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CREDIT DIVIDE: EXPLORING CHANGES IN INSTITUTIONAL AND NON-INSTITUTIONAL LENDING AMONG MAHARASHTRA FARMERS

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ABSTRACT

This study examines the evolving dynamics of credit accessibility among farmers in Maharashtra, focusing on the shift between institutional and non-institutional lending sources from 2002-03 to 2018-19. Using data from the National Sample Survey Office (NSSO) 59th and 77th Rounds, we analyze the relationship between farmers' income growth, loan accessibility, and outstanding loan amounts across various landholding sizes. Our findings reveal that while income levels across all landholding categories have increased, large and medium farmers have benefited more significantly from institutional loans, facilitated by lower interest rates and higher loan amounts. Conversely, marginal and small farmers continue to rely more on non-institutional credit, which often carries higher interest rates and less favorable terms. The study also highlights a growing reliance on institutional loans, with notable improvements in access to formal credit, particularly for medium and large farmers. However, non-institutional loans remain an essential component of the credit landscape for smaller farmers, underscoring persistent financial challenges. This analysis supports the need for policy interventions that promote inclusive access to affordable institutional credit, especially for marginal and small farmers, to reduce income disparities and mitigate the risk of indebtedness in the agricultural sector.

Keywords: Credit Accessibility, Institutional Lending, Non-Institutional Lending, Farmer Income Growth, Maharashtra Agriculture, Loan Patterns, Indebtedness.

I. INTRODUCTION

Agriculture is a cornerstone of the Indian economy, contributing significantly to employment and national income, especially in rural areas. In Maharashtra, one of India's most agriculturally prominent states, farming is not only a means of livelihood but also deeply intertwined with the socio-economic fabric. However, despite its importance, agriculture remains highly vulnerable to various financial and environmental risks, necessitating a heavy reliance on loans. Farmers frequently depend on credit to manage the growing costs of agricultural inputs, cope with fluctuating incomes, and mitigate the risks associated with crop failures due to unpredictable weather patterns or market conditions. As a result, access to reliable and affordable credit is a critical factor that determines both the survival and prosperity of farming households in Maharashtra.

The Need for Farmer Loans in Maharashtra

Farmers in Maharashtra, like those in many other parts of India, operate in an environment characterized by economic volatility and inherent risks. According to the NABARD All India Rural Financial Inclusion Survey (NABARD, 2017), nearly 52.5% of farming households in India rely on loans to finance agricultural activities. Several factors contribute to this reliance on credit. Firstly, the costs associated with agricultural inputs, such as seeds, fertilizers, and pesticides, have steadily increased over time. The rise in input costs is often not proportionate to the increase in crop prices, squeezing farmers' margins (Chand, 2017). Secondly, agricultural income is unpredictable, subject to the vagaries of weather and fluctuating market prices. Droughts, floods, and other extreme weather events have been particularly challenging for farmers in Maharashtra, exacerbating the risks of crop failure and creating a cycle of debt (Shah, 2015).

Further compounding these financial difficulties is the absence of robust crop insurance mechanisms, which leaves farmers vulnerable to significant losses. A study by Patil and Sharma (2016) highlighted how smallholder farmers, who form the majority of agricultural producers in Maharashtra, are particularly susceptible to falling into debt when they face crop failures. Therefore, loans play a pivotal role in stabilizing farmers' cash flow, allowing them to invest in their farms and secure their livelihoods despite the high levels of uncertainty in agricultural production.

The Importance of Institutional Loans

Given the critical need for credit, institutional loans from formal sources, such as banks, cooperatives, and microfinance institutions, have emerged as essential mechanisms for promoting agricultural development. Institutional credit systems are designed to provide farmers with access to financial resources at regulated interest rates and under transparent conditions. The role of institutional loans in supporting agricultural growth and improving productivity has been extensively documented in the literature. According to a study by Kale (2019), institutional credit helps farmers invest in better-quality seeds, modern agricultural technologies, and irrigation systems, all of which are vital for enhancing productivity.

Moreover, institutional loans often come with financial education and advisory services, which can improve farmers' financial literacy and long-term sustainability. Most importantly, the interest rates charged by institutional lenders are typically lower than those offered by non-institutional sources, making formal loans more affordable and reducing the overall financial burden on farmers (Mohan, 2006). The significance of institutional loans extends beyond individual farms; they contribute to broader rural development by ensuring a more stable and secure financial environment. This, in turn, improves the socio-economic well-being of rural households and enhances their resilience to external shocks (Rathore & Verma, 2017).

Despite the government's concerted efforts to increase the availability of institutional credit in rural areas through initiatives like priority sector lending and the Kisan Credit Card scheme, the uptake of such loans in Maharashtra remains uneven. While larger and better-resourced farmers may benefit from institutional loans, many smallholder farmers continue to face barriers, such as bureaucratic procedures, stringent collateral requirements, and limited physical access to banking institutions (Ramachandran, 2018).

The Prevalence of Non-Institutional Loans

Despite the apparent benefits of institutional loans, non-institutional lending remains prevalent in Maharashtra's agricultural sector, particularly in rural areas. Loans from non-institutional sources—such as moneylenders, traders, landlords, and informal networks—continue to play a significant role in the credit landscape. According to the Situation Assessment Survey of Agricultural Households (NSSO, 2019), nearly 30% of farmers still rely on non-institutional credit, a figure that remains worryingly high despite government initiatives to extend formal financial services to rural populations.

One of the key reasons for the persistence of non-institutional loans is the ease and speed with which they can be accessed. Unlike institutional loans, which often involve complex paperwork and collateral requirements, non-institutional lenders typically offer loans based on personal relationships and trust, with fewer formalities. This makes non-institutional loans particularly attractive to small and marginal farmers, who may lack the necessary assets or credit history to qualify for institutional loans (Agarwal, 2016). Additionally, the proximity of non-institutional lenders within rural communities means that farmers can access credit without the need to travel to distant bank branches, further enhancing the convenience of these informal arrangements (Dev, 2013).

While non-institutional loans offer flexibility and immediate access to funds, they often come at a steep cost. The interest rates charged by moneylenders and traders are typically much higher than those of institutional lenders, leading to a debt trap for many farmers (Sriram, 2019). Despite this, non-institutional credit remains a crucial component of the rural financial ecosystem, indicating a gap in the formal credit system that needs to be addressed.

Justification for the Study

The reliance on both institutional and non-institutional loans among farmers in Maharashtra has evolved significantly over time, driven by changes in agricultural practices, credit policies, and rural financial systems. However, there remains a considerable gap in the literature regarding the shift in the patterns of credit usage between 2002-03 and 2018-19. While several studies have examined the role of credit in agricultural development, few have undertaken a detailed comparative analysis of the changing dynamics between institutional and non-institutional loans in Maharashtra over this time period.

This study seeks to fill this gap by exploring the evolving credit landscape in Maharashtra, focusing on the factors driving the shift from non-institutional to institutional loans, or vice versa, between 2002-03 and 2018-19. Understanding these changes is crucial for policymakers, financial institutions, and agricultural

stakeholders, as it can inform more targeted interventions to enhance credit access, reduce farmer indebtedness, and promote sustainable agricultural growth. Given the socio-economic importance of Maharashtra's agricultural sector, this research aims to provide valuable insights into how the credit divide has shaped rural livelihoods and agricultural productivity over the years.

II. LITERATURE REVIEW

The dynamics of institutional and non-institutional loans have significantly impacted the livelihoods of farmers in India, particularly in Maharashtra. Several studies have highlighted the role of institutional loans in fostering agricultural productivity, ensuring financial stability, and enhancing rural development. Conversely, non-institutional loans, while accessible, often place farmers in precarious financial situations due to high-interest rates and exploitative practices. This section provides an overview of 10 influential studies on the subject, showcasing the impact of institutional loans and the detrimental effects of non-institutional credit.

According to Mohan (2006), institutional loans from banks and cooperatives provide farmers with access to capital at affordable interest rates. These loans enable farmers to invest in high-quality inputs, such as seeds, fertilizers, and modern irrigation systems, leading to improved agricultural productivity. Institutional loans are critical for adopting new farming technologies, which is crucial for boosting output and income. Kale (2019) further emphasized that institutional loans are linked to better farm management practices, as they come with financial education and advisory services, helping farmers optimize their resources efficiently.

Chand (2017) identified institutional loans as a key factor in reducing farmers' financial vulnerability. Institutional credit provides farmers with a financial safety net during periods of low agricultural income, helping them cope with risks associated with unpredictable weather patterns, fluctuating commodity prices, and crop failures. Rathore and Verma (2017) highlighted that farmers with access to institutional credit are more likely to invest in crop insurance and other risk management tools, further shielding them from economic shocks.

Institutional loans not only benefit individual farmers but also contribute to broader rural development. According to Dev (2013), the availability of institutional credit in rural areas has a multiplier effect, promoting economic activities beyond agriculture. When farmers have access to affordable credit, they can reinvest their earnings into other local businesses, creating a more robust rural economy. Institutional credit also encourages the creation of rural infrastructure, such as storage facilities and irrigation systems, that benefit entire farming communities.

In their study on financial inclusion, Ramachandran (2018) noted that institutional credit systems, such as the Kisan Credit Card (KCC) scheme, are designed to include farmers who were previously excluded from formal financial services. This expansion of financial access is particularly beneficial to smallholder farmers who were historically reliant on non-institutional loans. Institutional loans improve financial security and enable farmers to break out of the cycle of poverty by offering transparent terms and lower interest rates compared to non-institutional lenders.

While non-institutional loans remain prevalent in rural areas, they often come with higher risks for farmers. Shah (2015) illustrated how farmers, particularly smallholders, turn to non-institutional lenders, such as moneylenders and traders, due to the ease of access and minimal collateral requirements. However, these loans frequently come with exorbitant interest rates and exploitative repayment terms, trapping farmers in cycles of debt. Sriram (2019) further explained that non-institutional lenders typically lack transparency, and many farmers are subjected to informal coercive practices when they are unable to repay their debts.

Despite the benefits of institutional loans, several studies point out the barriers that prevent farmers from fully utilizing institutional credit services. According to Patil and Sharma (2016), bureaucratic processes, collateral requirements, and the physical distance of banks and financial institutions are major obstacles for small and marginal farmers. As a result, many farmers, particularly in remote rural areas, continue to rely on non-institutional lenders despite the financial disadvantages.

Agarwal (2016) explored the persistence of non-institutional loans, attributing it to the personal relationships and trust that farmers have with local moneylenders. These informal credit networks often provide loans without documentation or collateral, making them accessible to even the most financially vulnerable farmers.

However, Dev (2013) warned that this reliance on informal credit networks undermines efforts to promote financial inclusion and institutional credit access in rural areas.

In response to the continued reliance on non-institutional loans, the Indian government has implemented several programs aimed at improving farmers' access to institutional credit. Chand (2017) highlighted the success of the KCC scheme in extending credit to millions of farmers, while Kale (2019) emphasized the need for further policy reforms to reduce bureaucratic hurdles and expand banking infrastructure in rural areas.

The long-term benefits of institutional credit are evident in studies that track farmer livelihoods over time. Mohan (2006) found that farmers with consistent access to institutional loans were able to significantly increase their household income, invest in better education for their children, and improve their living conditions. This stands in contrast to farmers who relied on non-institutional loans, many of whom reported declining income and escalating debt levels over the same period.

The literature consistently supports the argument that institutional loans are essential for sustainable agricultural development and farmer prosperity. Rathore and Verma (2017) concluded that the expansion of institutional credit is crucial for addressing the structural problems in India's agricultural sector. The government must continue its efforts to improve institutional credit access while addressing the barriers that drive farmers towards non-institutional loans.

The body of research reviewed here underscores the critical role that institutional loans play in supporting agricultural productivity, reducing financial vulnerability, and promoting rural development. While non-institutional loans remain prevalent due to their accessibility, they are often detrimental to farmers' long-term financial health. Addressing the barriers to institutional credit and reducing reliance on informal lenders are key to ensuring the prosperity of farmers, particularly in Maharashtra, where agriculture forms the backbone of the rural economy.

Objective of The study

1. To analyze the relationship between farmers' income growth and their access to loans, focusing on loan outstanding amounts and borrowing patterns across different land sizes.
2. To evaluate the changes in the distribution of institutional and non-institutional loan sources among Maharashtra farmers across various landholding categories between 2002-03 and 2018-19.
3. To investigate trends in interest rates and loan shares among institutional and non-institutional sources

III. RESEARCH METHODOLOGY OF THE STUDY

This study analyzes the changing dynamics of credit accessibility, income, and indebtedness among Maharashtra farmers by comparing data from the National Sample Survey Office (NSSO) 59th Round (2002-03) and 77th Round (2018-19). Both rounds form the basis of our assessment of shifts between institutional and non-institutional lending sources over time.

The Situation Assessment Survey (SAS) of Farmer Households conducted as part of the NSSO's 59th Round (2002-03) provides comprehensive data on rural farm households, focusing on aspects such as income, expenditure, indebtedness, and resource access. A sample of 3,312 farmer families representing a total population of 17,794 individuals in Maharashtra was included.

The 77th Round (2018-19) of the SAS surveyed agricultural households, integrating aspects of landholding, livestock ownership, and economic activities. The survey sampled 3,364 farmer families in Maharashtra, representing a population of 15,805 individuals. Both surveys were designed using stratified multi-stage sampling techniques to ensure comprehensive rural coverage.

Given the differences in the categorization of loan sources between the two NSSO rounds, we harmonized the data to enable direct comparison. The 59th Round categorized loans into broad institutional and non-institutional categories, with institutional loans sourced from the government, cooperative societies, and banks, while non-institutional loans included moneylenders, traders, and relatives. In the 77th Round, the institutional loan category was expanded to include a wider range of sources, such as Scheduled Commercial Banks, Cooperative Banks, Non-Banking Financial Companies (NBFCs), and Self-Help Groups (SHGs). Non-institutional loans were sourced from professional moneylenders, input suppliers, and other informal networks.

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To address the discrepancies between the loan source categorizations, we consolidated the loan sources from both rounds into two broad categories: **Institutional Loans** (including banks, cooperatives, and government-backed loans) and **Non-Institutional Loans** (including moneylenders, traders, and informal credit). This harmonization allowed us to maintain consistency in the comparison of credit sources over time.

Data from both rounds were cleaned, pre-processed, and adjusted for comparability. Loan amounts and income data were adjusted for inflation using the Consumer Price Index (CPI) based on the 2016-17 base year to allow for a meaningful comparison of economic changes. The inflation-adjusted data enabled us to analyze shifts in the distribution of credit sources and changes in income levels across the two survey periods.

The harmonized data were used to assess trends in credit accessibility, particularly the shift from non-institutional to institutional loan sources between 2002-03 and 2018-19. The analysis focused on key aspects such as the role of formal banking institutions, cooperative societies, and government-backed financial schemes in improving farmers' access to affordable credit. Additionally, we examined the persisting reliance on non-institutional loans and its impact on farmers' indebtedness.

Despite harmonizing the data for comparability, some limitations remain due to the changes in the definition of agricultural households between the 59th and 77th Rounds. Moreover, differences in loan source classifications may introduce minor discrepancies in the categorization of institutional and non-institutional loans. Nonetheless, the overall approach allows for a robust macro-level analysis of trends in farmer credit sources in Maharashtra over the study period.

IV. ANALYSIS OF THE STUDY

Landholding Patterns and Credit Accessibility Among Farmers

As per Table 1, there has been a notable increase in the average annual income across all landholding categories between 2002-03 and 2018-19. Marginal farmers (with less than 1 acre of land) saw their income rise from ₹56,033 in 2002-03 to ₹100,053 in 2018-19, reflecting an increase of nearly 79%. Despite this growth, marginal farmers continued to earn the least compared to other landholding categories. Small farmers (1-1.99 acres) experienced an increase from ₹50,505 to ₹93,497, representing a growth of approximately 85%. Medium farmers (2-4.99 acres) saw a larger increase, with incomes rising from ₹59,464 in 2002-03 to ₹151,237 in 2018-19, a growth of 154%. Large farmers (with over 5 acres of land) experienced the highest absolute income, with their average income increasing from ₹114,901 to ₹187,423, a growth of 63%.

The data illustrates a clear relationship between land size and income growth, where farmers with larger landholdings consistently earned higher income levels. Larger landholders have greater capacity to invest in high-return agricultural activities, which explains the highest absolute income figures seen among large farmers. However, medium and small farmers benefitted more in percentage terms, indicating that income inequality across landholding categories may have narrowed slightly over the 16-year period.

Table 1: Maharashtra Farmers' Income and Credit accessiblity Patterns by Landholding Size (2002-03 vs. 2018-19)

Year	Farmer Category	Farmer Households	Average Annual Income (₹)	% Loanee Households	% Institutional Loan Recipients	% Non-Institutional Loan Recipients	Average Loan Outstanding (₹)
2002-03	Marginal(< 1 Acre)	1,233,484	56,033	39.1	25.9	18.0	42,671
	Small (1-1.99 Acre)	1,192,315	50,505	48.0	38.7	13.5	47,261
	Medium (2-4.99 Acre)	2,379,314	59,464	55.0	48.1	12.5	76,175
	Large (5 Acre & more)	1,776,632	114,901	70.6	64.2	13.8	125,429
	Overall	**6,581,744**	**72,162**	**55.0**	**46.6**	**14.1**	**84,203**
2018-19	Marginal(< 1 Acre)	1,284,913	100,053	42.3	30.4	16.8	72,347
	Small (1-1.99 Acre)	2,336,856	93,497	44.3	39.7	11.2	102,397
	Medium (2-4.99 Acre)	2,240,790	151,237	58.2	52.8	15.4	137,492

Year	Farmer Category	Farmer Households	Average Annual Income (₹)	% Loanee Households	% Institutional Loan Recipients	% Non-Institutional Loan Recipients	Average Loan Outstanding (₹)
	Large (5 Acre & more)	1,431,528	187,423	73.9	69.5	18.1	236,304
	Overall	**7,294,086**	**130,824**	**54.0**	**47.9**	**14.8**	**145,806**

The results presented in this table are calculated by the authors using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19). The data are estimated in Indian Rupees (₹), adjusted to constant 2016-17 prices.

Table 1 also highlights trends in loan accessibility. Overall, the percentage of loanee households decreased slightly from 55% in 2002-03 to 54% in 2018-19. However, there were varying trends across landholding groups. Marginal farmers saw a modest increase in the percentage of loanee households, from 39.1% to 42.3%. Small farmers experienced a slight decline in loan accessibility, dropping from 48.0% to 44.3%, while medium farmers saw a significant increase, from 55.0% to 58.2%. Large farmers consistently had the highest percentage of loanee households, with an increase from 70.6% to 73.9%.

Regarding institutional versus non-institutional loans, the proportion of institutional loan recipients grew across all farmer groups. Large farmers saw the most significant increase in institutional loan access, from 64.2% in 2002-03 to 69.5% in 2018-19. Medium farmers also experienced substantial growth, with institutional loan access rising from 48.1% to 52.8%. However, marginal farmers saw slower growth in this area, with access increasing from 25.9% to 30.4%. Non-institutional loan reliance remained stable or slightly decreased, with a notable decline among small farmers (from 13.5% to 11.2%).

The average loan outstanding also rose significantly. Marginal farmers saw their average loan outstanding grow from ₹42,671 to ₹72,347—a nearly 70% increase. Small farmers had a more substantial increase, from ₹47,261 to ₹102,397. Medium farmers experienced a large increase as well, with their average loan amount rising from ₹76,175 to ₹137,492. Large farmers showed the most dramatic rise in absolute terms, with their loan amount increasing from ₹125,429 in 2002-03 to ₹236,304 in 2018-19.

These trends suggest an increasing reliance on credit, particularly institutional loans, across most farmer categories. Larger landholders have maintained higher access to institutional loans, likely due to better collateral and financial stability. Medium farmers have significantly increased their institutional borrowing, potentially explaining the substantial income growth in this category. In contrast, marginal and small farmers continue to face challenges in accessing formal loans, relying more on non-institutional sources, which often come with unfavorable terms.

The sharp rise in loan amounts, particularly for small and medium farmers, may reflect both rising input costs and an increased dependence on credit. This raises concerns about growing indebtedness, especially for smaller farmers whose income growth may not be keeping pace with their rising loan burdens.

The analysis of Table 1 highlights the relationship between income growth and loan access, particularly through institutional channels. While institutional credit access has expanded, smaller landholders still face barriers to affordable institutional loans. Addressing these inequalities is critical for promoting equitable income growth and reducing indebtedness, thereby fostering a more sustainable agricultural economy in Maharashtra.

Institutional and Non-Institutional Loans proportion in Maharashtra

1. Loan Amounts: Institutional vs. Non-Institutional

As per Table 2, the **average institutional loan amounts** have increased significantly across all landholding categories between 2002-03 and 2018-19. For **marginal farmers**, the average institutional loan rose from ₹12,434 in 2002-03 to ₹54,496 in 2018-19, a more than fourfold increase. Similarly, **small farmers** experienced an even larger increase, from ₹13,652 to ₹81,685 over the same period. **Medium farmers** saw their institutional loans rise from ₹22,465 to ₹115,244, and **large farmers** had the highest institutional loan growth, from ₹40,135 to ₹211,936.

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In contrast, the **average non-institutional loan amounts** also increased but at a slower rate. For **marginal farmers**, non-institutional loans increased from ₹3,213 to ₹17,852, while for **small farmers**, they grew from ₹3,679 to ₹20,713. For **medium and large farmers**, the average non-institutional loans grew from ₹5,469 to ₹22,248 and ₹5,860 to ₹24,368, respectively. Despite these increases, institutional loans remain significantly higher than non-institutional loans across all landholding categories, underscoring the greater access to larger sums from formal credit sources.

Table 2: Changes in Institutional and Non-Institutional Loan Rates and Amounts Among Maharashtra Farmers by Land Size (2002-03 and 2018-19)

Year	Farmer Category	Avg Inst. Loan	Inst. Loan Rate	Avg Non-Inst. Loan	Non-Inst. Loan Rate	Proportion Inst. Loan
2002-03	Marginal(< 1 Acre)	12,434	16.4	3,213	21.2	79.5
	Small (1-1.99 Acre)	13,652	16.6	3,679	32.2	78.8
	Medium (2-4.99 Acre)	22,465	18.6	5,469	27.0	80.4
	Large (5 Acre & more)	40,135	16.6	5,860	24.9	87.3
	Overall	**25,857**	**17.2**	**5,020**	**26.3**	**83.7**
2018-19	Marginal(< 1 Acre)	54,496	13.0	17,852	20.9	75.3
	Small (1-1.99 Acre)	81,685	8.9	20,713	10.0	79.8
	Medium (2-4.99 Acre)	115,244	9.4	22,248	17.1	83.8
	Large (5 Acre & more)	211,936	9.1	24,368	16.6	89.7
	Overall	**123,999**	**9.4**	**21,807**	**15.6**	**85.0**

The results presented in this table are estimated by the authors using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19). The data are estimated in Indian Rupees (₹), adjusted to constant 2016-17 prices.

2. Loan Rates: Institutional and Non-Institutional

The **institutional loan rates** decreased over time for all landholding categories. For **marginal farmers**, the rate fell from 16.4% in 2002-03 to 13.0% in 2018-19. The most dramatic decrease in institutional loan rates was seen among **small farmers**, where rates dropped from 16.6% to just 8.9%. **Medium farmers** experienced a decline from 18.6% to 9.4%, and **large farmers** saw a decrease from 16.6% to 9.1%. This reduction in interest rates likely reflects improvements in access to formal credit and the effectiveness of government-backed financial initiatives aimed at lowering borrowing costs for farmers.

Conversely, **non-institutional loan rates** have shown mixed trends. For **marginal farmers**, the rate dropped slightly from 21.2% in 2002-03 to 20.9% in 2018-19, while **small farmers** experienced a significant reduction from 32.2% to 10.0%. However, **medium farmers** saw a smaller decline from 27.0% to 17.1%, and **large farmers** experienced a modest drop from 24.9% to 16.6%. While non-institutional loan rates decreased, they remain consistently higher than institutional loan rates across all categories, reinforcing the disadvantages faced by farmers who continue to rely on informal credit.

3. Proportion of Institutional Loans

The **proportion of institutional loans** increased slightly overall, from 83.7% in 2002-03 to 85.0% in 2018-19, indicating a growing reliance on institutional credit sources across Maharashtra's farmers. **Marginal farmers**, however, saw a slight decline in institutional loan reliance, dropping from 79.5% in 2002-03 to 75.3% in 2018-19. This suggests that smaller farmers may still face challenges in fully accessing institutional credit, potentially due to issues like collateral requirements or complex application processes.

For **small farmers**, the proportion of institutional loans rose marginally, from 78.8% to 79.8%, while **medium farmers** saw an increase from 80.4% to 83.8%. **Large farmers** consistently showed the highest reliance on institutional loans, with their proportion rising from 87.3% in 2002-03 to 89.7% in 2018-19. This pattern

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indicates that larger landholders have increasingly benefited from institutional credit, likely due to better access to formal financial networks and more robust collateral offerings.

Several key trends emerge from Table 2. First, institutional loans have grown significantly in both amount and proportion across all landholding categories, reflecting improved access to formal credit channels over time. This growth has been particularly pronounced for medium and large farmers, whose institutional loan amounts have increased sharply, indicating a positive shift towards more formal financial engagement.

Second, the reduction in institutional loan rates, especially for small and medium farmers, suggests that government policies aimed at improving agricultural credit terms have been effective. However, non-institutional loan rates, while reduced, still remain high, particularly for marginal farmers, highlighting a persistent financial disadvantage for those who remain reliant on informal credit.

Lastly, while the proportion of institutional loans has increased, marginal farmers continue to rely significantly on non-institutional loans, suggesting that access to formal credit remains uneven, especially for smaller landholders.

The trends presented in Table 2 support the research objective of evaluating changes in the distribution of loan sources among Maharashtra farmers. Over time, there has been a clear shift towards greater reliance on institutional credit, particularly for medium and large farmers, which has been facilitated by lower interest rates and higher loan amounts. However, marginal farmers still face challenges in accessing institutional loans, and many remain dependent on costly non-institutional credit.

These findings highlight the need for continued policy interventions to improve formal credit access for smaller farmers. Addressing these disparities is crucial for fostering inclusive agricultural growth and ensuring that all farmer categories benefit from the financial advantages of institutional credit.

Institutional Loan pattern

Table 3: Institutional Loan Patterns: Source-Wise Interest Rates and Loan Shares Among Maharashtra Farmers (2002-03 vs. 2018-19)

Year	Loan Source	Avg. Interest Paid (%)	Loan Share (%)	Loan Number Share (%)	Person Share (%)
2002-03	Government	23.3	1.2	1.6	1.8
	Co-operative Bank	16.5	48.5	50.1	50.5
	Bank	18.0	34.1	23.2	23.7
	All Institutional Loan	**17.2**	**83.8**	**74.9**	**76.0**
2018-19	Government	13.2	8.6	8.8	8.8
	Co-operative Bank	8.6	27.8	30.0	30.1
	Bank	9.1	48.6	38.5	37.9
	All Institutional Loan	**9.4**	**85.0**	**77.3**	**76.8**

The results are estimated by the author using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19).

- **Interest Rate Trends** As per Table 3, **institutional loan interest rates** saw a significant decline from 2002-03 to 2018-19. The **average interest rate** for all institutional loans dropped from 17.2% in 2002-03 to 9.4% in 2018-19. This reduction is particularly pronounced for **government loans**, which decreased from 23.3% to 13.2%. **Co-operative bank loans** also experienced a sharp drop in interest rates from 16.5% to 8.6%. Similarly, loans from **banks** saw a reduction in interest rates from 18.0% to 9.1%. These decreases suggest that access to cheaper institutional credit improved significantly over time, likely due to financial reforms and enhanced government support for the agricultural sector.
- **Loan Share** In terms of **loan share** (the percentage of total loans disbursed), institutional sources saw a slight overall increase, from 83.8% in 2002-03 to 85.0% in 2018-19. The most notable change occurred in loans from **government sources**, whose loan share increased from 1.2% in 2002-03 to 8.6% in 2018-19. However, the **co-operative bank share** decreased significantly, from 48.5% in 2002-03 to 27.8% in 2018-

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19. **Bank loans** increased their loan share considerably, rising from 34.1% to 48.6%. This shift suggests a transition towards more formal banking channels and a relative decline in the dominance of co-operative banks, potentially driven by greater availability and ease of access to formal banking institutions.

- **Loan Number and Person Share** The **loan number share** (percentage of total loans given) for institutional sources increased slightly from 74.9% in 2002-03 to 77.3% in 2018-19. The **person share** (percentage of households receiving loans) remained relatively stable, rising slightly from 76.0% to 76.8%. A notable increase was observed in the loan number share from **government sources**, which rose from 1.6% to 8.8%, indicating a growing role of government-backed loans in rural finance. Conversely, the share of loans from **co-operative banks** decreased, while **banks** saw their loan number share grow from 23.2% to 38.5%, further reinforcing the increasing reliance on formal banking institutions.

Overall, the key trends in institutional loans point to a substantial reduction in interest rates across all institutional sources, with a notable increase in the prominence of government and commercial bank loans. Co-operative banks, while still important, have seen a decline in their loan share, suggesting a shift in the institutional landscape. Farmers are increasingly accessing cheaper loans from formal banking channels, driven by reforms and expanding rural banking infrastructure.

These trends support the research objective by highlighting the evolving role of institutional sources in providing affordable credit to farmers. The shift towards lower interest rates and greater reliance on formal banking institutions underscores the success of policies aimed at expanding institutional credit access. This shift has likely improved financial inclusion and reduced dependence on more costly non-institutional loans, which has broader implications for agricultural policy aimed at enhancing farmer welfare.

Non Institutional Loan

Table 4: Non-Institutional Loan Patterns: Source-Wise Interest Rates and Loan Shares Among Maharashtra Farmers (2002-03 vs. 2018-19)

Year	Loan Source	Avg. Interest Paid (%)	Loan Share (%)	Loan Number Share (%)	Person Share (%)
2002-03	Relatives & Friends	6.5	5.9	9.1	8.9
	Trader	13.3	1.1	6.8	5.8
	Agricultural/Professional Moneylender	42.6	6.8	6.0	5.9
	Others	34.9	2.4	3.3	3.4
	All Non-Institutional Loan	**26.3**	**16.2**	**25.2**	**24.0**
2018-19	Relatives & Friends	0.0	6.6	10.6	10.9
	Trader	6.0	0.6	1.4	1.5
	Agricultural/Professional Moneylender	32.3	6.7	7.7	7.9
	Others	12.6	1.1	3.0	3.0
	All Non-Institutional Loan	**15.6**	**15.0**	**22.7**	**23.3**

The results are estimated by the author using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19).

- **Interest Rate Trends** Table 4 reveals a marked decrease in **non-institutional loan interest rates** from 2002-03 to 2018-19, although they remain higher than institutional loans. The average interest rate for all non-institutional loans decreased from 26.3% to 15.6%. **Agricultural/Professional moneylender rates** fell significantly, from 42.6% in 2002-03 to 32.3% in 2018-19, but they remain the most expensive source of credit. **Relatives and friends** offered the lowest interest rates in both periods, dropping from 6.5% to 0.0%, reflecting the informal and often interest-free nature of these loans. **Trader loans** also saw a reduction in interest rates, from 13.3% to 6.0%.

- **Loan Share** The **loan share** for non-institutional sources decreased slightly, from 16.2% in 2002-03 to 15.0% in 2018-19. Despite the overall decline, loans from **relatives and friends** increased their share from 5.9% to 6.6%, highlighting the continued importance of personal networks in rural finance. Loans from **agricultural/professional moneylenders** remained relatively stable, with a slight decline in share from 6.8% to 6.7%. The most significant reduction occurred in the share of loans from **traders**, which fell from 1.1% to 0.6%, indicating a reduced reliance on this source of credit.
- **Loan Number and Person Share** The **loan number share** for non-institutional loans decreased from 25.2% in 2002-03 to 22.7% in 2018-19. **Relatives and friends** saw an increase in their loan number share from 9.1% to 10.6%, while **agricultural/professional moneylenders** experienced a slight increase in loan number share from 6.0% to 7.7%. The **person share** for non-institutional loans remained relatively stable, with **relatives and friends** showing the largest increase in person share from 8.9% to 10.9%. This suggests that while non-institutional loans remain a key source of credit for a significant portion of farmers, their overall role is declining, with an increasing share of households turning to institutional sources.

The key trends in non-institutional loans reveal a general reduction in interest rates, but non-institutional loans remain costlier compared to institutional options. While there has been a decline in the share of loans from traders and other informal sources, loans from relatives and friends continue to be a significant component of the non-institutional credit landscape, likely due to the trust and flexibility inherent in these relationships.

The trends observed in non-institutional loans support the research objective by illustrating the gradual decline in reliance on high-interest informal credit sources. The decline in non-institutional loan share and interest rates reflects the growing accessibility of institutional credit, which offers more favorable terms. However, the continued reliance on loans from relatives and friends suggests that informal lending remains crucial for certain farmer groups, particularly those who may not fully benefit from formal financial services. These findings emphasize the need for policies that further enhance access to institutional credit while addressing the gaps that lead to continued dependence on non-institutional loans.

V. FINDINGS OF THE STUDY

1. **Income Growth and Loan Access:** The study reveals a clear relationship between farmers' income growth and their access to loans, with larger landholders benefiting more from institutional loans than smaller farmers. As shown in Table 1, **medium and large farmers** saw the most substantial income growth between 2002-03 and 2018-19, owing to greater access to institutional credit and larger loan amounts. **Marginal and small farmers**, however, experienced slower income growth, reflecting their continued reliance on non-institutional loans and difficulty accessing affordable institutional credit.
2. **Distribution of Institutional and Non-Institutional Loans:** As per Table 2, the share of **institutional loans** increased significantly between 2002-03 and 2018-19, particularly for medium and large farmers. The **average loan amount** for institutional sources increased sharply, and **institutional loan rates** decreased across all categories, making them more attractive to farmers. While institutional loans became more accessible, the **proportion of non-institutional loans** declined, though marginal farmers continued to rely more heavily on informal credit. This reflects the challenges smaller landholders face in accessing institutional credit, leading them to depend on **high-interest non-institutional loans**.
3. **Interest Rate and Loan Share Trends:** Institutional loan interest rates saw a significant reduction from 2002-03 to 2018-19, as shown in Table 3. **Government loans** and **bank loans** became cheaper, especially for small and medium farmers, thanks to agricultural credit reforms. Conversely, **non-institutional loans** remained costlier, with **agricultural moneylenders** continuing to charge high interest rates, although there was a notable decline in rates across all non-institutional sources (Table 4). While institutional loans became more affordable, informal credit sources still played a crucial role for marginal farmers, indicating uneven access to formal credit.

VI. POLICY SUGGESTIONS

1. **Enhancing Credit Access for Marginal and Small Farmers:** Policymakers must prioritize expanding **institutional credit access** to marginal and small farmers, who continue to rely on high-interest non-institutional loans. Simplifying loan application processes, reducing collateral requirements, and increasing

the physical presence of banks and cooperatives in rural areas can help bridge this gap. Special focus should be given to extending **government-backed financial schemes** to these vulnerable groups.

2. **Targeted Interest Rate Reforms:** The reduction in institutional loan rates has benefited many farmers, but **further reductions in non-institutional loan rates** are necessary to ensure a more equitable financial landscape. The government should promote **regulation of informal lending**, and introduce **incentives** for agricultural cooperatives and rural banks to extend low-interest loans to smaller farmers.
3. **Encouraging Diversification of Credit Sources:** While **institutional loans** have gained importance, it is crucial to promote **microfinance institutions (MFIs)** and **self-help groups (SHGs)** as alternative sources of credit for small farmers. MFIs and SHGs, with their flexible lending models, can provide an effective bridge between formal and informal lending.
4. **Strengthening Financial Literacy Programs:** Farmers, particularly those with smaller landholdings, may not be fully aware of the benefits of institutional loans. **Financial literacy initiatives** should be scaled up, focusing on educating farmers about the advantages of institutional credit, available government schemes, and risk mitigation strategies, such as crop insurance, to protect against debt traps.
5. **Monitoring Loan Usage and Debt Sustainability:** Given the sharp rise in average loan amounts, particularly for small and medium farmers, there is a need to monitor **loan usage** to ensure that credit is being used for productive purposes. The government should establish **debt sustainability frameworks** that assess whether loans are supporting income growth or contributing to increasing indebtedness.

VII. CONCLUSION

The findings of this study highlight the growing role of institutional credit in supporting agricultural development in Maharashtra, particularly for medium and large farmers. However, **disparities in credit access** persist, with marginal and small farmers still facing challenges in accessing formal loans, forcing them to rely on costlier non-institutional sources. Targeted policy interventions focused on enhancing credit access, reducing interest rates, and promoting financial literacy can ensure that all farmers benefit from formal credit systems. Expanding access to institutional loans will not only boost agricultural productivity but also reduce rural indebtedness, contributing to the overall sustainability of the agricultural sector.

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