

MAGNITUDE AND DIMENSION OF INDEBTEDNESS AMONG AGRICULTURAL WORKERS IN TAMIL NADU

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Abstract

Agricultural indebtedness is an important economic and social issue affecting the livelihood and financial stability of farming households in Tamil Nadu. Farmers require credit to meet cultivation expenses, purchase agricultural inputs, maintain irrigation facilities, acquire equipment and manage household expenditure. However, irregular rainfall, water scarcity, crop failure, rising input costs and fluctuations in agricultural prices can affect farm income and repayment capacity. The Tamil Nadu Economic Survey 2024–25 reports that agricultural credit disbursed through scheduled commercial banks increased from ₹1.83 lakh crore in 2019–20 to ₹3.58 lakh crore in 2023–24, highlighting the significant role of agricultural finance in the state's economy. The present article proposes to examine the magnitude, severity and determinants of indebtedness among farmers in Tamil Nadu, with particular attention to differences across agricultural regions and farm-size categories. It considers economic, financial, social and institutional factors that may influence farmers' borrowing behaviour and repayment capacity. The study proposes a stratified sampling approach, a structured questionnaire and appropriate statistical techniques, including descriptive statistics, analysis of variance and exploratory factor analysis. The findings are intended to support the formulation of appropriate agricultural credit policies, improve access to institutional finance and strengthen the economic security of small and marginal farmers. Primary survey results must be collected before reporting original empirical findings.

Keywords: Agricultural indebtedness, rural credit, farm income, small and marginal farmers, institutional finance, Tamil Nadu.

1. Introduction

Agriculture continues to play an important role in Tamil Nadu's rural economy by providing livelihoods, employment and raw materials for agro-based industries. The state cultivates a variety of crops, including paddy, sugarcane, cotton, millets, pulses, groundnuts, coconut and horticultural crops. Nevertheless, agricultural production is exposed to uncertainties arising from rainfall variability, groundwater depletion, irrigation constraints, pest attacks, crop diseases and fluctuations in market prices. These challenges can reduce farmers' income and increase their dependence on borrowed funds. Agricultural credit is essential for financing cultivation and improving productivity. Farmers obtain loans from commercial banks, cooperative credit institutions, regional rural banks and other formal lending agencies. Some

also depend on informal sources when institutional credit is insufficient, delayed or difficult to access. Borrowing can support productive investment when repayment is aligned with agricultural income. However, repeated borrowing to meet cultivation losses, repay earlier loans or cover household expenditure can create a cycle of indebtedness. The importance of examining agricultural debt is also reflected in national household surveys. The National Sample Survey's 2013 Situation Assessment Survey reported that 82.5% of agricultural households in Tamil Nadu were indebted during the survey period. This is a historical estimate and should not be interpreted as the state's current indebtedness rate. Tamil Nadu's diverse agricultural conditions make a regional assessment particularly relevant. The Cauvery delta, western agricultural belt, southern districts and northern regions differ in cropping patterns, irrigation access, rainfall conditions and agricultural market opportunities. These differences may influence the amount of credit required, the sources of borrowing and the ability of farmers to repay outstanding loans. An empirical study can help identify the groups most exposed to debt-related difficulties and the factors contributing to their financial vulnerability.

2. Statement of the Problem

Farmers require credit to finance seeds, fertilisers, pesticides, labour, machinery, irrigation, transportation and other cultivation expenses. In many cases, agricultural income is seasonal, whereas household expenditure and loan repayments continue throughout the year. When crop yields decline or market prices fall, farmers may face difficulties meeting their financial obligations. Small and marginal farmers may be particularly vulnerable when they have limited land, inadequate savings, insufficient collateral or restricted access to affordable institutional credit. Other pressures, including healthcare expenditure, education costs, family obligations and repayment of previous loans, may further weaken household finances. Although agricultural credit is necessary for development, the accumulation of debt without a corresponding increase in income can undermine the economic security of farming households. Therefore, the central problem addressed by this proposed study is to determine the extent of agricultural indebtedness among farmers in Tamil Nadu, examine variations across regions and farm-size categories, and identify the economic, financial, social and institutional factors associated with their borrowing and repayment behaviour.

3. Objectives of the Study

1. To examine the socio-economic characteristics of farmers in Tamil Nadu.
2. To assess the magnitude and severity of agricultural indebtedness among farming households.
3. To analyse variations in outstanding debt across agricultural regions and farm-size categories.
4. To suggest policy measures for reducing excessive indebtedness and improving farmers' financial stability.

4. Review of Literature

Research on agricultural indebtedness in India has highlighted the relationship between farm production costs, credit availability, household expenditure and repayment capacity. Studies on

rural credit have examined the role of institutional lending in supporting agricultural investment and the difficulties faced by farmers who depend on informal sources of finance. The National Sample Survey's Situation Assessment Survey for 2013 provides an important historical benchmark for understanding agricultural household indebtedness. Its findings indicated substantial differences between states, with Tamil Nadu recording a high proportion of indebted agricultural households during that period. The All-India Debt and Investment Survey for 2019 examined household indebtedness across rural and urban areas, including differences by occupational category and state. These official surveys provide a useful framework for examining outstanding debt, borrowing sources and household characteristics. The Tamil Nadu Economic Survey 2024–25 highlights the growth of agricultural credit disbursement through scheduled commercial banks. However, the volume of credit disbursed alone does not establish whether farmers are over-indebted or able to repay their loans. This distinction supports the need for research combining credit information with household income, expenditure, landholding size and repayment capacity. A further empirical investigation specific to Tamil Nadu can extend this understanding by comparing agricultural regions, farm-size groups and borrowing sources using updated primary data.

5. Research Methodology

5.1 Research Design

The study may adopt a descriptive and analytical research design to examine the magnitude and determinants of agricultural indebtedness among farmers in Tamil Nadu. Both primary and secondary data can be used to understand the borrowing patterns, outstanding liabilities, income levels and repayment difficulties of agricultural households.

5.2 Study Area and Sampling Design

Tamil Nadu may be divided into major agricultural zones to capture differences in cropping patterns, irrigation facilities and climatic conditions. The state's official agricultural classification identifies distinct zones, including the North-Eastern, North-Western, Western, Cauvery Delta, Southern, High Rainfall and Hilly zones. A proposed sample of 504 indebted farmers may be selected through stratified random sampling. The sample size is a research-design proposal, not an already completed survey.

Agricultural region	Illustrative districts
Cauvery Delta	Thanjavur, Tiruvarur
Western Zone	Coimbatore, Erode
Southern Zone	Madurai, Thoothukudi
North-Eastern Zone	Villupuram, Tiruvannamalai
North-Western Zone	Salem, Dharmapuri
High Rainfall Zone	Kanniyakumari
Hilly Zone	The Nilgiris

The final district selection and allocation of respondents should reflect the study's sampling frame, available resources and representation of indebted farmers.

5.3 Sources of Data

Primary data: Data may be collected using a pre-tested structured questionnaire covering farmers' demographic characteristics, landholdings, crops cultivated, annual farm income, household expenditure, outstanding debt, borrowing sources, interest rates, repayment behaviour and access to government support. Secondary data: Information may be obtained from the Ministry of Statistics and Programme Implementation, Tamil Nadu Department of Economics and Statistics, Department of Agriculture, Tamil Nadu Economic Survey, NABARD, Reserve Bank of India and relevant research publications.

5.4 Statistical Tools

The following statistical techniques may be used:

1. Frequency and percentage analysis to describe respondents' characteristics and borrowing patterns.
2. Mean and standard deviation to measure average outstanding debt and variation in indebtedness.
3. Chi-square tests to examine associations between categorical variables.

6. Magnitude of Agricultural Indebtedness

The magnitude of agricultural indebtedness can be assessed by examining outstanding loans per household, the proportion of indebted farmers, the distribution of debt across farm-size categories and the sources of borrowing. The analysis should distinguish between the amount borrowed during a particular period and the outstanding amount remaining on the date of the survey. An important distinction is that a large loan does not automatically indicate severe indebtedness. Farmers with greater landholdings or higher farm income may borrow larger amounts while retaining the capacity to repay. Conversely, farmers with limited assets and low or irregular income may face repayment difficulties even when their outstanding loans are relatively small. For Tamil Nadu, the 2013 Situation Assessment Survey provides historical evidence of substantial agricultural household indebtedness, while the 2024–25 Economic Survey documents the expansion of agricultural credit disbursement. These figures describe different indicators and periods and should not be combined as if they were measurements from the same survey.

7. Severity of Indebtedness

The severity of indebtedness should be assessed in relation to a household's repayment capacity rather than its outstanding debt alone. Relevant indicators include annual disposable income, debt-service obligations, overdue instalments, dependence on fresh borrowing and the sale of productive assets to meet financial commitments. One possible indicator is the debt-to-disposable-income ratio:

Debt-to-Income Ratio= Outstanding Debt/ Annual Disposable Income x 100

A higher ratio indicates that outstanding debt is large relative to annual disposable income. However, the ratio should be interpreted alongside interest rates, repayment schedules, household assets and the timing of agricultural receipts. For analytical purposes, farmers may be classified into categories such as lower, moderate and higher repayment stress, using clearly

specified thresholds established before analysing the data. Such categories should not be presented as official classifications unless they are based on an applicable official standard. The analysis should also identify whether farmers are borrowing primarily for productive agricultural investment or to repay previous loans and meet unavoidable household expenditure. This distinction is essential for understanding the persistence of rural indebtedness.

8. Determinants of Indebtedness Among Farmers in Tamil Nadu

The following factors are proposed for empirical examination. Their relative importance must be established using the collected data.

Factor	Explanation
Rising cultivation costs	Increasing expenditure on seeds, fertilisers, pesticides, labour and machinery may raise borrowing requirements.
Crop failure	Poor rainfall, water shortages, pests and diseases can reduce production and farm income.
Low farm income	Unstable market prices and low returns may limit repayment capacity.
Small landholdings	Limited cultivated area may restrict income generation and the ability to absorb losses.
Medical and educational expenditure	Household expenditure can reduce the funds available for loan repayment.
Informal borrowing	Dependence on high-cost credit may increase repayment pressure.
Inadequate financial literacy	Limited awareness of loan terms, interest rates and repayment schedules may affect borrowing decisions.
Delayed agricultural receipts	Delays in payments or seasonal cash-flow shortages may affect repayment timing.
Inadequate insurance coverage	Uncompensated crop losses may increase reliance on borrowing.
Household financial obligations	Family emergencies and other essential expenditure may increase borrowing requirements.

Proposed exploratory factor analysis

The factors above may be grouped into broader dimensions after analysing the questionnaire responses. A possible preliminary framework is:

- Economic factors: cultivation costs, farm income, crop losses and landholding size.
- Financial factors: credit availability, interest rates, financial literacy and repayment schedules.
- Social and household factors: medical costs, educational expenditure and family obligations.
- Institutional factors: access to formal credit, insurance and agricultural support programmes.

These are proposed analytical categories, not results obtained from a completed factor analysis. The final factor structure should be determined by the empirical evidence, factor loadings and appropriate tests of sampling adequacy.

9. Major Findings Expected from the Study

The proposed study is designed to establish the following findings after data collection and analysis:

1. The average outstanding debt and the proportion of indebted farmers across selected agricultural regions.
2. Differences in borrowing patterns between marginal, small, medium and large farmers.
3. The extent to which farm income, cultivation costs and household expenditure are associated with repayment difficulties.
4. The relative importance of institutional and non-institutional borrowing sources.
5. The major dimensions of indebtedness identified through exploratory factor analysis.
6. The relationship between farmers' socio-economic characteristics and their ability to repay outstanding loans.

These are the questions the study is intended to answer; they should not be reported as established findings until the survey results have been analysed.

10. Policy Implications

Reducing excessive agricultural indebtedness in Tamil Nadu requires measures that address both access to credit and the underlying causes of repayment difficulties.

First, institutional credit should be accessible to eligible farmers through timely loan processing, transparent lending procedures and appropriate repayment schedules. Credit arrangements should take account of crop cycles and the timing of agricultural income.

Second, crop insurance and risk-management measures should be strengthened so that eligible farmers receive appropriate support when insured agricultural losses occur. Irrigation development, water conservation, drought-resilient cultivation and suitable crop diversification may help reduce production risks in vulnerable areas.

Third, financial literacy programmes can help farmers understand interest rates, borrowing costs, loan agreements and repayment obligations. Cooperative institutions and agricultural extension agencies can play an important role in providing such guidance.

Fourth, agricultural marketing facilities, storage infrastructure and value-chain linkages should be strengthened to improve farmers' access to markets and reduce avoidable post-harvest losses. Better market access can contribute to more stable farm receipts.

Finally, debt-relief measures should be designed carefully, with appropriate identification of financially distressed households and transparent eligibility criteria. Alongside short-term relief, long-term policies should improve productivity, diversify rural income sources and reduce farmers' exposure to repeated borrowing.

11. Conclusion

Agricultural indebtedness in Tamil Nadu requires examination from economic, financial, social and institutional perspectives. Agricultural credit is essential for cultivation, investment and productivity improvement, but repayment difficulties can emerge when borrowing is not

matched by adequate and reliable income. Historical national survey evidence demonstrates that indebtedness has been a significant concern among Tamil Nadu's agricultural households, while the growth of agricultural credit highlights the continuing importance of institutional finance. A systematic empirical study covering different agricultural regions and farm-size categories would help establish the magnitude and severity of indebtedness and identify its principal determinants. By combining household-level evidence with appropriate statistical analysis, the research can provide a stronger basis for policies that improve access to affordable credit, strengthen farm income, reduce production risks and support the financial security of small and marginal farmers.

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