

# Determinants of Access to Institutional Credit by Farmers' Households in Virudhunagar District

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## Abstract

*The present research paper aims at investigating the determinants of access to institutional credit by farmers' households in Virudhunagar district. The work has been carried out against the backdrop of evolution and growth of rural credit system in India along with its observed failure to be inclusive in character. The study is completely based on the primary data provided by 201 marginal farmers, 81 small farmers and 36 large farmers in the study area. Logistic Regression Line has been fitted to analyse the determinants of access to institutional credit. The paper stresses the need for strengthening of semi-formal source of credit namely micro-finance.*

**Keywords: Institutional Credit, Debt Servicing Capacity and Dependency Ratio**

## Introduction

Credit is the life blood of any economic activity. It is a critical input for agricultural operations as farmers have to purchase other inputs and make payments for irrigation, labour and machinery. It transforms subsistence agricultural farms into dynamic profit making commercial enterprises. It is an important prerequisite for agricultural growth because i) farmers' savings are inadequate ii) agricultural capital investments are lumpy and iii) there is lack of simultaneity between farm expenditure and realization of farm income. Its accessibility is important to check rural migration. The colonial government in British India introduced credit cooperatives in 1904 with the objective of relieving the poor farmers from the clutches of rural money lenders. Following this, consistent and constant efforts were made to strengthen the formal rural credit system. Major commercial banks were nationalized in 1969 to ensure the concept of the social banking system. Further, specialized rural lending institution namely Regional Rural Banks (RRBs) was formed in 1976.

The National Bank for Agriculture and Rural Development (NABARD) was established in 1982 to tune up the functioning of the formal rural credit system. The government now provides interest rate subvention of 1.5 per cent per annum in respect of short term production credit up to 3 lakhs for the farm loans given at seven per cent per annum to ensure inclusiveness of the formal credit system. Additional subvention of 3 per cent per annum is also given for prompt repayment so that the effective rate of interest is 4 per cent per annum for farm loans up to 3 lakhs. In addition, Micro- Finance is also given to farmers to ensure proper financial inclusiveness with sustainability.

Despite all these measures, credit market in India is not competitive. It is underdeveloped. It is dual structured where both organized and unorganized money markets operate side by side. Institutional agricultural credit in India is not effectively serving the needs of the small and the marginal farmers. It is subjected to red tapism. These institutions are adopting cumbersome rules and formalities for advancing loans to farmers, as a result of which farmers still depend more on costly non-institutional sources of credit. It is here essential to note that while the formal banking sector and the Micro-Finance Institutions (MFIs) in India are subject to the regulations of the RBI, the informal sector which charges exorbitant interest rate and induces default to misappropriate borrowers' collaterals is mostly free from these regulations. In this background, the researcher made an attempt to examine the various factors determining access to institutional credit by farmers' households in Virudhunagar district.

### Methodology

Institutional credit, Debt servicing capacity and Dependency ratio are the key terms and concepts used in the present analysis. Institutional credit is the sum of credits given to the farmers by the formal and semi-formal credit agencies. Debt service capacity of a farmer is the difference between net income and the domestic consumption expenditure of the farmer's household. It is the surplus at the disposal of the farmer to repay his debt. Here, net income is the sum of gross farm income and non-farm income minus cost of cultivation. Dependency ratio is the

number of non-earning members divided by the total number of members in the family.

The present analysis is based on the primary data provided by farmers in Virudhunagar district. There are eleven blocks in the study area. The first two villages which had the highest number of cultivators, have been chosen from each block for selecting the respondents. One per cent of the total farmers from each selected village from each category of farmers have been chosen based on stratified simple random sampling method. The sample for the present analysis consists of 201 marginal farmers, 81 small farmers and 36 large farmers. The primary data were collected from these 318 sample farmers using the well structured interview schedule framed by the researcher himself. The primary data were analysed using the Logistic regression analysis. The Logistic regression equation fitted for the present study is given below:

$$\text{Logistic (P)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_{11} X_{11} + \mu$$

Where

- $X_1$  = Farmer's age
- $X_2$  = Farmer's education
- $X_3$  = Gender of family head
- $X_4$  = Family type
- $X_5$  = Dependency ratio
- $X_6$  = Social class
- $X_7$  = Farmer's category
- $X_8$  = Rain-fed land cultivated
- $X_9$  = Interest rate for formal credit
- $X_{10}$  = Interest rate for semi-formal credit
- $X_{11}$  = Debt servicing capacity

### Results and Discussion

Farmers have access to formal, semi-formal and non-formal sources of credit. It is evident that when some farmers are able to have access to all the sources, some have access to any one of the sources of credit. The researcher gathered information on the different sources of credit availed by the different categories of farmers in the district and the results are given in Table 1.

**Table 1 Classification of Sample Households Based on Their Access to Different Sources of Credit in Virudhunagar District**

Sl. No.	Category of Households	Number of Sample Households			
		Marginal Farmers	Small Farmers	Large Farmers	Total Farmers
1.	Accessing formal credit sources only	103 (51.24)	42 (51.85)	24 (66.67)	169 (53.14)
2.	Accessing semi-formal credit source only	12 (5.97)	25 (30.86)	0 (0.00)	37 (11.75)
3.	Accessing non-formal credit source only	73 (36.32)	4 (4.94)	1 (2.78)	78 (24.53)
4.	Accessing both formal and semi-formal credit source	6 (2.99)	7 (8.64)	1 (2.78)	14 (4.40)
5.	Accessing both formal and non-formal credit sources	0 (0.00)	1 (1.23)	6 (16.67)	7 (2.20)
6.	Accessing semi-formal and non-formal credit source	7 (3.48)	2 (2.47)	2 (5.56)	11 (3.46)
7.	Accessing all credit sources	0 (0.00)	0 (0.00)	2 (5.56)	2 (0.63)
	Total	201 (100.00)	81 (100.00)	36 (100.00)	318 (100.00)

**Source:** Primary data

Figures in the brackets are percentages to column totals.

It could be inferred from Table 1 that out of 318 farmers, 240 had access to institutional sources. That is, 75.47 per cent of the total sample farmers had access to institutional sources of credit in the district and 24.53 per cent did not have access to these sources. The field survey brings out the point that 36 per cent of marginal farmers and five per cent

of small farmers did not have access to institutional sources of credit. It is important to note that 51 per cent of marginal farmers and 52 per cent of small farmers have availed loans from the formal credit sources only. The source-wise amounts of credit availed by different categories of farmers are shown in Table 2.

**Table 2 Source-Wise Amount of Credit Availed by Farmers in Virudhunagar District**

Sources of Credit	Marginal Farmers	Small Farmers	Large Farmers	Total Farmers
<b>I. Formal Sources</b>	45,953	40,982	1,13,317	52,313
a) Public banks	(41.26)	(27.89)	(27.65)	(33.92)
b) Private banks	5,691 (5.11)	4,805 (3.27)	1,75,160 (42.74)	24,650 (15.98)
c) Cooperative banks/societies	13,420 (12.05)	30,960 (21.07)	89,137 (21.75)	26,459 (17.16)

Sub Total	65,064 (58.42)	76,747 (52.23)	3,77,614 (92.14)	1,03,422 (67.06)
<b>II. Semi-Formal Sources</b>				
a) SHG-NABARD Linkage	3,486 (3.13)	4,026 (2.74)	2,828 (0.69)	3,549 (2.30)
b) SHG-MFIs	4,065 (3.65)	4,276 (2.91)	492 (0.12)	3,714 (2.41)
Sub Total	7,551 (6.78)	8,302 (5.65)	3,320 (0.81)	7,263 (4.71)
<b>III. Non-Formal Sources</b>				
a) Moneylenders	5,379 (4.83)	11,094 (7.55)	12,787 (3.12)	7,673 (4.98)
b) Landlords	2,795 (2.51)	13,283 (9.04)	0 (0.00)	5,150 (3.34)
c) Commission agents	20,080 (18.03)	35,662 (24.27)	16,106 (3.93)	23,599 (15.30)
d) Relatives/friends/others	10,503 (9.43)	1,851 (1.26)	0 (0.00)	7,110 (4.61)
Sub Total	38,757 (34.80)	61,890 (42.12)	28,893 (7.05)	43,532 (28.23)
Grand Total	1,11,372 (100.00)	1,46,939 (100.00)	4,09,827 (100.00)	1,54,217 (100.00)

**Source:** Primary Data

Figures in the brackets are percentages to column totals.

Table 2 shows that on an average a farm household in the district was indebted to the institutional sources (formal and semi-formal) credit to the tune of 1,10,685 and that given by non-formal sources of credit was 43,532. Among the institutional credit agencies, 33.92 per cent of total credit amount was disbursed by the public banks, 15.98 per cent by private banks and 17.16 by cooperative banks. Commission agents have given 15.3 per cent of total credit amount required by the farmers in the district. Moneylenders have lent 4.9 per cent of the total credit amount. Farmers in the district have got 3.3 per cent of the total loans required for both productive and unproductive purposes from landlords. Only 4.61 per

cent of the total loans were obtained from relatives, friends and others. It is essential to note that large farmers have obtained 92.14 per cent of their total loan requirements from formal sources of credit. Their dependence on semi-formal and non-formal sources is minimum. Small farmers have fulfilled 42.12 per cent of the total credit needs through non-formal sources of credit. Marginal farmers were able to fulfill 6.78 per cent of their total loan requirements from semi-formal sources. The results of the Logistic Regression analysis for studying the determinants of access to institutional credit sources are shown in Table 3.

**Table 3 Estimated Values of the Logistic Regression Coefficients of Determinants of Access to Institutional Credit Sources (N = 318)**

Sl. No.	Variable	Coefficient	Standard Error	Wald Statistics	Odds Ratio
1.	Farmer's age	0.072	0.020	12.812	1.075
2.	Farmer's education	0.026	0.126	0.043	1.026

3.	Gender of family head	0.055	0.338	0.129	1.060
4.	Family type	0.246	0.333	0.546	0.782
5.	Dependency ratio	0.012	0.012	1.062	1.012
6.	Social class	0.030	0.354	0.007	1.031
7.	Farmer's category	0.914	0.352	6.760	2.494
8.	Rain-fed land cultivated	-0.031	0.024	1.835	0.969
9.	The interest rate for formal credit	-0.049	0.047	1.101	0.952
10.	The interest rate for semi-formal credit	-0.037	0.045	0.665	0.964
11.	Debt servicing capacity	0.526	0.223	5.554	1.693
	Constant	-5.417	1.220	19.710	0.004

Source: Primary data

Log Likelihood = 311.909

Chi-square value = 17.107\*\*

\* indicates one per cent level of significance

\*\* indicates five per cent level of significance

The results of the Logistic Regression analysis reveal the following important points regarding the access of institutional credit by the farmers' households in the study area. The variable "Farmer's Category" has been coded as zero for marginal and small farmers and one for large farmers in the present study. The Odds Ratio for this variable is 2.494. This implies that odds for having access to institutional credit by large farmers are 2.494 times more than that by marginal and small farmers. It is also evident from the Odds Ratio that the access to institutional credit by the farmers increases with the increase in debt servicing capacity of the farmer. The access to institutional credit by the farmers decreases

with the increase in rates of interest charged by formal and semi-formal sources. It is also inferred from the Odds Ratio that the access to institutional credit by men headed households is 1.06 times more than that by women headed households. The analysis points out that the access of institutional credit by non-scheduled households of farmers is 1.03 times more than that by scheduled households.

The Hosmer – Lemeshow test (Chi-square value) indicates that the Logistic regression model fitted for the present analysis is good. The predictive accuracy of the model could be understood from the following classification matrix:

**Table 3 Classification Matrix for Farmers Having Access to Institutional Credit and Those not Having the Access**

Sl. No.	Category	Predicted Membership		Total
		Group-I	Group-II	
1.	Access to institutional credit	228 (95.00)	12 (5.00)	240 (100.00)
2.	No access to institutional credit	67 (85.89)	11 (14.10)	78 (100.00)

Overall Efficiency = 75.20 per cent.

The fitted Logistic regression correctly classifies 228 out of 240 farmers under group I and 11 out of 78 farmers under group II. That is, 239 out of 318 farmers are correctly grouped by the Logistic

regression showing that the overall efficiency is 75.20 per cent.

## Policy Implications

Based on the findings of the present analysis, the following suggestions are made:

1. Debt servicing capacity of the farmers' households has to be improved. This is possible only through raising supplementary sources of income for marginal and small farmers.
2. There is a need to improve the access of semi-formal sources of credit by reducing the rate of interest charged by the sources on the loans availed by the farmers
3. Hiring of farm machineries and equipments may be encouraged to reduce the individual's investment on the same. This will minimise the loan requirements of the farmers in the study area.
4. An exclusive credit policy for women headed households of farmers is very much required to enable these households to have easy access to the institutional sources of credit. Further, there is an urgent need to review the existing credit policy to make it suitable for the scheduled households of farmers to have easy access to institutional sources. This alone will enable the planners to achieve the objective of financial inclusiveness with sustainability.

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