank of India (2019); NABARD (2025)
Consumption smoothing	Helps households meet essential expenditure during crop failure or price shocks without liquidating productive assets.	Hoda and Terway (2015); Ramasamy and Malaiarasan (2023)
Risk mitigation when linked with insurance and advisory support	Improves resilience when credit is combined with insurance, disaster-responsive restructuring, extension and market support.	Reserve Bank of India (2019); GoK (2026)

Source: Compiled from the literature reviewed.

investment credit (Reserve Bank of India, 2019). These aspects have special significance in the state of Kerala, given the presence of small farm holdings, widespread agriculture, heterogeneous crops, and extensive use of cooperative societies as delivery vehicles.

The Kerala model of cooperatives is one of its key institutional strengths. According to the Co-operative Statistics 2021-22, there are 1,607 Primary Agricultural Credit Co-operative Societies (PACS) in the state (GoK, 2022). In this respect, the significance of such a vast network does not only consist in the volume of disbursements, but also in institutional proximity. When PACS are managed effectively, they have a potential to minimize transaction costs, be more responsive to local needs, and act as intermediaries between strict banking formalities and farm households' actual circumstances.

In addition, NABARD also makes a contribution to achieving the credit goals in various ways: through refinance, state and district credit plans, support to rural institutions, and State Focus Papers. Specifically, the State Focus Paper for 2025-26 highlighted the significant potential of priority sector credit for Kerala while affirming the continued significance of agriculture and allied sectors within Kerala's credit planning framework (National Bank for Agriculture and Rural Development, 2025). That being said, it is crucial to bear in mind that credit potential and efficient income stabilization do not necessarily coincide. What matters most is whether the existing institutional framework provides access to credit in line with production cycles and characteristics.

Kerala evidence on income composition and targeted credit access

The most recent trends in Kerala indicate that the challenge is not only a lack of institutional presence, but it is a case of insufficient conversion of institutional strength into focused and income-stabilisation-focused financial support for farmers. The monthly household income of agricultural families in Kerala stood at Rs 28,984 in 2024-25, indicating an increase in the household income level. However, the nature of the income indicates that while wages contribute the maximum, income from crops has a relatively smaller proportion (GoK, 2025). This implies that agricultural families in Kerala have started stabilising their incomes through alternative sources such as wages and allied activities.

Further, there seems to be a distinction between financial inclusion on the one hand and agricultural financial inclusion on the other. While there is fairly complete coverage of bank accounts among agricultural families, there is inadequate coverage of Kisan Credit Card and crop insurance facilities (GoK, 2025).

The institutional indicators at the state level are no different. The banking and cooperative institutions are well-established in Kerala, and according to the Economic Review, there have been advancements in the flow of credit for agriculture and the balance in KCC, but it does not necessarily mean that all types of cultivators are getting timely and risk-appropriate credit (GoK, 2026).

As far as the current analysis is concerned, the inference would be very clear. The credit for agriculture in Kerala is not just about its flow but about how resilient the livelihood portfolios of farmers become with the help of the credit they receive.

Institutional bottlenecks in the literature

As indicated by previous research papers and reviews of policies, the unequal access has been consistent across different categories of cultivators. Previous researchers, such as Hoda and Terway (2015), and Reserve Bank of India (2019) have found that tenant cultivators, oral lessees, and sharecroppers are deprived of benefits of institutional credit facilities due to their lack of formally documented and bankable rights over land. As mentioned earlier, in the context of Kerala, there is a mismatch between cultivation/operation and ownership of agricultural land. Therefore, access to credit facilities would not work properly for stabilizing income.

Furthermore, previous studies and reviews of policies have highlighted that the delay and misalignment between loans granted to cultivators have caused several problems. According to the Reserve Bank of India (2019), delays in granting loans and alignment of the size and cost of sanctioning loans to cultivators have become significant issues. In cases where loans have not matched with crop cycles and mixed farming system, the purpose for which they were intended would not be achieved. In this regard, considering the diversity of cultivation practices prevailing in Kerala, such an issue has become significant.

Another limitation pointed out by previous studies is the discrepancy between credit expansion on the aggregate level and actual household resilience. Ramasamy and Malaiarasan (2023) suggest that credit's impact depends not only on its amount but also on its recipients and purposes, as well as institutional factors involved. Likewise, Hiranya and Joshi (2025) stress the difference between the policy design and its implementation in practice, highlighting behavioral and procedural barriers to the utilization of the available instruments. This aspect can explain Kerala's relatively low

Table 2: Selected Kerala evidence relevant to agricultural credit and income stability

Indicator	Kerala evidence	Implication for income stability	Supporting evidence / references
Average monthly income of agricultural households, 2024-25	Rs 28,984	Income levels have improved, but stability depends on the composition and regularity of income rather than level alone.	Department of Economics and Statistics (2025); GoK (2026)
Share of wages in household income	60.71 per cent	Agricultural households rely heavily on wage income, indicating that own-farm income is not the sole stabiliser.	Department of Economics and Statistics (2025)
Share of crop income in household income	22.97 per cent	Crop earnings remain important but are insufficiently dominant; credit must support productivity and diversification together.	Department of Economics and Statistics (2025)
Bank account access	990 per 1,000 households	General financial inclusion is strong, but broad banking access does not necessarily imply targeted agricultural credit use.	Department of Economics and Statistics (2025); Reserve Bank of India (2021)
Kisan Credit Card access	140 per 1,000 households	Targeted agricultural credit penetration remains limited despite broad banking access.	Department of Economics and Statistics (2025); GoK (2026)
Crop insurance coverage	10 per 1,000 under RWBCIS; 27 per 1,000 under the state scheme	Risk mitigation instruments remain weakly diffused, reducing the stabilising effect of credit.	Department of Economics and Statistics (2025); GoK (2026)
PACS presence	1,607 PACS in Kerala	Kerala has substantial grassroots institutional infrastructure that can be leveraged for inclusive and localised credit delivery.	Department of Co-operation (2022)

Source: Compiled from Department of Economics and Statistics (2025), Department of Co-operation (2022), and GoK (2026).

KCC and insurance penetration compared to high levels of banking access.

Lastly, the existing literature highlights the need to strengthen cooperative credit channels further as instruments to stabilize households' incomes. The cooperative system in Kerala is rather developed; however, availability is not enough without quality. As seen from the Department of Co-operation (2022), the PACS networks cover almost all areas of the state. Additionally, GoK (2026) notes the need for institutional, technical, and strategic changes. If the transparency, accounting, quality, and diversity of products provided by the cooperatives were not improved, their role would be questionable.

Policy directions for Kerala

As there is a clear discrepancy between universal financial inclusion and selective agricultural credit services, the first priority in the state's credit policy should be the promotion of Kisan Credit Cards usage, cropping credits, credits for agricultural allied activities and appropriate investment financing. According to the statistics of the Department of Economics and Statistics (2025), the level of access to bank accounts in the region is quite high while Kisan Credit Card (KCC) coverage remains relatively low. Thus, the enhancement of facilitating processes at the level of PACS, Krishi Bhavans and camps organized by banks, along with the streamlining of documentation and renewal procedures, could contribute to the stabilizing effect of credit provision.

Given the problem of informal cultivators' credit provision identified throughout the literature review, another important priority of credit policy in Kerala should be tenant-oriented credit reform. Based on Hoda and Terway (2015) and the report issued by Reserve Bank of India (2019), tenant farmers, oral lessees and sharecroppers experience structural difficulties when seeking financial services from banks. For example, the measures of credit improvement in the state may include strengthening Joint Liability Groups, local cultivation certificates, crop-based evaluation and group lending schemes.

Given that loan timing and scale-of-finance inconsistencies hamper the efficacy of institutional credit, the next priority should be the better matching of credit instruments and agricultural practices practiced in Kerala. According to the RBI assessment of agricultural credit facilities, the fixation of scale of finance poses a significant challenge (Reserve Bank of India, 2019). In the case of Kerala, customized credit products related to plantation crops, horticulture crops, mixed farms, and allied agriculture will match the agricultural cycle in terms of payment and financing schedule.

Since the positive impact of credit on farm income is magnified when coupled with risk mitigation measures, the next priority would be the incorporation of credit in a comprehensive framework that includes insurance and post-harvest facilities. According to the GoK (2025) and the GoK (2026), penetration rates of crop insurance are low despite demand. Integration of KCC products, crop insurance, and post-harvest facilities would provide a robust mechanism to deal with adverse circumstances like floods, pest attacks, market volatility, and low prices for commodities.

Since agricultural households in Kerala are already relying on diversified income streams, another area of focus will be increasing diversity in the range of agricultural credit products available in the region. The GoK (2026) mentions the ongoing relevance of KCC for allied activities and the Agriculture Infrastructure Fund for post-harvest and community infrastructure. Credit instruments which could aid dairy operations, small ruminants, poultry farming, fishing and other agricultural enterprises, as well as food processing, storage, and value addition, would be expected to result in regular revenue streams and income stabilization.

Finally, since the PACS network still represents a crucial institutional strength in Kerala, the final priority will be making the PACS system and Kerala Bank a professionally-oriented rural development intermediary. GoK (2022) presents data related to PACS infrastructure in the region, while the State Focus Paper process indicates the significance of coordinated rural credit planning (National Bank for Agriculture and Rural Development, 2025). Better accounting, auditing, personnel capabilities, digital transactions support and credit counselling would allow cooperatives to play their role not just as lenders but as agricultural financial service providers.

Finally, the performance measure of agricultural credit policy has to shift from gross disbursements to income stability results. The pertinent issue here in Kerala is not only the level of credit being disbursed but whether formal credit leads to a reduction in distress borrowing, improvement in timely provision of inputs, diversification of livelihood, better risk management, and an increase in income derived from agriculture that is stable in nature. In other words, this policy would have to be evaluated in terms of solving the welfare problem at hand.

Conclusions and Policy Implications

Agricultural credit can play a crucial yet conditional role in increasing the stability of farmers' income. In particular, when it alleviates seasonal liquidity problems, promotes productive investments, allows diversification, aids post-harvest decisions, and assists households in shock absorption without the need for distress sales and withdrawal from agriculture, credit makes a positive contribution to stability. Such a contribution declines when there is unequal credit access, inadequate congruence between loan terms and production cycles, or disconnection between credit and insurance and post-harvest activities. Kerala stands out in this regard for its characteristic of having fragmented farms, risks related to ecology, heterogeneous crops, and reliance on wage and allied incomes. The state also has some significant institutional strengths in the form of a strong bank infrastructure, a wide network of PACSs, the presence of Kerala Bank, and NABARD and RBI policies. However, the evidence examined here indicates that the presence of such institutions has not resulted in effective agricultural finance inclusion, where both KCC presence and crop insurance coverage are lower compared to bank presence, while own-farm crop income is a minor component in the average agricultural household income. Thus, the most important conclusion to be made from this evidence is that the agricultural credit policies in Kerala should be viewed through the lens of their suitability for rural households rather than their density. The provision of timely, appropriate amounts, cheap and tenant-sensitive credit, along with its complement of risk mitigation and diversification measures, is much more likely to bring income stability than merely expanding credit services. As can be seen from the discussion above, the policy recommendations for Kerala agriculture credit include the following measures: expand KCC access, increase inclusion of actual cultivators, match loan products to crop and allied systems, link credit with insurance and harvest operations, and develop PACS as professional institutions.

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