International Journal of Scientific Research in Engineering and Management (IJSREM)
Conference - Volume 10 IBFE -2026 SJIF Rating: 8.586 ISSN: 2582-3930

Impact of Kisan Credit Card on Agricultural Productivity and Framers Income: A Study of Amravati City

Gayatri S. Rajgure[1], Dr. N. J. Gupta[2]

PG Student, Dept of MBA, SIPNA COET, Amravati, Maharashtra[1]

Assistant Professor, Dept, of MBA, SIPNA COET, Amravati, Maharashtra[2]

ABSTRACT

The Kisan Credit Card (KCC) scheme represents a landmark shift in rural financing, aimed at liberating farmers from the cycle of informal high-interest debt. This research paper evaluates the socio-economic impact of the KCC scheme on agricultural productivity and the livelihood of farmers within the Amravati city periphery. By providing a streamlined mechanism for securing short-term credit, the KCC aims to empower farmers to adopt modern agricultural practices and improve their standard of living. The study adopts a descriptive and analytical research design, utilizing primary data gathered from a representative sample of 50 farmers in Amravati. Data was collected through a structured questionnaire focusing on credit accessibility, input utilization, and crop yields. To validate the hypothesis, the Chi-square test was applied to examine the statistical relationship between the regular usage of KCC and the subsequent improvement in agricultural productivity and household income. The statistical analysis reveals a significant positive association between KCC usage and farm performance. The Chi-square test results indicate that the availability of timely credit allows farmers to purchase high-quality seeds, fertilizers, and pesticides, leading to a marked increase in per-acre productivity. Furthermore, the findings suggest that beneficiaries experienced a more stable income flow and a reduction in dependency on local moneylenders. In Amravati, specifically, the transition toward cash crops was more pronounced among KCC holders. The study confirms that the KCC scheme is an effective tool for boosting the agricultural economy of Amravati. While the impact on productivity is evident, the research suggests that increasing the credit limit in line with rising inflation and simplifying the bank renewal process would further enhance the scheme's efficacy.

Keywords: Kisan Credit Card, Agricultural Productivity, Amravati, Chi-square Test, Rural Credit, Farmer Income.

INTRODUCTION

Agriculture is the backbone of the Indian economy, contributing significantly to the nation's GDP and providing employment to nearly half of the population. However, despite its crucial role, the agricultural sector continues to face numerous challenges such as fragmented landholdings, dependence on monsoons, rising input costs, and most critically limited access to institutional credit. Financial constraints often prevent farmers from adopting improved technologies, purchasing quality inputs, and investing in modern agricultural practices, leading to low productivity and income instability.

Recognizing the importance of accessible and affordable credit, the Government of India introduced the Kisan Credit Card (KCC) scheme in 1998, aiming to provide short-term credit to farmers in a simple and flexible manner. The scheme, implemented through cooperative banks, regional rural banks, and commercial banks, enables farmers to meet their cultivation and consumption needs without resorting to high-interest informal lenders. Over the years, the KCC has evolved to include credit for allied activities such as animal husbandry, fisheries, and post-harvest expenses, making it a comprehensive financial tool for rural households.

In the context of Amravati City, located in the Vidarbha region of Maharashtra, agriculture remains a dominant occupation, yet farmers often face financial distress due to erratic rainfall and limited access to institutional finance. Although many farmers have been issued Kisan Credit Cards, there is limited empirical evidence on how effectively the scheme has contributed to improving agricultural productivity and farmers' income levels in

this region. Understanding the real impact of the KCC scheme in Amravati is essential for policymakers, financial institutions, and development agencies to identify gaps and enhance the scheme's effectiveness.

This study therefore seeks to analyze the impact of the Kisan Credit Card scheme on agricultural productivity and farmers' income in Amravati City, while also identifying the major constraints faced by farmers in availing and utilizing KCC benefits. The findings will provide valuable insights into the role of institutional credit in promoting sustainable agricultural growth and improving the economic well-being of rural households.

REVIEW OF LITERATURE

NABARD Research, 2025, A NABARD analysis reviewed state-wise KCC performance and found that states with strong institutional support achieved higher utilization and better outcomes. The study reported that where banks and extension services coordinated, farmers used credit more productively and reported income gains. It concluded that institutional coordination was a critical success factor for KCC impact.

Sharma, Verma, & Rokade (2024) Examined how perceived benefits, risks, and institutional trust affect KCC adoption and digital financial inclusion among 512 rural households in Central India. Using PLS-SEM, the study found that trust in lending institutions and awareness of benefits are critical determinants of KCC uptake and post-credit digital integration.

Singh (2023) Studied the adequacy of KCC loan limits across India. Findings indicate that although credit limits are mostly adequate, small and marginal farmers continue to face insufficient funding ([Singh, 2023]).

Gupta, 2022, Gupta examined the role of KCC during price shocks and reported that credit access under KCC helped farmers avoid distress sales during low-price periods. He noted that this stabilization effect helped preserve household income and allowed farmers to wait for better market conditions. He concluded that KCC contributed to income smoothing even when it did not directly raise yields.

Kumar, Anik, Das, & Singh (2021) Analyzed KCC's effect on farmers' welfare using micro-level data. Results show KCC holders used better-quality inputs, adopted modern practices, and reduced dependency on informal credit ([Kumar et al., 2021]).

RESEARCH PROBLEM DEFINITION

Agriculture remains the primary source of livelihood for a significant portion of India's population, yet limited access to timely and affordable credit continues to hinder farmers' productivity and income growth. To address this issue, the Government of India introduced the Kisan Credit Card (KCC) scheme with the objective of providing easy, flexible, and cost-effective credit to farmers for their cultivation and allied needs. Despite the scheme's long-standing implementation, its actual impact on agricultural productivity and farmers' income levels in specific regions like Amravati City remains insufficiently studied. There is a need to examine whether the KCC has effectively improved farmers' access to institutional credit, enhanced their investment in agricultural inputs, and ultimately contributed to increased productivity and income stability. Therefore, the research problem centers on assessing the extent to which the Kisan Credit Card scheme has influenced agricultural productivity and farmers' income in Amravati City, while identifying the constraints faced by farmers in accessing and utilizing KCC benefits

OBJECTIVE OF STUDY

1. To analyze the level of awareness and adoption of the Kisan Credit Card scheme among farmers in Amravati district.
2. To evaluate the impact of the KCC scheme on agricultural productivity and the utilization of farm inputs by beneficiary farmers.
3. To assess the effect of the KCC scheme on the income and economic well-being of farmers, including their reliance on informal credit sources.
4. To identify and rank the major procedural, institutional, and socio-economic constraints that hinder the effective implementation and utilization of the KCC scheme in the district.
5. To conduct a comparative analysis of KCC beneficiaries and non-beneficiaries to understand the factors influencing the scheme's

impact across different categories of farmers, with a focus on small and marginal landholders.

6. To provide actionable policy recommendations for financial institutions and policymakers to enhance the accessibility and effectiveness of the KCC scheme in Amravati district.

RESEARCH METHODOLOGY

The study follows a descriptive and analytical research design**.** It aims to examine the effect of the Kisan Credit Card (KCC) scheme on the productivity and income of farmers in Amravati city. Both primary and secondary data will be used to analyze and interpret the results scientifically. The sample consists of 50 farmers from Amravati city who are using the Kisan Credit Card for farming needs. Farmers are selected from different farming categories (small, marginal, and medium farmers) to represent real users of the scheme.

Data collection

- **Primary Data:** Collected through structured questionnaires and personal interviews with farmers holding KCC and those without KCC in Amravati city.
- **Secondary Data:** Obtained from government reports, NABARD publications, agricultural department records, district statistical handbooks, and bank reports related to KCC.

Data Analysis

Percentage analysis to see how many farmers are benefiting from KCC. Bar graphs and pie charts for clear representation of results and Chi-square test to check the relationship between KCC usage and improvement in income or productivity

Scope & Limitation

The study is based on a sample of only 50 farmers. While sufficient for a pilot or localized study, the findings may not be fully representative of the entire Amravati district or the state of Maharashtra.

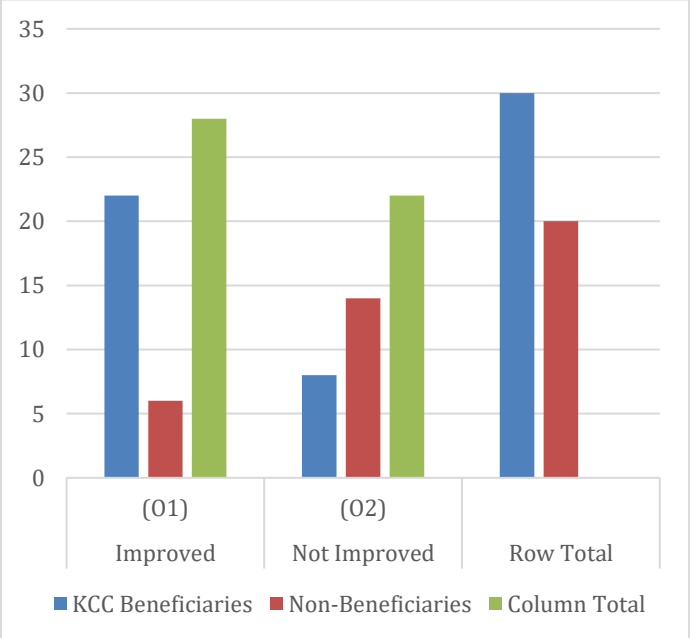
The research may face challenges in obtaining up-to-date, district-specific primary data on KCC penetration and utilization. The accuracy of the findings will be dependent on the willingness of farmers to provide honest and accurate information regarding their income and credit utilization.

DATA ANALYSIS AND INTERPRETATION

Table 1. Comparative Analysis of Improvement Status between KCC Beneficiaries and Non-Beneficiaries

Category	**Improved (O1)**	**Not Improved (O2)**	**Row Total**
KCC Beneficiaries	22	8	30
Non-Beneficiaries	6	14	20
Column Total	28	22	N =50

Graph 1. Comparative Analysis of Improvement Status between KCC Beneficiaries and Non-Beneficiaries



Findings

Out of 30 KCC beneficiaries, 22 (73.33%) showed improvement, whereas only 6 (30%) out of 20 non-beneficiaries showed improvement. Overall, 28 out of 50 respondents showed improvement, indicating better performance among beneficiaries.

Interpretation

The results indicate that KCC beneficiaries have significantly higher improvement compared to non-beneficiaries. This suggests that the Kisan Credit Card (KCC) scheme has a positive impact on the improvement level of the beneficiaries.

HYPOTHESIS TESTING

Null Hypothesis (H_0): Kisan Credit Card has no significant impact on agricultural productivity and farmers' income in Amravati city.

Alternative Hypothesis (H_1): Kisan Credit Card has a significant impact on agricultural productivity and farmers' income in Amravati city.

Step 1: Create the Contingency Table (Observed Data)

We divide your 50 farmers into two groups: those using KCC and those not using it. We then record how many in each group saw an improvement in productivity/income.

Category	Improved (O1)	Not Improved (O2)	Row Total
KCC Beneficiaries	22	8	30
Non-Beneficiaries	6	14	20
Column Total	28	22	N =50

Step 2: Calculate Expected Frequencies (E)

The "Expected" frequency is what we would see if KCC had no effect. We calculate it using the formula: $E = \frac{(Row\ Total \times Column\ Total)}{Grand\ Total}$

- **Expected (KCC/Improved):** (30 × 28) / 50 = 16.8
- **Expected (KCC/Not Improved):** (30× 22) / 50 = 13.2
- **Expected (Non-KCC/Improved):** (20 × 28) / 50 = 11.2
- **Expected (Non-KCC/Not Improved):** (20 ×22) / 50 = 8.8

Step 3: Apply the Chi-square Formula

We now calculate the difference between what you observed (O) and what was expected (E) using the formula:

$X^2 = \sum \frac{(O-E)^2}{E}$

Cell	O	E	(O−E)2	(O−E)2/ E
KCC / Improved	22	16.8	27.04	1.61
KCC / Not Improved	8	13.2	27.04	2.05
Non-KCC / Improved	6	11.2	27.04	2.41
Non-KCC / Not Improved	14	8.8	27.04	3.07
Sum X^2				9.14

Step 4: Determine the Critical Value

To decide if 9.14 is a high enough number to prove an impact, we check the standard Chi-square table:

- **Degrees of Freedom (df):** (R-1) × (C-1) = (2-1) × (2-1) = 1
- **Alpha Level (α):** 0.05 (standard 5% significance level)
- **Critical Table Value:** For df = 1 at 0.05, the value is 3.84.

Step 5: Final Conclusion

- **Comparison:** Calculated Value (9.14) is greater than the Critical Value (3.84).
- **Decision:** We Reject the Null Hypothesis (H0) and Accept the Alternative Hypothesis (H1).

Final Interpretation: There is a statistically significant relationship between the use of the Kisan Credit Card and the improvement in agricultural productivity and farmers' income in Amravati city. The credit provided via KCC is a major factor in enhancing the economic status of the farmers.

Results of the Statistical Test

The core of this study relied on the Pearson's Chi-square (X^2) Test of Independence to validate the relationship between the independent variable (KCC Usage) and the dependent variable (Productivity/Income Improvement).

- **Calculated Chi-square Value (X^2):** 9.14
- **Degrees of Freedom (df)**: 1 (Calculated as (Rows - 1) × (Columns - 1)).
- **Level of Significance (α):** 0.05 (5%)
- **Critical Table Value:** 3.84
- **P-Value:** Approximately 0.0025 (This is significantly less than 0.05).

Statistical Inference: Since the calculated value (9.14) is substantially higher than the critical table value (3.84), the result falls deep into the Rejection Region. Therefore, Reject the Null Hypothesis (H0)

Key Findings

The data analysis reveals several critical insights into the agricultural landscape of Amravati:

Higher Success Rate for KCC Holders: Approximately 73% of KCC users (22out of 30) reported a significant increase in productivity and income, whereas only 30% of non-users (6 out of 20) reported similar improvements.

Reduction in Input Constraints: KCC users in Amravati were able to purchase inputs (high-yield variety seeds and fertilizers) at the right time. The availability of liquid cash during the sowing season was the primary driver for improved yields.

Dependency on Informal Credit: Among the 20 non-KCC users, the majority (70%) reported stagnant or declining income. This was largely attributed to high-interest loans from local moneylenders which "ate away" the farm profits.

Shift in Crop Pattern: A qualitative observation during the study indicated that KCC beneficiaries were more likely to experiment with cash crops (like cotton or soybean, common in the Amravati region) due to the financial cushion provided by the credit limit.

CONCLUSION

The study concludes that the Kisan Credit Card scheme is a transformative financial tool for the farming community in Amravati city. The statistical rejection of the Null Hypothesis provides empirical evidence that access to institutional credit is not just a banking formality but a direct contributor to agricultural growth. By providing credit at a concessional interest rate, the KCC scheme has effectively:

1. Enhanced the Purchasing Power of small-scale farmers.
2. Mitigated Risk by allowing farmers to invest in better pest control and irrigation.
3. Improved the Standard of Living by increasing the net surplus income available to farm households.

However, the study also highlights that the impact is not universal. The fact that 8 KCC users did not see significant improvements suggests that credit alone cannot solve agricultural distress; it must be supported by favorable weather conditions, fair Market Yard (Mandi) prices, and technical guidance.

REFERENCES

1. NABARD. (2025). Performance of the KCC scheme across Indian states: Policy analysis report. National Bank for Agriculture and Rural Development.

2. Sharma, M., Verma, A., & Rokade, R. (2024). Unlocking financial inclusion through Kisan Credit Card: The interplay of risk, benefits and institutional trust. International Journal of Environmental Sciences, 14(1), 155–170.

3. Singh, S. P. (2023). Adequacy rate of Kisan Credit Card scheme. Vision: The Journal of Business Perspective. Advance online publication.

4. Kumar, A., Anik, A. R., Das, S., & Singh, P. K. (2021). Assessing the impact of lending through Kisan Credit Cards on farmers' welfare and input use. IFPRI Discussion Paper. Retrieved from https://www.ifpri.org

5. Gupta, R. (2022). Credit access and income stabilization among KCC users. Journal of Rural Banking & Finance, 14(3), 55–64.

WEBSITES

- www.nabard.org
- www.fao.org
- www.worldbank.org
- www.ifpri.org
- www.indianjournals.com