
ECONOMIC ANALYSIS OF AGRICULTURE CREDIT BY COMMERCIAL BANKS IN CUDDALORE DISTRICT

Dr. R. KUMAR*

Abstract

The present study proposes to highlight the agricultural credit extended by the commercial banks in Cuddalore District and analyses the repayment performance of the borrowers. The commercial banks aim at intensive coverage of selected areas for meeting the priority sector credit needs, especially the agricultural credit requirements and ensuring effective supervision over the use of loans. Cuddalore district has a number of villages and possesses large areas of agricultural lands. Agriculture is the main occupation of the rural population in the district. So, an in-depth analysis of these problems and issues becomes essential. This is the reason for selecting the commercial banks in providing agricultural credit in Cuddalore district.

Key Words: Crop Loan, Commercial Bank, Agriculture Lands.

Introduction

Agriculture plays a crucial role in the development of the Indian economy. It accounts for about 19 percent of GDP and about two-thirds of the population is dependent on the sector. The importance of farm credit as a critical input to agriculture is reinforced by the unique role of Indian agriculture in the macroeconomic framework and its role in poverty alleviation. Recognizing the importance of agriculture sector in India's development, the Government and the Reserve Bank of India (RBI) have played a vital role in creating a broad-based institutional framework for catering to the increasing credit requirements of the sector.

Agricultural policies in India have been reviewed from time to time to maintain pace with the changing requirements of the agriculture sector, which is an important segment of the priority sector lending of scheduled commercial banks (SCBs) and a target of 18 percent of net bank credit has been stipulated for the sector. The Approach Paper to the Eleventh Five Year Plan has set a target of 4 percent for the agriculture sector within the overall GDP growth target of 9 percent. In this context, the need for affordable, sufficient and timely supply of institutional credit to agriculture has assumed critical importance.

*Assistant Professor of Economics, Economics Wing, DDE, Annamalai University, Annamalai Nagar-608002

Importance of Institutional Credit

Institutional agencies alone can assess the value of land and the exact financial needs and the repaying capacity of the farmers can be judged by qualified staff of the institutions. Secondly, the money-lender's web can be avoided only through the fair practice in the institutions.

Thirdly, institutional agencies alone can supervise the use of loan and also avoid diversion of loans for unproductive channels. Fourthly, institutional agencies look after the welfare of the farming community by encouraging them to save more and to increase their standard of living and Fifthly, institutional agencies have appointed extension officers. These officers make the credit program successful and also enhance agricultural production. So, for the development of agriculture, the role of institutional agencies is essential.

Institutional Credit to Agriculture

Year	Institutions							
	Co-op.	Share	RRBs	Share	Commercial	Share	Total	Percentage
	Bank	(%)		(%)	Banks	(%)		Share
1995-96	3874	55	---	---	3131	45	7005	---
1996-97	4207	52	---	---	3809	48	8016	14
1997-98	4420	52	---	---	4009	48	8429	5
1998-99	4851	53	---	---	4233	47	9084	8
1999-00	5082	52	---	---	4719	48	9801	8
2002-03	3408	39	---	---	5438	61	8846	-10
2003-04	5800	52	596	5	4806	43	11202	27
2004-05	9378	62	831	5	4960	33	15169	35
2005-06	10117	61	977	6	5400	33	16494	9
2006-07	9406	50	1083	6	8255	44	18744	14
2007-08	10479	48	1381	6	10172	46	22032	18
2008-09	11944	45	1684	6	12783	48	26411	20
2009-10	14085	44	2040	6	15831	50	31956	21
2010-11	15916	43	2538	7	18443	50	36897	15
2011-12	18363	40	3172	7	24733	53	46268	25
2012-13	20801	39	4219	8	27807	53	52827	14
2013-14	23604	38	4854	8	33587	54	62045	17
2014-15	23716	34	6070	9	39774	57	69560	12

Up to December 2015

Source: Economic Survey and NABARD, Various Issues.

However, the growth of direct finance to agriculture and allied activities witnessed a decline in the 2000s (8 percent) as compared to the 2008s (14 percent) and 2010s (around 21 percent). Furthermore, a comparative analysis of direct credit to agriculture and allied activities during 2000s and since 2010s reveals the fact that the average share of long-term credit in the total direct finance has not only been much lower but has also decelerated (from over 38 percent to

around 36 percent), which could have a dampening effect on the agricultural investment for future growth process.

Nature of Finance Needed

The farmer may need finance for short-term, medium-term or long-term purposes as mentioned below:

- Short-term Finance
- Medium - Term Finance
- Long Term Finance

Source of Agricultural Finance

The effective demand for credit is evidently conditioned by the availability of credit and the amount and pattern of the demand for credit would be different if the credit structure and conditions of loans were altered. Accordingly, an analysis of the supply side of credit also becomes imperative in connection with any survey of credit requirements.

In India, there are various agencies, both private and institutional, giving credit to farmers for agricultural purposes. Money lenders and traders represent the most important private agencies. The two major institutional agencies are the co-operative and commercial banks, although the State Government's have also been financing farmers through various departments. Long-term credit has been primarily the function of agencies specializing in investment financing the co-operative land mortgage banks and land development banks. Commercial banks have also, of late, taken to long-term financing of agriculture.

Benefits of the Scheme

- Co-ordinated Development
- Joint Participation
- Creation of a Link
- Implementation of Government Programmes
- Identification of Potential Areas
- Rural Credit Facility
- Co-ordination of Development Programmes

However, to bring the Lead Bank Scheme effectively at the village level, the Government has introduced the „Service Area Approach“ to development. Under this scheme, the plans are prepared village wise instead of district-wise.

Statement of the Problem

Like other industries, agriculture also requires capital. Small farmers and marginal farmers need credit since their capital is locked up in their loans and stock. They need funds to meet their operational expenses. Their credit need is high at the time of crop season. Millions of farmers are depending upon marginal and subsistence farming. Due to low yield, they are not in a position either to have surplus for distribution or at times even to continue the production process successfully and economically. Due to these reasons they depend mostly on credit even for normal agricultural operations and have to pay a part of their income by way of interest later.

Thiruvallur district has a number of villages and possesses large areas of agricultural lands. Agriculture is the main occupation of the rural population in the district. So, an in-depth analysis of these problems and issues becomes essential. This is the reason for selecting the commercial banks in providing agricultural credit in Cuddalore district.

Objectives

1. To study the trend and growth of the loans issued recoveries of loans, outstanding loans and over dues of commercial banks in the Cuddalore district.
2. To study the impact of credit on farm income distribution.
3. To analyze the factors responsible for over dues position of farmers.
4. To suggest suitable remedial measures for recovery of over dues.

Limitations

No records were maintained in the farms studied. Hence, the cost and return particulars were obtained orally from the farmers. The accuracy was limited by their recall bias. However, to minimize the lapses of memory, suitable cross checks and rechecks were made so that the final figures arrived at were more or less dependable.

Methodology

Designing a suitable methodology and the selection of proper analytical tools are important for the meaningful and useful analysis in any research undertaking. In this section, an attempt has been made to describe the methodology which includes the reasons for the choice of the study area, sample design, period of study, the method adopted for the collection of data, method of analysis and tools of analysis.

Sample Design

The stratified multistage random sampling technique has been adopted for the study taking Cuddalore district as the universe, blocks as the stratum, villages as the primary unit and the beneficiary farmers as the ultimate unit.

In Cuddalore district, there are 248 commercial bank branches, which have been providing agricultural credit to the farmers under a Lead Bank Scheme namely Indian Overseas Bank. A list of the borrowers from each block was obtained from the records of Lead Bank for the year 2013-14. Thirteen blocks namely Annagramam, Bhuvanagiri, Cuddalore, Kammapuram, Kattumannarkoil, Keerapalayam, Komaratchi, Kurinjipadi, Mangalur, Nallur, Panruti, Parangipettai and Vriddhachalam. Blocks each block which has the highest number of beneficiaries were selected for primary data collection. A total of 600 borrowers were randomly selected from 13 villages by adopting the proportionate random sampling technique.

Analysis of Data

Characteristics of the Sample Farmers

The socio-economic background of the sample farmers is the key factor that exerted the influence on the farmers to use credit into a productive form. Though there are many socio-economic factors, this study confines itself to age, education family size, operational holdings, cropping pattern and experience in farming.

Age-wise Distribution of Sample Farmers

The most important factor is the age of the head of the family who is normally engaged in agricultural operations. The table-1 shows the age-wise distribution of the sample farmers.

Table-1
Age-wise Distribution of Sample Respondents

Age (in years)	Large	Small	Total
Less than 30	38 (10.33)	24 (10.35)	62 (10.34)
30 – 40	254 (69.02)	156 (67.24)	410 (68.33)
40 and above	76 (20.65)	52 (22.41)	128 (21.33)
Total	368 (100)	232 (100)	600 (100)

Source: Computed from Primary Data

From Table-1 it has been revealed that nearly 70 percent of the respondents are in the age group of 30 to 40. The age group of 30 to 40 is relatively higher in the case of large farmers group (69.02 percent) while it is only 67.24 percent in the small farmer's group to their respective total. The farmers below 30 years constitute only 10.34 percent to the total. Those above 40 years from 21.33 percent only.

Literacy Level

Literacy levels of the farmers influence the rational use of credit. The distribution of sample respondents based upon their literacy levels are shown in Table 2.

Table-2
Literacy Level of Sample Respondents

Literacy Level	Large	Small	Total
Illiterate	64 (17.39)	36 (15.52)	100 (16.67)
School Level	184 (50.00)	138 (59.48)	322 (53.67)
College Level	106 (28.80)	32 (13.79)	138 (23.00)
Professional and Others	14 (3.81)	26 (11.21)	40 (6.66)
Total	368 (100.00)	232 (100.00)	600 (100.00)

Source: Computed from Primary Data

From the Table-2 it has been inferred that 53.67 percent of the farmers in the study area have an only school education, followed by those with college-level education and illiterates namely, 23.0 and 16.67 percent to the total. The school level education percentage is higher among small farmers group (59.48 percent) than among large farmers group (50 percent) in the case of college-level education, the large farmers have a higher percentage (28.80 percent) than those who are in the small farmer's group.

Family Size

The family size has been the most important factor in planning the capital requirements in farming operations. The family size of the farmers includes the total family members in the present set up whether they are in a joint or nuclear family. Table 3 presents the family size of large farmers group and small farmers group.

Table-3
Family Size of Sample Respondents

Family Size	Large	Small	Total
Less than 4	48 (13.04)	22 (9.48)	70 (11.67)
4 – 6	80 (21.74)	62 (26.72)	142 (23.67)
6 – 8	142 (38.59)	72 (31.04)	214 (35.66)
8 and Above	98 (26.63)	76 (32.76)	174 (29.00)
Total	368 (100.00)	232 (100.00)	600 (100.00)

Source: Computed from Primary Data

It has been observed from the Table-3 shows that nearly 88 percent of the farmers have a family size of more than 4 members while only 29 percent of the farmers have a family size of

more than 8. The major dominant family size in the case of large farmers group is 6-8 which constitutes 38.59 percent to the total while in the case of large farmers group, it is above 8 members which constitute 32.76 percent to the total. The use of family labor was more in the case of beneficiaries group when compared to the large farmer's group.

Number of Family Members Engaged in Cultivation

Family labor has been the most important factor that determines productivity. The reason is that they work hard and sincerely irrespective of the time spent on farms. It minimizes the cost of production. The number of family members in sample farms engaged in cultivation is presented in Table-4.

Table-4
Number of Family Members Engaged in Cultivation

Number of Members	Large	Small	Total
Below-2	172(46.74)	112(48.28)	284(47.33)
2- 4	106(28.80)	80(34.48)	186(31.00)
4-6	64(17.39)	26(11.21)	290(15.00)
Above 6	26(7.07)	14(6.03)	40(6.67)
Total	368(100.00)	232(100.00)	600(100.00)

Source: Computed from Primary Data

It has been revealed from the Table-4 that 47.33 per cent of the sample farms have utilised 1 to 2 members of their family in cultivation, of which 48.28 percent worked in small farmers group and 46.74 percent in large farms respectively and 31.00 percent have utilized 2-4 members in cultivation, of which 28.80 percent worked in large farmers group and 34.48 percent in small farmers group. Large farmers group used more family labor than the small farmer's group.

Size of Operational Holdings in Sample Farms

The size of operational holdings is one of the major influencing factors on the decision regarding crop, the selection of buyers for the different crops produced and also optimum utilization of resources. Table-5 shows the distribution of farms according to the size of operational holdings.

Table-5
Size of Operational, Holdings in the Sample Farmers

Size of Holding (in acres)	Large	Small	Total
Less than 1	94(25.54)	64(27.59)	158(26.34)
1 - 2	86(23.36)	52(22.41)	138(23.00)
2 - 5	72(19.57)	38(16.38)	110(18.33)
5 - 8	78(21.20)	48(20.69)	126(21.00)
8 and Above	38(10.33)	30(12.93)	68(11.33)
Total	368(100.00)	232(100.00)	600(100.00)

Source: Computed from Primary Data

It has been inferred from Table-5 that 67.67 percent of operational holdings are below 5 acres. The remaining 32.33 percent belong to above 5 acres. Among the large farmer's group, the dominant operational holdings are less than one acre which is 25.54 percent followed by 1 – 2 acres. Small farmers group also have less than one acre which is 27.59 percent to the total.

The Analytical Framework

In order to analyze the trend and growth of the amounts of credit issued, recoveries made, outstanding debts and over dues, the following semi-log trend equation was been fitted.

Trend and Growth of Agricultural Credit

The details regarding the number of loans issued, recoveries made, outstanding dues and over dues for a period of eleven years from 2004-05 to 2013-14 by the Commercial banks in Cuddalore district is shown in Table and Figure.

Table-6
Loans issued Recoveries, Outstanding and over dues of the Commercial Banks during the Period 2005-06 to 2013-14.

Year	Loan Issued	Recoveries	Outstanding	Over Dues
2004-05	237.15	90.15	39.69	147.22
2005-06	243.16	92.22	30.15	150.11
2006-07	239.24	95.14	32.42	146.14
2007-08	268.15	99.24	30.42	168.15
2008-09	299.24	113.42	37.46	186.16
2009-10	350.11	163.42	43.62	188.62
2010-11	349.26	137.11	44.21	212.64
2011-12	375.11	139.41	45.15	236.15
2012-13	398.14	153.14	47.24	245.14
2013-14	413.45	159.69	45.11	254.16
Mean	319.29	126.56	39.23	193.33
S.D	65.12	28.92	6.30	39.40
C.V. %	20.40	22.85	16.06	20.38

Source: Computed from Primary Data

Table-6 shows that the loans issued by the commercial bank during the period 2004-05 to 2013-14 had steadily increased. The loans issued during the year 2004-05 were Rs.237.15 lakhs and it had increased to Rs.413.45 lakhs during the year 2013-14. Similarly, the recoveries, outstanding and over dues had also recorded an increasing trend during the entire period of 10 years. Table 6 reveals that the average amount issued, recovery, outstanding and over dues over the period from 2004-05 to 2013-14 were found to be Rs.319.29 lakhs, Rs.126.56 lakhs, Rs.39.23 lakhs, and Rs.193.33 lakhs respectively. A high fluctuation was found in recovery whereas low fluctuation was observed for outstanding over the period.

Table-7

Trends and Growth of Loans Issued, Recoveries made, Outstanding and over dues of the Commercial Banks during 2005-06 to 2013-14.

Variable	Trend Co-efficient		R2	Compound Growth Rate (%)
	A	B		
Loans issued	5.37	0.0614* (12.66)	0.94	6.33
Recoveries	4.42	0.0632* (5.74)	0.76	6.53
Outstanding	3.43	0.0376* (3.40)	0.51	3.84
Overdue	4.88	0.0603* (15.72)	0.96	6.22

Figures in brackets represent t – values

* Statistically significant at 5 percent level

It has been inferred from Table-7 that the trend coefficient of loans issued and recoveries made was found to be statistically significant at the 5 percent level. It implies that the loans issued and recoveries made had increased at the rate of 0.0614 percent and 0.0632 percent per annum.

The compound growth rate of loans issued and recoveries made was only 6.33 percent and 6.53 percent.

As regards the outstanding and Overdue, the trend coefficient was also found to be statistically significant. The compound growth rate was found to be high in recovery amounts followed by the growth rate in loan issued. It could be inferred from this analysis that the financial institution, namely, Indian Overseas Bank (IOB) in the study area, had issued considerable amounts of loans to meet the growing financial needs of the farmers in the study area. Further, the recovery performance was also found to be satisfactory in the study area.

Investments on Draught Cattle and Milch Animals

Farm livestock included drought cattle; and, milch animals namely cows, buffaloes calves and heifers. Table 7 shows the Investment on drought cattle and milch animals per farm during the period under study.

Table-8

Investment of Credit on Drought Cattle and Milch Animals (Per Farm) by the Beneficiaries

Size Group	Number of Farmers	Drought Cattle	Milch Animals		Total
			Cows	Buffaloes	
Large	232	739.99 (43.81)	949.12 (56.19)	-	1689.11 (100)
Small	368	676.11 (32.63)	1396.04 (67.37)	-	2072.15 (100)
Overall	600	735.99 (38.23)	1189.11 (61.77)	-	1925.10 (100)

Source: Computed from Primary Data

From Table-8 it has been revealed that investments on drought cattle and milch animals per farm were made on the basis of the size of the farms. The total investments made on drought and milch animals by small farmers were found to be Rs.2072.15 which were higher when compared with the large farmers in the study area. Investments made on drought and milch animals by the small farmers were found to be Rs.676.11 and Rs.1396.04 respectively. In the case of large farmers, it worked out to Rs.739.99 and Rs.949.12 for the drought animals and the milch animals respectively.

The Capital Investment Scale

Since there was no standard scale that was readily available for measuring the capital investment in agriculture, a scale, known as the 'capital investment scale' was constructed with the help of ten identified components of capital investment and a score of ten was assigned to each of the ten components. The following table is useful in this context.

Table-9
Components of Capital Investment Scale and the Scores Assigned to Each one of The Components

S. No.	Component	Score
1.	Farm Land	10
2.	Land Improvement	10
3.	Digging and repair of wells	10
4.	Farm equipment, tools, and machinery	10
5.	Investment in mechanical power	10
6.	Farm buildings, cattle sheds and the like	10
7.	Farm livestock	10
8.	Farm poultry	10
9.	Development of other irrigational sources	10
10.	Transport and storage facilities	10
	Total	100

Source: Computed from Primary Data

It has been observed from Table-9 that the components of capital investment scale and the scores assigned to each one of the ten components. The first component was identified as the farmland and a score of ten was assigned to it. The increase in the value of agricultural land was calculated, by assuming the previous year's value as 100 and the geometric mean for the growth for five years (2005-06 To 2013-14) was calculated. The highest geometric mean was assigned ten scores.

Summary of Findings, Conclusions, and Suggestions

It was observed from the trend analysis made that the trend coefficients of the loans issued were found to be satisfactorily significant at the 5 percent level. It could be noted that the commercial banks in the study area were performing well in issuing loans. The value of the

compound growth rate had shown a positive growth rate (6.33 percent). Regarding the recoveries made, outstanding and Overdue, there was no change in the trend over a period. Thus it could be concluded from the analysis carried out that the commercial banks in the study area had issued a considerable amount of loans to meet the ever-growing financial requirements of farmers in the study area.

It was also observed that the percentage of area irrigated by the large farmers was higher compared to that of the small farmers. Tanks were found to be the major source of irrigation followed by pump sets and tube wells, in the study area. The analysis revealed that the cropping intensity was found to be higher in the case of large farmers compared to the small farmers. Thus it might be concluded that the higher cropping intensity for the large farmers had indicated a positive impact of agricultural credit on the land use pattern.

Conclusions

Thus it could be concluded that the marginal farmers had performed well not only in the prudent investment they had made on the financial and physical assets but also in the better and more efficient utilization of factors and inputs in the study area. Agricultural credit, particularly commercial bank credit, promoted agricultural inputs to meet their various day-to-day agricultural expenses. Besides, it had also motivated them to adopt intensive methods of cultivation. It could also be inferred that the recovery performance which was found to be better in the study area, had in its turn induced the effective functioning of the Lead Bank in the study area.

Suggestions

- Agriculture in India, viewed as a way of life, was not considered a productive proposition by the socially, economically and technologically backward population. The inter-sectoral mobility of personnel, resources, and technology was very limited and it had created a vicious circle of technological isolation in the agricultural sector.
- It is suggested that there should be an increase in the levels of investment made by the farm households engaged in the agricultural sector and more particularly by the small farmers.
- It is suggested that steps should be taken to enhance the rate of public sector investment in the agricultural sector, which in its turn will motivate a higher level of private sector investment.
- It is suggested that farmers training camps and training programs may be conducted at the village level, periodically or at regular intervals of time.

- There is a need for simplification of procedures for recovery of Overdue of the commercial banks.
- There is a need for collecting, compiling, tabulation of data relating to recovery of Overdue made from time to time.
- Extension of repayment period in terms of successive crop failure due to natural calamities also is required.
- Fixing appropriate due dates in relation to crop calendar ensuring timely disbursement and recovery of loans is advisable.
- It is earnestly felt that the findings arrived at, and the valid suggestions made, in the wake of intensive study of agricultural credit with reference to commercial banks in the Cuddalore district of Tamil Nadu carried out by the present writer will go a long way in enhancing the socio-economic level of farmers not only in the study area but all also over the entire country.

References

1. Agarwal and Kundanlal, Rural Economy of India, Vikas Publishing House Pvt. Ltd., New Delhi, 1990.
2. Berkeley Hill and Derik Ray, Economics of Agriculture, Food, Farming and Rural Economy, Prentice Hall of India, 1987.
3. Desai, A Study of Rural Economics and Credit, Ashish Publishing House, New Delhi, 1981.
4. Dhawan, B.D., Studies in Agricultural Investments and Rural Savings, Common Wealth Publishers, New Delhi, 1998.
5. Dhnodyal, S.P. and Tandon, R.K., Principles, and Methods of farm management, Achal Prakashan Mandir, Kanpur, 1967.
- Heady, E.O. and Dillon, J.L., Agricultural Production Functions, Kalyani Publications, Ludhiana, 1961.
7. Herrick, J., Rural Credit, Asia Publishing House, Bombay, 1953.
8. Hopkin, J.A., Barry, P.G. and Baker, C.B., Financial Management in Agriculture, The Interstate Printer and Publisher, Inc., New York, 1973.
9. Ishwar C.Dhingara, The Indian Economy, Environment and Policy, Sultan Chand and Sons, Mumbai, 1997.
10. Madani, G.M.K., Introduction to econometrics, Principles and Applications, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 1988.
11. Mathur, B.S., Co-operative in India, Sahitya Bhavan, Agra, 1994.
12. Mellor, J.W., The Economics of Agricultural Development, Asia Publishing House, Bombay, 1992.
13. Melvin, G. Blasé, Institution in Agricultural Development, The Iowa State University Press, Amer, 1971.

Journals

1. Agarwal, M.L. and Kumawat, R.K., "Potentialities of Increasing farm income Through Credit and NewTechnology", Agricultural Situation in India, Vol.28, No.9, 1974.
2. Alphaville, M.S., Yadav, K.S. and Mishra, J.P., "Green Revolution and Short Term Co-operative Credit – A Study in Two Districts of Madhya Pradesh", Indian Journal of Agricultural Economics, Vol.26, No.1, 1971.
3. Anderson, J.R. and Joblhs, N.S., "Cobb-Douglas and Related Myths", Economic and Political Weekly, Review of Agriculture, June 1973.
4. Ashok Gulati and Seema bathala, "Capital Formation in Indian Agriculture", Economic and Political Weekly, vol.XXXVI, No.20, May 19, 2001.
5. Banker, C.P. and Holcomb, J.M., "the emerging Financial Problems in changing Agriculture", Journal of Farm Economics, Vol.46, No.5, 1969.
6. Bedi, I.S. and Saxena, P.B., "Improved Agricultural Practices: Behaviouristic Pattern of Farmers in Punjab and Uttar Pradesh", A.I.C.C. Economic Review, Vol.16, No.21, 1965.
7. Bhargava, V.K. and Shah, S.L., "AStudy of Credit Requirements and Advances to Farmers in Patiala district", IndianJournalofAgricultural Economics, Vol.23, No.3, 1968.
8. Chitranjan, "Credit Rationing – A Perspective", Financing Agriculture, Vol.XVIII, No.324, July-December 1986.