

**A Micro-Level Study on Credit Utilisation and Repayment Behaviour of Farmers in
Thanjavur, Tamil Nadu, India.**

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Abstract:

Agricultural credit plays a vital role in enhancing farm productivity, ensuring food security, and supporting rural livelihoods. This study examines the utilisation and repayment behaviour of institutional agricultural credit in Thanjavur district of Tamil Nadu. Primary data from 120 farmers were collected using structured interviews. Descriptive and inferential analyses, including principal component analysis and regression, were employed. Results show that 75 per cent of farmers used credit for productive purposes, while 25 per cent diverted funds due to weather shocks, social pressures, and delayed disbursement. Only 25 per cent fully repaid loans, whereas 50 per cent defaulted. Factor analysis identified five key dimensions influencing non-repayment: agricultural risks, personal and financial constraints, operational challenges, financial instability, and market or technological barriers. Regression confirmed all five factors significantly affected repayment behaviour. The study recommends timely credit delivery, flexible repayment schedules, weather-based insurance, crop diversification, and improved financial literacy to enhance credit effectiveness.

Keywords: *Agricultural credit; loan utilisation and repayment; non-repayment behaviour; principal component analysis.*

Introduction:

Agriculture is a vital sector contributing to economic development by providing raw materials, generating rural employment, and promoting exports. The Cooperative Societies Act of 1904 marked the beginning of cooperatives as key institutions for agricultural credit, while the Reserve Bank of India Act of 1935 further strengthened credit support through Section 54. Since then, agricultural credit has become an integral part of Indian agriculture. Although government-set credit targets are often met or exceeded, credit availability still falls short of meeting infrastructure and capacity-building needs. While credit helps farmers

during crises such as droughts, its long-term impact remains limited. Timely and affordable credit is therefore crucial for sustained agricultural growth. Public sector banks expanded significantly after nationalization, with branches increasing from 8,262 in 1969 to 86,550 in 2024, though mergers between 2017 and 2020 reduced public-sector banks from 27 to 12.

According to Alfred (2005), acquiring and utilizing agricultural credit promotes productivity and improves food security. Nwaru et al. (2006) noted that credit supports innovation uptake, enhances output and earnings, and facilitates capital accumulation and marketing. Agricultural credit comes from institutional and non-institutional sources, with institutions offering subsidized interest rates and informal credit provided by individuals such as family, friends, moneylenders, buyers, and cooperatives. Credit enables farmers to buy inputs, employ labour, and obtain machinery and high-quality seeds (Nwaru et al., 2006). The demand for credit is high in rural areas due to low productivity and poverty. Adebayo and Adeola (2008) emphasized that agricultural loans boost yield, break poverty cycles, and support input purchases, while long-term credit supports real estate investment. Credit enhances productivity (Bashir and Azeem, 2008), activates underutilized resources (Oladeebo and Oladeebo, 2008), improves output (Das et al., 2009), and accelerates technology adoption (Manganhele, 2010). It also promotes food security, employment (Khan et al., 2011), productivity, income, and quality of life (Jan and Khan, 2012). However, challenges such as poor planning, illiteracy, lack of information, and misuse hinder effectiveness. Misuse can lead to non-repayment, risking credit system failure, making analysis of credit utilization and repayment in Thanjavur essential.

Objectives:

1. To analyze the patterns of utilization and repayment behavior of credit facilities accessed by farmers in the study area.
2. To identify the determinants of non-repayment behavior among the sample respondents in Thanjavur District.

Methodology:

The study used both primary and secondary data. Information on loan defaulters was obtained from the Lead Bank Cell, Indian Overseas Bank, Thanjavur. A purposive sampling method was adopted, and 120 respondents were selected using simple random sampling. A list of agricultural households who had availed institutional credit was prepared to facilitate sampling. A structured questionnaire, developed based on previous studies, was administered through personal interviews. It covered socio-economic characteristics, credit utilisation, repayment behaviour, factors influencing non-repayment, and credit usage.

Tools and analysis:

Descriptive statistics: Frequency distribution tables were used to summarize respondents' age, sex, education, family type, and landholding size. Descriptive statistics simplified large data sets for easy interpretation and described farm household demographics and the proportion of credit allocated to the farm sector. A Likert-type scale ranging from I to V was used for questions such as satisfaction with credit usage and reasons for non-repayment, where I indicated the least satisfaction and V represented the highest satisfaction.

Inferential statistics: Factor analysis was applied to investigate the key drivers influencing non-repayment of agricultural credit among farmers. Data were collected through pre-designed interview schedules, and internal consistency was assessed using Cronbach's alpha, with values between 0.7 and 0.8 considered acceptable (Lavrakas, 2008). Principal Component Analysis (PCA) was employed to reduce variables into a smaller set of components (Sasikanth and Ravichandran, 2023), followed by Varimax rotation to improve interpretability (Hair et al., 2006). Variable selection was based on KMO values > 0.6 (Tabachnick and Fidell, 2013), significant Bartlett's Test ($p < 0.001$) (Guttman, 1954), eigenvalues > 1.0 (Pallant, 2010), communalities > 0.40 (Noor Ul Hadi et al., 2016), and factor loadings > 0.40 (Ertz et al., 2016). This approach grouped variables into five factors: agricultural risk, personal and financial constraints, operational issues, financial instability, and market barriers.

Results and discussion:

Banking profile of Thanjavur District:

The distribution of financial agencies across rural, semi-urban and urban areas in Thanjavur district is presented in Table 1.

Table 1: Financial Institutions in Thanjavur

Financial Institutions	Number of Bank outlets			Total
	Rural	Semi-urban	Urban	
Public Sector Banks (Government-owned)	75 (38.66)	52 (26.80)	67 (34.54)	194 (100.00)
Private Sector Banks	50 (35.71)	43 (30.71)	47 (33.57)	140 (100.00)
Regional Rural Banks (RRBs)	11 (45.83)	12 (50.00)	1 (4.17)	24 (100.00)
Small Finance Banks (SFBs)	7 (17.95)	16 (41.03)	16 (41.03)	39 (100.00)
Cooperative Banks	13 (34.21)	12 (31.58)	13 (34.21)	38 (100.00)
Payment Banks	0 (0)	0 (0)	2 (100)	2 (100)
All Institutions	156 (35.70)	135 (30.89)	146 (33.41)	437 (100.00)

Source:Lead Bank Cell, Regional Office, Indian Overseas Bank, Thanjavur (Annual Credit Plan 2023–24). **Note:**Values in brackets indicate the percentage share of the totals.

From the above table 1, shows that the public sector banks dominate the total number of branches, with a notable presence in all regions, primarily in village regions. In contrast, private sector banks and cooperative banks show a more balanced distribution across all regions. Meanwhile, RRBs concentrate their services largely in rural and semi-urban sectors but has only a minimal presence in urban regions. Overall, there are 437 financial agencies in Thanjavur district. Among these, rural areas contribute the largest number of branches, followed by urban and semi-urban areas.

Disbursement of Loans to Agriculture and its Allied Sectors:

Loan distribution to agriculture and its allied sectors by financial institutions in Thanjavur district (FY 2023–24) is detailed in the table 2.

Table 2: Loan Disbursement to Agriculture and Allied Sectors in Thanjavur(FY 2023-24)

Particulars	Name of the Bank (Amount in Crore)				Total
	State Bank of India	Nationalised Banks	Private Sector Banks	Other Agencies*	
Agriculture	24,633.99 (55.69)	1,26,058.73 (70.25)	57,247.57 (41.93)	29,576.12 (71.14)	2,37,516.41 (59.12)
MSME	19,603.45 (44.31)	52,738.14 (29.39)	78,129.41 (57.23)	4,162.24 (10.01)	1,54,633.24 (38.49)
Other Allied Sectors**	0 (0)	634.32 (0.35)	1,146.18 (0.84)	7,836.60 (18.85)	9,617.10 (2.39)
Total	4,4237.44 (100.00)	1,79,431.19 (100.00)	1,36,523.16 (100.00)	41,574.96 (100.00)	4,01,766.75 (100.00)

Source: Annual Credit Report, Indian Overseas Bank, Thanjavur Regional Office.
Note:Values in brackets indicate the percentage share of the totals.
 *Indicate RRBs, CO-OP Bank, and SFBs.
 ** indicate loans for export, education, housing, social infrastructure, and green energy.

In particular, a total amount of Rs. 4,01,766.75 crore was disbursed during FY 2023-24 by formal institutions. Agriculture received 59.12 per cent of the total allocation, demonstrating the primary reliance of farmers' livelihoods on farming. This is further followed by allocations to MSME sectors and other allied sectors.

Socio-economic Characteristics of the Sample Respondents:

An overview of the socio-economic characteristics of the sample farmers is given in Table 3.

It is observed that the majority of the sample farmers in the study area are male. Most respondents fall within the age group of 41 to 50 years (37.50 per cent), followed by those

aged 31 to 40 years. A smaller proportion, only 12 respondents (10.00 per cent), are below 30 years of age, while individuals above 50 years comprise approximately one-fourth of the sample. This suggests that nearly 90 per cent of the respondents are middle-aged. In terms of education, most farmers possess either basic or intermediate-level qualifications. Additionally, the data reveals that a majority of respondents belong to nuclear families.

Table 3: Socio-economic Characteristics

Indicators	Classification	Respondents count	Percentage
Age	Below 30 years	12	10.00
	31-40 years	33	27.50
	41-50 years	45	37.50
	Above 50 years	30	25.00
	Total	120	100.00
Gender	Male	77	64.17
	Female	43	35.83
	Total	120	100.00
Education	Illiterate	14	11.67
	Primary level	31	25.83
	Higher Secondary Course	49	40.83
	Graduate	26	21.67
	Total	120	100.00
Family type	Nuclear family	82	68.33
	Joint family	38	31.67
	Total	120	100.00
Size of land holding (Based on IRDR)	Marginal (< 1 ha)	16	13.33
	Small (1-2 ha)	43	35.83
	Semi-medium (2-4 ha)	29	24.17
	Medium (4-10 ha)	21	17.50
	Large (> 10 ha)	11	9.17
	Total	120	100.00

Regarding landholding size, small farmers represent the largest group, accounting for 35.83 per cent of the sample, followed by semi-medium and medium farmers. Large farmers constitute the smallest segment, comprising only 9.17 per cent of the total respondents.

Utilisation of the Formal Loans:

Table 4 illustrates how sample farmers in the study area have utilized loans obtained from formal financial institutions.

From the below table shows that the institutional loans were fully utilized by 75 per cent of the sample respondents, whereas 25 per cent of them have diverted the funds to other purposes. The major reasons for utilising formal loans effectively are increased productivity and enhanced income, which contribute 31.11 per cent and 28.89 per cent, respectively, followed by several other reasons. Conversely, the primary reasons for the misutilisation of

formal credits include adverse weather conditions and social and cultural obligations, accounting for 36.67 per cent and 23.33 per cent, respectively, along with other contributing factors.

Table 4: Utilisation of the Institutional Loans

Indicators	Classification	Respondents count	Percentage
Extent of utilisation	Full utilisation	90	75.00
	Diversion	30	25.00
	Total	120	100.00
Reasons for full utilisation	Increased productivity	28	31.11
	Enhanced income	26	28.89
	Build creditworthiness	14	15.56
	Modernisation and mechanisation	13	14.44
	Other reasons	9	10.00
	Total	90	100.00
Reasons for diversion or misutilisation	Adverse weather condition	11	36.67
	Social and cultural obligations	7	23.33
	Delay in loan disbursement	5	16.67
	Lack of monitoring and supervision	4	13.33
	Other reasons	3	10.00
	Total	30	100.00

Repayment Behaviour of the Borrowers:

The present section assesses the repayment behaviour of the sample farmers in the study area, which is presented in Table 5.

Table 5: Repayment Behaviour of the Borrowers

Indicators	Classification	Respondents count	Percentage
Level of Repayment	Fully repaid	30	25.00
	Partly repaid	30	25.00
	Fully not repaid	60	50.00
	Total	120	100.00
Reasons for full repayment	Increase in farm income	12	40.00
	To maintain a good CIBIL score	8	26.67
	Legal obligations	5	16.67
	To maintain prestige concerns	3	10.00
	Others	2	6.67
	Total	30	100.00
Reasons for partial repayment	Insufficient farm income	10	33.33
	Misallocation of loan	7	23.33
	Inadequate loan amount	6	20.00
	Expectations of loan waiver	4	13.33
	Others	3	10.00
	Total	30	100.00

Table 5 indicates that 30 out of 120 sample respondents have fully repaid their formal loans, while another 30 per cent have only partially repaid them. The primary reasons for full repayment include an increase in farm income (40 per cent) and the desire to maintain a good CIBIL score (26.67 per cent), with other factors contributing to the remainder. Conversely, the main reasons for partial repayment are insufficient farm income (33.33 per cent) and misallocation of loans (23.33 per cent), along with other contributing factors.

Challenges in Repaying Institutional Loans:

An in-depth investigation was carried out to determine the factors contributing to the non-repayment of loans availed by sample farmers from various financial institutions operating in the study area. The analysis revealed that, among the 120 sample respondents who had borrowed from institutional sources, only 30 respondents (25.00 per cent) had fully repaid their loans. Of the remaining 90 respondents, 30 (25.00 per cent) had partially repaid, while 60 respondents (50.00 per cent) had made no repayments at all. In response to inquiries regarding their failure to repay, the respondents reported various reasons such as crop failure, high input costs, adverse weather conditions, low market prices, health issues, family obligations, educational expenses, lack of storage facilities, middlemen and market access, debt trap, lack of modern farming technologies, small land holdings, lack of financial literacy, over-reliance on mono crops, and expectations of government loan waivers. To systematically identify the underlying determinants of non-repayment behavior among the farmers, a factor analysis approach was employed.

Determination of Factors:

Before performing factor analysis, the reliability and data adequacy were assessed.

Reliability Test: It is an important tool to identify the errors of data and make the data fit for future research works. Cronbach's alpha is a coefficient of reliability that measures the internal consistency of a set of variables. Where in table 6, Cronbach's alpha value is 0.724, which is considered acceptable, indicates a good level of internal consistency among 15 items used.

Table 6: Reliability test

Reliability Statistics (Cronbach's Alpha)	
Reliability Coefficient	Count of Scale Items
0.724	15

KMO and Bartlett's Test: The KMO test examines the adequacy of the sample for factor analysis, Bartlett's test assesses whether the correlation matrix is significantly different from an identity matrix.

Table 7: Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Sphericity Test

KMO Sampling Adequacy Index		0.616
Test for Sphericity (Bartlett's)	Estimated Chi-Square	225.073
	Degrees of Freedom (df)	105
	Statistical Significance	0.000

As shown in Table 7, a KMO value of 0.616, considered acceptable, indicates that the sample is suitable for factor analysis. Furthermore, the significant result of Bartlett's test ($p < 0.05$) confirms the existence of sufficient correlations among the variables, supporting the appropriateness of applying factor analysis.

Eigens value and Total variance explained

It indicates that the five factors account for 64.45 per cent of the explained variance. The respective contributions of these factors are 13.82 per cent, 13.65 per cent, 13.21 per cent, 12.24 per cent, and 11.52 per cent. The total variance explained by the five components, each with an eigenvalue greater than 1, accounts for 64.45 per cent, while the remaining 35.55per cent is attributed to other variables. Factor selection was based on higher factor loadings, as detailed below.

Factor Analysis:

Variables with loadings above 0.5 are typically considered significant contributors to a factor.

Table 8: Factor Analysis Table

Name of the Factor	Items Loaded	Factors Coef	Eigen Values	Variance Contribution (per cent)
I Agricultural risk factors	Adverse weather conditions	0.766	3.263	13.82
	Small land holdings	0.724		
	Over-reliance on mono crop	0.557		
	Crop failure	0.502		
II Personal and financial constraints	Health issues	0.818	2.067	13.65
	Family obligations	0.741		
	Educational expenses	0.684		
III Operational challenges	High input costs	0.739	1.823	13.21
	Lack of storage facilities	0.714		
IV	Government loan waivers	0.815	1.295	12.24

Financial instability	Lack of financial literacy	0.727		
	Debt trap	0.600		
V Market and technology	Lack of modern farming technologies	0.750	1.219	11.52
	Middlemen and market access	0.629		
	Low market prices	0.564		

The components were labelled as follows: Component One: Agricultural Risk Factors; Component Two: Personal and Financial Constraints; Component Three: Operational Challenges; Component Four: Financial Instability; and Component Five: Market and Technological Barriers. Table 8. shows that the eigenvalues reflect the relative contribution of each factor in explaining the variance within the dataset, with factors exhibiting eigenvalues greater than 1 regarded as statistically significant. Initially, 15 variables were identified to analyse the factors influencing the non-repayment of formal institutional loans. However, factor analysis reduced these to five key factors: Agricultural Risk Factors, Personal and Financial Constraints, Operational Challenges, Financial Instability, and Market and Technological Barriers. For example, Factor I (Agricultural Risk Factors) have an eigenvalue of 3.263, explaining 13.82 per cent of the total variation. Similarly, the other factors contribute to the variability. Collectively, these five factors account for 64.45 per cent of the total variation, which is deemed satisfactory.

Conclusion:

The study highlights how farmers in Thanjavur district utilise and repay agricultural loans. Although most farmers used credit for productive purposes, many diverted funds due to delayed disbursement, adverse weather, and social obligations. Only 25 per cent fully repaid their loans, while 50 per cent defaulted. Major factors affecting non-repayment include crop failure, financial difficulties, lack of timely institutional support, and poor market access. The findings show that credit enhances productivity but is limited by regional challenges. In the Cauvery Delta, timely disbursement before kuruvai and samba seasons is crucial. Recommended measures include weather-based insurance, flexible repayment linked to harvests, crop diversification beyond paddy, improved market infrastructure, and strengthened financial literacy to enhance repayment capacity and credit sustainability.

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