

# Agricultural Credit, Farm Income and Distress Migration in India

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**Abstract**—Agricultural credit has been one of India's principal financial-policy instruments for improving farm productivity, reducing dependence on informal moneylenders and raising rural incomes. Since the introduction of the Kisan Credit Card (KCC) in 1998, institutional lending to agriculture has expanded considerably. Agricultural credit disbursements increased from approximately ₹4.7 lakh crore in FY2010-11 to ₹28.7 lakh crore in FY2024-25, representing a nominal compound annual growth rate of approximately 13.8%. At the same time, the number of operational KCC accounts reached 7.75 crore by March 2024, with outstanding loans of ₹9.81 lakh crore.

Yet the expansion of credit raises an important question: has greater financial access translated into higher agricultural incomes and reduced economic compulsion to migrate?

This paper examines the relationship using evidence from India's National Sample Survey Office (NSO), Reserve Bank of India (RBI), NABARD, Economic Surveys and peer-reviewed empirical research. The analysis finds substantial evidence that institutional credit improves agricultural productivity, input use, farm profitability and household consumption. The 2019 Situation Assessment Survey of Agricultural Households reported average monthly agricultural-household income of ₹10,218, while 50.2% of agricultural households were indebted and average outstanding debt was ₹74,121. Importantly, only 37.2% of total household income came from crop cultivation, demonstrating that agricultural households increasingly depend on diversified income sources.

The evidence regarding migration is considerably less conclusive. India's rural migration rate was approximately 26.5% in 2020-21, but migration is driven by multiple factors including employment opportunities, family circumstances, education and marriage. Among rural male migrants, 11.8% cited searching for employment, 14.6% cited taking up employment/work, and 12.5% cited loss of employment or lack of employment opportunities.

The paper therefore rejects a simplistic “more credit = less migration” hypothesis. Instead, it argues that credit operates primarily through an income and resilience channel: productive institutional credit can increase farm returns and reduce dependence on costly informal borrowing, potentially lowering distress-driven migration. However, when migration is used strategically to diversify household income, improved credit access may actually facilitate rather than suppress seasonal migration.

**Index Terms**—Agricultural Finance; Financial Inclusion; Institutional Credit; Kisan Credit Card; Farmer Income; Rural Migration; India; Financial Resilience; Rural Development

## I. INTRODUCTION

Agriculture occupies a distinctive position in India's economy. Unlike most sectors, agricultural production is characterised by highly seasonal cash flows, uncertain weather conditions, substantial upfront input requirements and considerable exposure to commodity-price fluctuations. Farmers therefore frequently face a mismatch between the timing of expenditure and the timing of revenue. Seeds, fertilisers, labour, machinery and irrigation must often be financed months before crops generate income.

This makes credit more than a conventional financial product. Credit is an input into the production process itself.

When formal credit is unavailable, farmers may finance cultivation through informal lenders, traders, relatives or other non-institutional sources. Such borrowing can be expensive and may expose households to repayment pressure at precisely the time when agricultural income is most uncertain. The

financial structure of rural households therefore has potential consequences not only for farm profitability but also for labour allocation, consumption, asset accumulation and migration.

India has responded to this problem through several decades of financial-sector intervention. The Kisan Credit Card scheme, introduced in 1998, was designed to provide farmers with timely and flexible working-capital finance. Over time, agricultural lending targets, interest subsidies, institutional refinancing and financial-inclusion programmes have expanded the supply of formal credit.

The scale of this expansion is substantial. Agricultural credit disbursement rose from about ₹4.7 lakh crore in FY2010-11 to ₹28.7 lakh crore in FY2024-25.

Yet increased credit supply does not automatically imply increased farmer welfare. A farmer can borrow more because productive investment has increased, input costs have increased, crop losses have increased, formal institutions have replaced informal lenders, the farmer is refinancing existing debt, or the household is becoming more financially vulnerable. Consequently, credit volume alone is an inadequate measure of financial inclusion.

This paper addresses two related questions:

RQ1: Does greater access to institutional agricultural credit improve farmer incomes in India?

RQ2: Does greater access to agricultural credit reduce distress-driven migration?

The distinction between the two questions is important. A successful credit programme could increase agricultural productivity without necessarily reducing migration. A household may become more profitable in farming while still sending a member to another city for higher wages. Similarly, migration may itself be an economically rational response rather than evidence of distress.

## II. RESEARCH HYPOTHESES

H1: Institutional agricultural credit increases farm productivity.

Formal credit should relax liquidity constraints and allow farmers to purchase inputs at the appropriate time.

Credit Access → Input Investment → Productivity

H2: Institutional agricultural credit increases farm and household income.

If additional credit finances productive investment rather than consumption or debt rollover, higher productivity should translate into higher net farm income.

Credit Access → Productivity → Farm Income

H3: Institutional credit reduces dependence on informal lenders and improves financial resilience.

Formal credit can substitute for high-cost informal borrowing and provide greater repayment flexibility.

Formal Credit → Lower Informal Borrowing → Lower Financial Vulnerability

H4: Higher agricultural income reduces distress-driven migration, but not necessarily migration overall.

This distinction is central. Productive credit can reduce economic distress and therefore forced migration. At the same time, liquidity from credit can make it easier for households to finance strategic or seasonal migration. Thus, the expected relationship between credit and total migration is theoretically ambiguous.

## III. INDIA'S AGRICULTURAL CREDIT MARKET

### 3.1 Expansion of agricultural credit

The scale of India's agricultural credit system has changed dramatically. Agricultural credit disbursement rose from approximately ₹4.7 lakh crore in FY2010-11 to ₹28.7 lakh crore in FY2024-25.

| Financial year | Agricultural credit disbursement |
|----------------|----------------------------------|
| FY2010-11      | ₹4.7 lakh crore                  |
| FY2011-12      | ₹5.1 lakh crore                  |
| FY2012-13      | ₹6.1 lakh crore                  |
| FY2013-14      | ₹7.3 lakh crore                  |
| FY2014-15      | ₹8.5 lakh crore                  |
| FY2015-16      | ₹9.2 lakh crore                  |

|           |                  |
|-----------|------------------|
| FY2016-17 | ₹10.7 lakh crore |
| FY2017-18 | ₹11.6 lakh crore |
| FY2018-19 | ₹12.6 lakh crore |
| FY2019-20 | ₹13.9 lakh crore |
| FY2020-21 | ₹15.8 lakh crore |
| FY2021-22 | ₹18.6 lakh crore |
| FY2022-23 | ₹21.6 lakh crore |
| FY2023-24 | ₹25.5 lakh crore |
| FY2024-25 | ₹28.7 lakh crore |

This represents an approximately 6.1-fold increase over the period. The implied nominal CAGR is approximately 13.8%. This is significant because the expansion of agricultural credit substantially increased the scale of rural financial intermediation.

#### IV. KISAN CREDIT CARD AS THE MAIN FINANCIAL-INCLUSION MECHANISM

The Kisan Credit Card has become one of India's most important agricultural-finance instruments. As of March 2024, India had approximately 7.75 crore operational KCC accounts, with outstanding loans of approximately ₹9.81 lakh crore.

RBI data provide another measure of the system. The number of operative KCC accounts stood at approximately 298.1 lakh in FY2023-24 in the banking-system series covering crop loans, term loans and animal-husbandry/fisheries credit, while total outstanding KCC-linked credit was approximately ₹5.75 lakh crore in that series. The difference between these reported aggregates reflects differences in coverage and definitions rather than necessarily an inconsistency; KCC statistics can be presented across different institutional and activity classifications.

More importantly, having a bank account does not mean having meaningful agricultural credit access. A 2025 ICAR-IARI study using the 2018-19 NSS agricultural-household data found that only 19.12% of agricultural households reported having a KCC, despite considerably broader access to institutional

banking facilities. The study also found substantial variation by region and weaker access among disadvantaged socioeconomic groups and female-headed households.

This suggests that the relevant financial variable is not simply whether the household has a bank account, but whether the household can obtain sufficient, timely and affordable productive credit.

#### V. THE FINANCIAL CONDITION OF INDIAN AGRICULTURAL HOUSEHOLDS

The most comprehensive national evidence comes from the NSO's 77th-round Situation Assessment Survey of Agricultural Households, conducted during 2019, covering the agricultural year July 2018-June 2019.

The survey covered rural India and collected information on income, expenditure, assets, farming practices and agricultural technology. The findings reveal an important paradox: Indian agricultural households had multiple sources of income.

| Source            | Monthly income | Share of total |
|-------------------|----------------|----------------|
| Wages/salaries    | ₹4,063         | 39.8%          |
| Crop production   | ₹3,798         | 37.2%          |
| Animal farming    | ₹1,582         | 15.5%          |
| Non-farm business | ₹641           | 6.3%           |
| Leasing land      | ₹134           | 1.3%           |
| Total             | ₹10,218        | 100%           |

This is a crucial finding for the migration question. The typical agricultural household is not purely a farming household. Approximately 40% of income already came from wages and salaries. Therefore, if credit increases farm profitability, it may not eliminate migration because rural households may rationally maintain diversified income portfolios.

## VI. FARMER INCOME: HAS THE SITUATION IMPROVED?

At first glance, the answer appears to be yes. The average monthly income of agricultural households increased from ₹6,426 in 2012-13 to ₹10,218 in 2018-19. This represents an increase of approximately 59.0%, with an implied nominal CAGR of approximately 8.0% over the six-year period.

But this headline number conceals a significant problem: crop income actually declined in real terms.

| Income source     | 2012-13 | 2018-19 | Change |
|-------------------|---------|---------|--------|
| Wages             | ₹2,849  | ₹4,063  | +42.6% |
| Cultivation       | ₹4,239  | ₹3,798  | -10.4% |
| Animal farming    | ₹1,050  | ₹1,582  | +50.7% |
| Non-farm business | ₹704    | ₹641    | -9.0%  |
| Total             | ₹8,843  | ₹10,218 | +15.6% |

Figures at 2018-19 prices; source: analysis of SAS 2019.

This is perhaps the most important finding in the paper. Indian agricultural-household incomes increased, but crop cultivation was not the principal driver of that improvement. The increase was substantially supported by wage income and animal farming. This weakens the argument that simply expanding agricultural credit will automatically solve the rural income problem.

## VII. CREDIT AND AGRICULTURAL PRODUCTIVITY

The economic mechanism through which credit can improve income is relatively straightforward. A financially constrained farmer may reduce expenditure on fertiliser, high-yielding seeds, irrigation, pesticides, machinery, hired labour and livestock. Formal credit can relax that constraint.

Empirical evidence supports this mechanism. A national farm-household study using instrumental-variable two-stage least squares found that institutional agricultural credit increased net farm income and per-capita household consumption expenditure. The study specifically examined the difference between institutional and non-institutional credit and concluded that formal credit plays an important role in improving economic outcomes for farm families.

Evidence from the KCC programme reinforces this finding. Research using households in Bihar, eastern Uttar Pradesh, Jharkhand, Odisha and West Bengal found that KCC participation affected input use, farm household income and dependence on moneylenders. More recent panel research involving more than 2,500 farming households in eastern India, observed in 2018 and 2023, similarly finds that KCC access increases input usage and reduces dependence on moneylenders.

The mechanism can be expressed as:

Credit → Inputs → Yield → Net Returns.

## VIII. EVIDENCE FROM PADDY CULTIVATION

Crop-level evidence provides an additional channel. A study of KCC beneficiaries cultivating non-Basmati rice found that KCC farmers had 7.97% higher productivity, 2.41% higher net profit, 1.95% higher farm-business income and 3.10% higher farm-labour income than non-beneficiaries.

When the same farms were compared before and after using KCC credit, productivity increased by 10.90% and net profit increased by 52.42%. A separate study of Basmati rice cultivation found higher productivity, farm-business income and net returns among KCC beneficiaries, with net returns reported approximately 7.95% higher for beneficiaries than non-beneficiaries.

These studies are not nationally representative causal estimates, and their geographical/crop-specific nature means that their magnitudes should not be extrapolated mechanically to all Indian farmers. Nevertheless, they demonstrate the economic mechanism: credit can translate into productive input use and higher returns.

## IX. CREDIT, DEBT AND FINANCIAL VULNERABILITY

Credit can improve income while simultaneously increasing indebtedness. The 2019 SAS found that 50.2% of agricultural households were indebted, average outstanding loan was ₹74,121, and approximately 69.6% of outstanding loans came from institutional sources, according to reporting of the survey results.

Only approximately 57.5% of outstanding borrowing was reported as being for agricultural purposes. This distinction matters.

An increase in agricultural credit is beneficial only if the marginal rupee of credit generates sufficient economic returns relative to its financing cost.

Net Return on Credit = Additional Farm Income – Interest Cost – Additional Risk Cost.

If additional farm income exceeds financing cost, credit increases economic welfare. But if credit finances consumption, debt rollover or low-return activities, increasing debt can worsen vulnerability. This is why credit access should be analysed alongside credit utilisation.

## X. FORMAL CREDIT VERSUS INFORMAL CREDIT

The distinction between formal and informal borrowing is particularly important in the Indian context.

Formal sources include commercial banks, regional rural banks, cooperative banks, government institutions and other regulated financial institutions. Informal sources include professional moneylenders, traders, relatives and friends, and other non-institutional lenders.

The objective of financial inclusion is therefore not merely to increase the total quantity of borrowing. It is to shift farmers toward appropriately priced, productive and sustainable financial intermediation.

Recent NABARD evidence is encouraging. The proportion of agricultural households reporting loans from institutional sources only increased from 60.5% in 2016-17 to 75.5% in 2021-22, while the proportion reporting loans from non-institutional sources only declined from 30.3% to 23.4%.

This represents a meaningful structural change in rural financial markets. However, access can remain limited because of land-title requirements, lack of collateral, low financial literacy, insufficient credit limits, delayed disbursement, distance from banks, gender disparities, caste/social disadvantages and lack of awareness.

## XI. THE MIGRATION QUESTION

The second part of the research question is considerably more complicated.

The term “distress migration” is often used loosely. From an empirical perspective, migration should be divided into at least three categories:

1. Distress migration — resulting from crop failure, debt, inadequate employment, income shocks, drought or inability to sustain household consumption.
2. Seasonal/strategic migration — temporary movement undertaken to diversify household income.
3. Opportunity migration — migration undertaken to access higher-paying jobs, education or better long-term economic opportunities.

Only the first category is directly expected to decline when agricultural credit improves farm resilience.

## XII. WHAT DOES INDIA'S MIGRATION DATA SHOW?

The PLFS 2020-21 Migration in India report estimated the overall migration rate at 28.9%, with the rural migration rate at 26.5% and urban migration rate at 34.9%.

For rural males, the reasons were considerably more economically oriented than for rural females. Among rural male migrants, 11.8% cited searching for employment/better employment, 14.6% cited taking up employment/work, and 12.5% cited loss of job/lack

of employment opportunities. Migration of a parent or earning family member accounted for 12.2%, while studies accounted for 4.9% and marriage for 11.8%.

The older NSS 64th-round migration survey provides another useful benchmark. Rural migration increased from approximately 20.9% in 1983 to 26.1% in 2007-08. The same survey found that approximately 29% of rural male migrants had migrated for employment-related reasons.

This demonstrates that migration has been a structural feature of India's rural economy for decades rather than merely a consequence of recent agricultural distress.

### XIII. CAN AGRICULTURAL CREDIT REDUCE MIGRATION?

The theoretical case is strong. Suppose a farmer's expected agricultural income is  $E(Y_f)$  and expected income from migration is  $E(Y_m)$ . A household chooses migration when:

$$E(Y_m) - C_m > E(Y_f)$$

where  $C_m$  represents migration costs.

If credit increases agricultural productivity, expected farm income rises and the incentive to migrate may fall.

But there is a second mechanism. If credit increases household liquidity, it may allow the family to finance migration itself:

Credit → Liquidity → Migration Costs → Migration.

This is not necessarily a negative outcome. Migration can be a rational investment if the migrant earns substantially more outside agriculture and sends remittances home.

Therefore, credit may reduce distress migration while increasing productive migration. This distinction is central to interpreting the evidence.

### XIV. EVIDENCE FROM RURAL INDIA

Research from Bundelkhand provides useful evidence about the relationship between migration and agricultural performance. A study of 240 farm households—120 migrant and 120 non-migrant households—found that selected crop yields were higher among non-migrant households than migrant households. The researchers concluded that irrigation and extension services could improve crop productivity and help check distress migration.

However, this evidence does not establish that credit alone causes migration. Migration is affected by income, credit, irrigation, rainfall, employment, education, wages, infrastructure and household demographics. Credit is therefore only one component of a much larger rural labour-allocation decision.

### XV. AN IMPORTANT COUNTERARGUMENT: CREDIT MAY INCREASE MIGRATION

Evidence from rural financial associations demonstrates why the relationship should not be treated as mechanically negative.

Research examining credit access following climatic shocks found that credit can act as a form of risk management. In some circumstances, households with better access to credit increased seasonal migration following adverse shocks because migration became an additional mechanism for smoothing income.

This finding fundamentally changes the interpretation of the original research question.

The objective of financial inclusion should perhaps not be “How do we use credit to stop rural migration?” Instead, it should be “How do we ensure that households are not forced to migrate because of financial distress, while allowing them to migrate when migration is economically beneficial?”

That is a stronger financial-economics framing.

### XVI. STATE-LEVEL EVIDENCE

The national average conceals substantial variation across Indian states. The 2019 SAS reports the following estimates:

| State          | Agricultural households indebted | Average monthly income |
|----------------|----------------------------------|------------------------|
| Andhra Pradesh | 93.2%                            | ₹10,480                |
| Telangana      | 91.7%                            | ₹9,403                 |
| Madhya Pradesh | 48.4%                            | ₹8,339                 |
| Maharashtra    | 54.0%                            | ₹11,492                |
| Karnataka      | 67.6%                            | ₹13,441                |
| Kerala         | 69.9%                            | ₹17,915                |
| Odisha         | 61.2%                            | ₹5,112                 |
| Rajasthan      | 60.3%                            | ₹12,520                |
| Punjab         | 54.4%                            | ₹26,701                |
| Uttar Pradesh  | 41.9%                            | ₹8,061                 |
| Bihar          | 39.7%                            | ₹7,542                 |
| West Bengal    | 50.8%                            | ₹6,762                 |
| India          | 50.2%                            | ₹10,218                |

The cross-state variation is striking. Punjab's reported agricultural-household income was approximately 3.5 times Bihar's, while indebtedness in Andhra Pradesh and Telangana was above 90%. This demonstrates why a simple national regression of Credit  $\rightarrow$  Income would be insufficient. Institutional design, crop composition, irrigation, landholding structure, market access, input prices and state-level agricultural policy all matter.

#### XVII. THE FINANCE INTERPRETATION

From a finance perspective, agricultural credit can be understood as a mechanism for overcoming liquidity constraints and incomplete rural capital markets.

Consider a farmer with an investment opportunity requiring ₹100,000 and expected additional income of

₹125,000. The expected net return is ₹25,000. But if the farmer has only ₹40,000 in liquid savings, investment is constrained. With access to ₹60,000 of appropriately priced institutional credit, the farmer can undertake the economically efficient investment.

The social return from financial inclusion therefore comes not simply from transferring money to farmers, but from enabling economically productive investments that would otherwise not occur.

Credit is consequently an important form of financial intermediation in a sector characterised by uncertainty, seasonal cash flows and limited collateral.

#### XVIII. BUT CREDIT IS NOT FREE CAPITAL

A sophisticated finance analysis must also consider the downside. Let  $R$  represent expected agricultural return,  $i$  the effective interest rate, and  $\sigma$  agricultural income risk.

A farmer should ideally borrow when:

$$R - i > 0.$$

But agriculture involves significant variance. A drought, pest attack or price collapse can transform an apparently profitable investment into a debt problem.

This means agricultural credit works best when combined with crop insurance, irrigation, price-risk management, extension services, storage, market access and income diversification.

Thus:

$$\text{Credit alone} < \text{Credit} + \text{Risk Management}.$$

#### XIX. A PROPOSED EMPIRICAL MODEL

For a rigorous empirical study, the relationship can be formalised as:

$$\text{Income}_{it} = \beta_0 + \beta_1 \text{Credit}_{it} + \beta_2 \text{Land}_{it} + \beta_3 \text{Irrigation}_{it} + \beta_4 \text{Education}_{it} + \beta_5 \text{CropMix}_{it} + \beta_6 \text{Rainfall}_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

where:

- $Income_{it}$  = agricultural household income;
- $Credit_{it}$  = institutional agricultural credit access;
- $Land_{it}$  = operational landholding;
- $Irrigation_{it}$  = irrigation access;
- $Education_{it}$  = education of household head;
- $CropMix_{it}$  = crop portfolio;
- $Rainfall_{it}$  = weather shock;
- $\mu_i$  = household fixed effects;
- $\lambda_t$  = time fixed effects.

The expected coefficient is  $\beta_1 > 0$  for the income equation.

For migration:

$$Pr(Migration_{it} = 1) = F(\alpha_0 + \alpha_1 Credit_{it} + \alpha_2 Income_{it} + \alpha_3 RainfallShock_{it} + \alpha_4 Land_{it} + \alpha_5 LocalWage_{it} + \mu_i + \lambda_t)$$

For distress migration, the expected coefficient would be  $\alpha_1 < 0$ . But for total migration, the sign is theoretically ambiguous.

## XX. THE ENDOGENEITY PROBLEM

This is where the study becomes particularly relevant for an MSc Finance application.

A naïve regression could find:

$$Credit_i \rightarrow Income_i$$

and conclude that credit causes higher income. But this may be false. Better farmers may be more likely to receive loans. Therefore:

$$High Ability \rightarrow Credit$$

And

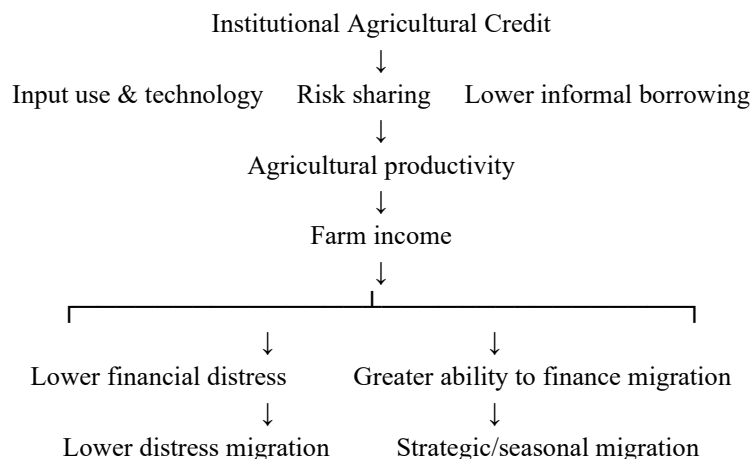
$$High Ability \rightarrow High Income$$

creates selection bias. The observed correlation could therefore be positive without the entire correlation representing a causal credit effect.

This is why stronger studies have used instrumental variables, matching, panel methods and endogenous switching models.

A future India-wide study could exploit phased KCC expansion, bank-branch penetration, distance to financial institutions, changes in collateral requirements, district-level agricultural-credit targets, rainfall shocks interacted with pre-existing credit access, or policy changes in interest subsidies. These approaches would provide considerably stronger identification than simple cross-sectional comparisons.

## XXI. A CONCEPTUAL MEDIATION MODEL



This framework explains why the overall credit-migration coefficient may be close to zero even when

credit has substantial positive welfare effects. The positive and negative channels can cancel each other.

## XXII. KEY FINDINGS

Finding 1: Agricultural credit has expanded dramatically.

Agricultural credit disbursement increased from ₹4.7 lakh crore in FY2010-11 to ₹28.7 lakh crore in FY2024-25—approximately a 6.1-fold increase.

Finding 2: Formal credit improves agricultural economic performance.

National and regional empirical studies consistently find positive effects of institutional credit on farm income, input use, productivity and household consumption.

Finding 3: Credit has helped shift rural borrowing toward formal institutions.

The proportion of agricultural households reporting loans from institutional sources only rose from 60.5% in 2016-17 to 75.5% in 2021-22.

Finding 4: Higher agricultural-household income does not necessarily mean higher crop income.

Average agricultural-household income rose 59% between 2012-13 and 2018-19 in nominal terms, but cultivation income declined by approximately 10.4% in the price-adjusted comparison.

Finding 5: The evidence that credit reduces migration is insufficient.

Migration remains driven by employment opportunities, wages, household structure, education, marriage and shocks. Credit can reduce distress-induced migration by increasing farm resilience, but it can also enable strategic seasonal migration.

Therefore, the evidence supports Credit → Higher Farm Income much more strongly than Credit → Lower Migration.

## XXIII. DISCUSSION

Does increased access to agricultural credit improve farmer incomes?

Yes, with qualifications. The strongest evidence indicates that institutional credit relaxes liquidity constraints, increases input use and productivity, improves net farm income and reduces dependence on informal lenders. National IV evidence and more recent KCC studies support this conclusion.

However, the magnitude of the benefit depends on how credit is used and the surrounding agricultural environment. Credit cannot compensate for

inadequate irrigation, poor market access, weak price realisation, extreme weather or high input costs. This explains why increased credit availability can coexist with continuing farmer distress.

Does agricultural credit reduce distress migration?

Potentially, but the evidence is not sufficient to establish a national causal effect.

The mechanism is plausible:

Credit → Investment → Productivity → Income → Resilience → Lower Distress → Lower Distress Migration.

But migration is not purely a distress response. A household may migrate because the wage outside agriculture is higher even when farming is profitable. Indeed, credit may increase the ability of a household to finance migration costs.

Therefore, policymakers should distinguish between forced migration caused by economic distress and voluntary migration undertaken to maximise household income. Reducing the second would not necessarily constitute a welfare improvement.

## XXIV. POLICY IMPLICATIONS

1. Move from credit access to credit adequacy

The relevant policy target should not simply be the number of KCC accounts but adequate credit available at the appropriate time and at a sustainable cost.

2. Integrate credit with insurance

Credit increases exposure to repayment risk. Agricultural finance should therefore increasingly combine Credit + Insurance + Irrigation + Market Access rather than treating these as separate policy interventions.

3. Target small and marginal farmers

Smallholders face greater liquidity constraints but may also face greater exclusion from formal finance. Recent research on eastern India continues to identify limited penetration among smaller-scale farmers as a concern.

4. Measure financial outcomes, not loan disbursement

- Incremental farm income
- Productivity

- Informal borrowing
- Default
- Debt-service burden
- Consumption smoothing
- Household migration

A ₹1 lakh loan is not automatically a ₹1 lakh increase in productive capital.

#### 5. Treat migration as an economic choice

The policy objective should not be to eliminate migration. Instead, policy should reduce distress migration while allowing households to exploit profitable employment opportunities elsewhere.

### XXV. LIMITATIONS OF THE STUDY

- The latest comprehensive national SAS income/debt data are from 2018-19.
- Migration and agricultural-household surveys are not perfectly matched.
- Causality remains difficult because farmers who obtain formal credit may already differ systematically from those who do not.
- Credit disbursement is not the same as credit utilisation.
- Distress migration is difficult to measure because official migration statistics generally record stated reasons rather than a comprehensive distress index combining debt, crop loss, income shocks and involuntary movement.

These limitations mean that the paper's strongest conclusion is about the income/productivity channel, rather than a definitive national causal estimate of credit's effect on migration.

### XXVI. FUTURE RESEARCH

India is collecting a new generation of nationally representative data. The NSO's 81st Round, running from July 2026 to June 2027, includes the All India Debt and Investment Survey, Situation Assessment Survey of Agricultural Households and migration particulars.

This creates an unusually valuable opportunity. A future study could merge:

Agricultural Credit + Household Debt + Farm Income + Migration

within a common survey framework.

A particularly strong research design would estimate whether credit access affects three different outcomes:

Model 1 — Productivity: Credit → Yield

Model 2 — Financial welfare: Credit → Income – Debt Service

Model 3 — Migration: Credit → Distress Migration

The third model could distinguish permanent migration, seasonal migration, migration for employment, migration after crop failure, migration associated with debt, and voluntary opportunity migration. This would substantially improve the existing evidence base.

### XXVII. CONCLUSION

This study began with a straightforward question: Does increased access to agricultural credit actually improve farmer incomes and reduce distress migration in India?

The evidence suggests that the answer is yes for income, but only conditionally for migration.

India has dramatically expanded agricultural credit. Disbursements increased from approximately ₹4.7 lakh crore in FY2010-11 to ₹28.7 lakh crore in FY2024-25, while KCC accounts and outstanding credit have also expanded substantially.

There is strong empirical evidence that institutional credit can increase input use, productivity, farm income and household consumption while reducing reliance on informal lenders.

However, the national income evidence reveals an important qualification. Although average agricultural-household income increased from ₹6,426 per month in 2012-13 to ₹10,218 in 2018-19, crop-production income actually declined in the price-adjusted comparison. Much of the increase came from wages and animal farming.

This suggests that India's rural households are increasingly operating as diversified financial portfolios, combining farming, wage labour, livestock and non-farm activities.

Migration must be understood within this portfolio. A household does not necessarily migrate because farming has failed. It may migrate because migration provides a superior expected return, reduces exposure to agricultural risk or diversifies income. Consequently, credit can simultaneously reduce distress migration while potentially facilitating strategic migration.

The most defensible conclusion is therefore:

Expanded access to institutional agricultural credit improves the economic capacity and resilience of Indian farm households, with substantial evidence of positive effects on farm productivity and income. However, there is insufficient evidence to conclude that agricultural credit by itself reduces overall migration. Its more plausible effect is to reduce migration undertaken under conditions of financial distress, while potentially enabling economically rational seasonal or opportunity-driven migration.

From a financial-economics perspective, this is an important distinction. The success of rural credit should not be evaluated by whether borrowers remain in agriculture. It should be evaluated by whether financial intermediation allows households to allocate capital, labour and risk more efficiently.

That reframes agricultural credit from a welfare-transfer instrument into what it fundamentally is: a mechanism for overcoming capital-market imperfections in a high-risk production environment.

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Research positioning for MSc Finance applications: The paper connects financial intermediation, credit constraints, capital allocation, risk management, household finance, causal inference and labour mobility. For a final academic submission, all statistical tables and citations should be verified against the original datasets/publications and formatted in the university's required citation style.