# REPAYMENT CAPACITY ANALYSIS OF CREDIT PROVIDED BY NABARD: AN ANALYTICAL STUDY IN CONTEXT OF RAJASTHAN ECONOMY

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#### **ABSTRACT**

As NABARD is an apex institution for developing the primary and allied sector with rural development. In India, most of the people live in rural area and depend on agriculture and other related activity. As Rajasthan is the largest state in country with a geographical area of 3.42 lakh sq. km after the partition of Madhya Pradesh. The economy of Rajasthan is based on agriculture. For analysing the contribution of primary and allied sector towards Rajasthan economy the study of development banking institution, become necessary. Indian Economy is a developing economy where is a predominantly agrarian state and economy of Rajasthan is agriculture based economy. A continuous research is needed to analyse the role of NABARD in the economic development of Rajasthan. Under this research study, various level of utilisation of loan has been discussed with the various level of repayment and furthermore the components, which are responsible for affecting the repayment capacity, also analysed with statistical tool and presented in the context of Rajasthan economy.

Keywords: NABARD, Rajasthan Economy, Credit Facility Repayment of Loan.

## Introduction

The economy of Rajasthan based on agriculture, animal husbandry and rural industries is developing economy. After partition of Madhya Pradesh Rajasthan became the largest state in the country on the basis of area and the situation of Rajasthan in the north-western part of the country with a geographical area of 3.42 lakh sq. km. This state is surrounded by the states of Punjab, Haryana and Uttar-Pradesh in the north-east, Madhya Pradesh in the south-east and Gujarat in the south-west. The total population of Rajasthan increased to 6.85 crore in 2011 that was 5.65 crore in 2001. The decadal growth rate of 21.30 per cent is higher than the national average of 17.64 per cent in term of population. A predominantly agrarian state has 7 Divisions and 33 revenue districts.

The natural and human resources available in the state have not been fully absorbed due to lack of capital, lack of technical knowledge, administrative inefficiency and lack of proper planning. Hence the general public are not fully advantaged of it. Although the state has achieved partial success in solving the problems of agriculture, poverty, unemployment, price rise etc. due to the government efforts and planned development. Still there are many areas where there is a lot to be done, such as roads, irrigation, water- Solutions for power projects, marketing, insurance, agricultural finance etc. are

For financing agricultural and rural development NABARD is the highest institution NABARD provides refinance and direct finance through state co-operative banks, regional rural banks, commercial banks etc. Therefore, continuous research regarding role of NABARD towards economic development with repayment capacity in context of Rajasthan is needed.

Under this research study, various level of repayment of loan has been discussed with the components affecting the repayment of loan.

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#### Credit Structure of NABARD

In March 1979, a committee under the chairmanship of Shri V. Shivaraman was constituted by the Reserve Bank of India. On November 26, 1979, a report was submitted by such committee in which it was advised to set up National Agricultural and Rural Development Bank and on July 12, 1982, the Government of India passed a bill to set up the National Bank for Agricultural and Rural Development (NABARD).

NABARD gives instructions regarding different types of services for the purpose of rural credit institutions for agriculture and non-agricultural activities in rural areas and for the purpose of agricultural facilities, agricultural mechanization, animal husbandry, horticulture etc. in rural areas various types of schemes are being operated and executed by NABARD to provide refinance to banks.

Credit facility/Refinance is provided by NABARD as follows:

- Short-term and Med-term Debt: At present, modern farming is done, which is different from traditional agriculture. Modern agriculture requires high quality seeds, fertilizers, agricultural equipment. In such a situation, credit should be coupled with productivity and other services in the debt system. Hence, crop loan system and production oriented system has been developed for the distribution of scale of production loan for this purpose. NABARD provides refinance to the State Co-operative Banks, Regional Rural Banks on concessional interest rate through approval of loan limit for seasonal agriculture operations. This short-term loan is repaid within 12 months of the withdrawal. In addition to this, the farmers whose crops have been damaged due to natural calamities, NABARD has provided facilities to convert their existing short term agricultural loans into mid-term loans and re-recapitalization of the current mid-term loan and rescheduling the repayment period of the loan. For which, the consolidated limits are sanctioned to the State Cooperative Banks in relation to the regional rural banks and eligible district intermediate co-operative banks.
- Long Term Debt: The main objective of long-term debt is to build capital while creating assets through various activities. This leads to an increase in production, productivity and incremental income of farmers and entrepreneurs. These long term loans are usually given for 3 to 15 years for the purpose of minor irrigation, agriculture machinery, dairy development, farming, animal husbandry, bio-gas, land development, planting and storage etc.

## Review of Literature

A study by Sidhu, M.S. (1985) evaluated the impact of bank lending on the standard of living of agricultural labourers, marginal farmers and small farmers. They stated that loans brought about a qualitative change in the relative contribution of different sources of gross household income of sample beneficiaries and level of income of the loaners rose. The study revealed that there has been a considerable improvement in the consumption pattern of beneficiaries.

A study carried out by Yadav, A.K, and Singh, B.N., (1996) on the impact of institutional credit on the levels of investment, income and employment on different groups of farms. The study indicated that income and employment levels were found to have increased with the increase in investment levels in farms. The overall average income and employment came to Rs.4120.10 and 138.85 days on borrower farms and Rs, 3571.91 and 129.52 days on non-borrower farms, respectively.

According to Kewal Kumar, (1987) Agricultural credit is a nucleus of the system of farm operation. Adequate and timely credit to the farmers is, therefore, vital and indispensable for the rehabilitation and progress of agriculture. Credit of the right quantity and of the right kind immensely contributes to agricultural development-once the match-stick of credit ignites the flame better managerial skill sustain it and a holy process of one inducing the other and covering all comes into effect. Thus, the role of credit consists in laying foundation stone of farm revolution and maintaining structure built upon it.

**Mohana Rao, L.K. (1985)** examined the impact of bank finance on income and cropping pattern. They found that changes in the cropping pattern not only depended on the availability of loan but also other factors like irrigation, soil type, relative profitability of the competing crops.

**Patel R.H, (1987),** examined the purposes and utilisation of credit among different categories of farmers. According to them, on an average about 70 percent of the available credit was used for productive purposes and about 30 percent was diverted to non-productive uses. The extent of use for unproductive purposes was the highest among large farmers and lowest in case of small farmers. They further added that among the productive purposes, crop loan, which accounted for the highest

percentage of the total credit, was most dominant, whereas among the non-productive purposes, family expenses had the highest share in the total advances for all the cases except for the small farmers.

According to Lalthia N. and Dayanandan R.(Jan 2005): NABARD has been established with the mission for promoting sustainable and rural development with equitable agriculture through effective credit support, related services institutions building and other innovative initiative.

**Mehrotra (1987),** pointed out in an inter-district analysis of 'Institutional credit and agricultural Growth in Rajasthan' that during the green revolution period the rate of growth of institutional credit, agricultural and food grain output, have been high for providing credit.

**Agrawal A.N.**, **(1986)** stated that agriculture is backbone and the most vital sector of the Indian economy. However, during the last four decades, the industrialization has received the pace but even today; agriculture occupies the place of pride because 70 percent of the population associated with agriculture and depends for livelihood, which makes the agriculture as the largest industry in country.

# **Research Methodology**

This research has been conducted based on following points:

## Objectives

The following objectives are considered under this study,

- To analyze refinance police of NABARD in context of Economy of Rajasthan.
- To present the various level of repayment of loan.
- To discuss the various reasons for fully and partly repayment of loan.
- To explore the feedback of beneficiary of NABARD.
- To discuss the factors affecting the repayment of loan and provide suggestions.

# Hypothesis

The following hypothesis are taken under this research,

- **H0**<sup>1</sup> All age group means are equal in respect of repayment of loan.
- **Ha**<sup>1</sup> All age group means are significantly different in respect of repayment of loan.
- H0<sup>2</sup> All group means of type of family are equal in respect of repayment of loan.
- Ha<sup>2</sup> All group means of type of family are significantly different in respect of repayment of loan.
- H0<sup>3</sup> All group means of area of land occupied by beneficiaries are equal in respect of repayment of loan.
- **Ha**<sup>3</sup> All group means of area of land occupied by beneficiaries are significantly different in respect of repayment of loan.
- H0<sup>4</sup> All group means of family members engaged in agricultural sector are equal in respect of repayment of loan.
- **Ha**<sup>4</sup> All group means of family members engaged in agricultural sector are significantly different in respect of repayment of loan.
- **H0**<sup>5</sup> All group means family income are equal in respect of repayment of loan.
- **Ha**<sup>5</sup> All group means of family income are significantly different in respect of repayment of loan.

## • Data Collection

This research study is based on primary data. For the collection of data, an opinion survey was conducted through questionnaire among the 300 customers/beneficiaries of commercial banks, cooperative banks and regional rural banks.

## Research Technique

Under this research study Anova test has been applied for analysis of data/feedback received from respondents.

## **Data Analysis**

The main objective of NABARD is to provide refinance or credit facility for agriculture and allied activities and rural development so a critical evaluation of the credit available by NABARD becomes necessary therefore, in order to know the impact of NABARD on the Rajasthan economy this study has been divided in two parts.

First part shows the kinds of beneficiaries on the basis of level of utilisation as well as repayment of loan approved to them with reasons which are fully repaid, partly repaid and not repaid, and under the another part of study the various factors have been discussed which may be responsible for affecting the level of utilisation of loan.

# The Repayment of Loan

The productive use of loans by farmers gives more productivity and provides better economic conditions by which their living standard is improved. The various level of utilisation of loan by beneficiaries is being discussed in the following table 1.

**Table 1: Utilisation Level of Credit by Beneficiaries** 

Level of Utilisation	No. of Beneficiary	Percentage		
Fully Utilised	153	51		
Partially Utilised	120	40		
Not Utilised	27	9		
Total	300	100		

Source: Primary Data

It is evident from the above table that 51% of the samples were fully utilized the loan for that purpose for which the loan was sanctioned to them. Only 40 present of sample partially used of their sanctioned loan for the purpose, and 9 percent of the loan was not used for productive work at all.

In addition to productive works, using of loans by borrowers for other activities are being shown in the following table 2, according to which 23.81 percent was spent on domestic consumption, 16.33 percent used to settle old loans, 6.80 percent Spent on medical treatment of family members. Apart from these, the expenditure on social customs, expenditure on marriage and 15.65 per cent, and 9.52 per cent of the loans taken by samples of individuals respectively were utilized.

Table 2: Use of Loan for other Works

Details/Object	No. of Beneficiary	Percentage
Construction of Residential Property	19	12.93
Repayment of old loan	24	16.33
Expenditure on marriage	14	9.52
Expenditure on health of family member	10	6.80
Acquisition of land	16	10.88
Expenditure on domestic consumption	35	23.81
Expenditure on Social/ Traditional activities	23	15.65
Other	06	4.08
Total	147	100

Source: Primary Data

By observing the above table, it is clear that most farmers or indebted persons have spent on repaying the expenditure on domestic consumption and old loans.

Generally the utilisation level of credit directly affects the repayment capacity of beneficiary. Hence, to analyse the actual reasons responsible for affecting the repayment capacity the study based on statistical tool and research technique become necessary. For this purpose first the various levels of repayment are being discussed under the table 3.

**Table 3: Repayment of Credit** 

Level of Utilisation	No. of Beneficiary	Percentage
Fully Repaid	61	20.33
Partially Repaid	115	38.33
Not Repaid	124	41.34
Total	300	100

Source: Primary Data

As per above it is cleared that out of total 300 beneficiary only 61 repaid the sanction amount of loan/credit completely, 115 repaid partly but no amount was repaid by remaining 124. Now besides the level of repayment the reasons for fully repayment, partly repayment and non-repayment are being presented through the next three tables 4, 5 & 6.

Table 4: Reasons for Fully Repayment

Reasons	No. of Beneficiary	Percentage
Sanction of loan on time	10	16.39
High Productivity	16	26.23
Expectation of loan in future	12	19.67
Better market value of product	11	18.03
Get rid off Other	09	14.76
Other	03	04.92
Total	61	100

Source: Primary Data

The above table 4 shows the reasons, which caused for full repayment. According this highest number of beneficiary among 61 beneficiaries repaid full amount of credit due to high productivity further the expectation of loan/credit in future also motivated to fully repayment.

**Table 5: Reasons for Partially Repayment** 

Reasons	No. of Beneficiary	Percentage
Lack of other source of income	26	22.61
Payment of other loan	21	18.26
Unused repayment system	18	15.65
Insufficient income from agriculture	33	28.70
Apathy by bankers towards the loan collection	09	7.83
Other	08	6.95
Total	115	100

Source: Primary Data

**Table 6: Reasons for Non-Repayment** 

Reasons	No. of Beneficiary	Percentage
Low income from activity	39	31.45
Use of loan amount for other purpose	19	15.32
More Instalment	21	16.94
Lack of productivity due to natural calamites	32	25.81
Expectation of debt relief by government	13	10.48
Total	124	100

Source: Primary Data

Table 5 and table 6 belong to the persons who could not repay completely. After the study of both tables, it seems that productivity and earning is most responsible reason, which affected the repayment capacity. According to table 5, insufficient income from agriculture mostly affected the beneficiaries, they could repay partially, and 39 beneficiaries could not repay anything due to very low income from activity shown in table 6.

# Factors Affecting the Use of the Loan

As there are many components or factors which affect the repayment capacity of loan. To study the various components related to the repayment level of credit is also a very important task. For this purpose, an attempt has been made to explain the relationship between the repayment level of the loan and factors related to the repayment level of the loan. These components include various types of social, physical variables such as age, education, family size, land holding, number of persons engaged in agriculture and allied sectors, productive value, type of loan, loan amount, level of payment etc. that are described as under.

# Age of Beneficiaries and Utilisation of Loan

The beneficiaries associated with the repayment of loans in different age groups have been presented in the following table 7.

Table 7: Age of Beneficiaries and Repayment of Loan

Age of Beneficiaries								Total	
Level of Repayment	Be	low 35	35 35 to 50		Above 50		No.	Percent	
	No.	Percent	No.	Percent	No.	Percent			
Fully Repaid	08	16.33	27	16.17	26	30.95	61	20.33	
Partially Repaid	07	14.29	80	47.90	28	33.33	115	38.33	
Not Repaid	34	69.38	60	35.93	30	35.72	124	41.34	
Total	49	100	167	100	84	100	300	100	

Source: Primary Data

It is cleared from above table that 30.95% of the people in the age group of above 50 years have made full repaid the sanctioned loan adversely in the category of below 35 years, 69.38% failed to repay the loan sanctioned. For interdisciplinary study between age group and various level of repayment anova test has been applied based on following hypothesis.

**H0**<sup>1</sup> All age group means are equal in respect of repayment of loan.

**Ha**<sup>1</sup> All age group means are significantly different in respect of repayment of loan.

**Table 8: ANOVA Result** 

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Table Value
Between Groups	7.277	2	3.639	6.570	3.026
Within Groups	164.493	297	0.554		
Total	171.770	299			

### Result

According to the above table, the variance ratio is 6.570 which is more than the table value of 3.026, hence the null hypothesis is rejected which means there is a significant difference between the age of the beneficiaries and the repayment level of the loan.

# Type of Family of Beneficiaries and Repayment of Loan

The level of repayment of loan by beneficiaries related to the type of family like nuclear and joint family, has been presented in below Table 9.

Table 9: Type of Family and Repayment of Loan

Lovelof	Type of Family					Total		
Level of	Nuclear		J	oint	No.	Percentage		
Repayment	No.	Percent	ent No. Percent			_		
Fully Repaid	28	17.72	33	23.24	61	20.33		
Partially Repaid	74	46.84	41	28.87	115	38.33		
Not Repaid	56	35.44	68	47.89	124	41.34		
Total	158	100	142	100	300	100		

Source: Primary Data

In the above table the effect of the type of family of sample beneficiaries on the repayment level of the loan has been explained, according to which it is cleared that among the beneficiaries of the joint family, 23.24 percent of the people fully repaid the loans sanctioned to them. For studying the relationship between type of family and level of utilisation anova test has been used, for which hypothesis are the following:

**H0**<sup>2</sup> All group means of type of family are equal in respect of repayment of loan.

Ha<sup>2</sup> All group means of type of family are significantly different in respect of repayment of loan.

**Table 10: ANOVA Result** 

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Table Value
Between Groups	0.359	1	0.359	0.624	3.872
Within Groups	171.411	298	0.575		
Total	171.777	299			

# Results

According to the above table, the variance ratio is 0.624 which is less than the table value of 3.872, therefore the null hypothesis is accepted which means all group means are equal in other words there is no meaningful difference between the type of family of beneficiaries and the repayment of the loan.

## Land Holding by Beneficiaries and Repayment of Loan

The relation between level of utilisation of loan and the area of land occupied by the beneficiaries has been presented in the following Table 11.

Land occupied by beneficiaries Total Level of Below 3.5 Acer 3.5 to 05 Acer Above 05 Acer Percent No. Repayment No. Percent No. Percent No. Percent Fully Repaid 16.77 34 61 20.33 16 19.28 28 17 Partially Repaid 30 36.14 74 44.31 11 22 115 38.33 Not Repaid 37 44.58 65 38.92 22 44 124 41.34 Total 83 100 50 100 100 167 100 300

Table 11: Land Occupied by Beneficiaries and Repayment of Loan

Source: Primary Data

In the above table, the area of land occupied by the beneficiaries has been shown to know the effect on the utilization level of the loan, according to which it is cleared that 34% of the persons have made full repayment of the sanctioned loan out of the beneficiaries those occupied the land more than 5 acres. The majority of those beneficiaries who repaid partly the sanctioned loan to them are in category of beneficiaries those hold the land area of 3.5 acre to 5 acres, which is 44.31 percent of the total number of this class. Similarly under samples of people who are not repaying the loan at all the highest number of those beneficiaries by whom the area of land occupied below 3.5 acres is 44.58 percent of the total number of this category.

For studying, the relationship between the level of repayment of loan and area of the land occupied by the beneficiaries' statistical test anova test has been used on the basis of the following hypothesis.

H0<sup>3</sup> All group means of area of land occupied by beneficiaries are equal in respect of repayment of loan.

**Ha**<sup>3</sup> All group means of area of land occupied by beneficiaries are significantly different in respect of repayment of loan.

**Table 12: ANOVA Result** 

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Table Value
Between Groups	0.781	2	2.395	0.678	3.026
Within Groups	170.989	297	0.562		
Total	171.770	299			

# Result

Consequences of the above- According to the above table, the variance ratio is 0.678 which is less than the table value of 3.026, so the null hypothesis is accepted, meaning there is no meaningful difference between the area of land occupied by the beneficiaries and the use of the loan, in other words group means of area of land occupied by beneficiaries are equal in respect of repayment of loan.

# Members of the Beneficiary Family Engaged in the Agricultural Sector and Level of Repayment

The members belonging to the beneficiaries families engaged in the agricultural sector have been presented in below table 13 with the repayment of credit by the family of the beneficiaries.

Table 13: Associate Members in the Agricultural Sector of the Beneficiary Family and Level of Repayment

Level of	Members	Members of the beneficiary family engaged in the agricultural sector						Total	
	Less	Less than 03		03 to 05 More than 05		No.	Percent		
Repayment	No.	Percent	No.	Percent	No.	Percent			
Fully Repaid	19	24.05	21	15.67	21	24.14	61	20.33	
Partially Repaid	20	25.32	58	43.28	37	42.53	115	38.33	
Not Repaid	40	50.63	55	41.05	29	33.33	124	41.34	
Total	79	100	134	100	87	100	300	100	

Source: Primary Data

In the above table, we find that the number of engaged members belonging to the beneficial family has affected the level of repayment, according to this table it is cleared that 24.14% has made full repayment of the approved loan under the category of family member more than 05 belonging to the agriculture sector. The loan partly repaid by those beneficiaries, where 03 to 05 members engaged in the agriculture sector, which is 43.28 percent of the total number of this class. Similarly, the highest number of persons who not repaid the loan approved to them is of the category of those beneficiaries, whose

family members engaged in the agricultural sector is less than three, which is 50.63 percent of the total number of this class. To analyse the relationship between the numbers of members engaged in the agricultural sector and the level of repayment anova test has been used on the basis of following hypothesis.

H0<sup>4</sup> All group means of family members engaged in agricultural sector are equal in respect of repayment of loan.

**Ha**<sup>4</sup> All group means of family members engaged in agricultural sector are significantly different in respect of repayment of loan.

**Table 14: ANOVA Result** 

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Table Value
Between Groups	1.715	2	0.857	1.497	3.026
Within Groups	170.055	297	0.573		
Total	171.770	299			

### **Results**

According to the above table, the variance ratio is 1.497 which is less than the table value of 3.026, therefore the null hypothesis is accepted it means that there is no significant difference between the number of members involved in the agricultural sector and the repayment of the loan in other words all group means of family members engaged in agricultural sector are equal in respect of repayment of loan.

# **Family Income and Repayment Level**

The relationship between the use of the family's annual income and repayment of loan has been presented in the following table 15

Table 15: Family Annual Income and Repayment of Loan

Level of Repayment	Family Income and Repayment					Total		
	Less than 03 Lakh		3 to 5 Lakh		More than 5 Lakh		No.	Percent
	No.	Percent	No.	Percent	No.	Percent		
Fully Repaid	33	22	10	9.90	18	36.73	61	20.33
Partially Repaid	57	38	47	46.54	11	22.45	115	38.33
Not Repaid	60	40	44	43.56	20	40.82	124	41.34
Total	150	100	101	100	49	100	300	100

Source: Primary Data

According to above table it is cleared that 36.73 percent from the category of which the family income is more than Rs 500,000 fully repaid the loan approved to them 46.54 percent beneficiaries partly repaid the loan from the category of which the family income is more than Rs 300,000 but less than 5,00,000. For not at all repaid the highest number of the beneficiaries of the people is 60 whose family income is less than Rs 300,000 which is the 40 percent of this class. For studying the relationship between family income and level of repayment anova test has been used, for which hypothesis are the following:

**H0**<sup>5</sup> All group means family income is equal in respect of repayment of loan.

Ha<sup>5</sup> All group means of family income are significantly different in respect of repayment of loan.

**Table 16: ANOVA Result** 

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Table Value
Between Groups	3.157	2	1.579	2.781	3.026
Within Groups	168.613	297	0.568		
Total	171.777	299			

## **Results**

According to the above table, the variance ratio is 2.781 which is less than the table value of 3.026, therefore the null hypothesis is accepted which means all group means are equal in other words there is no meaningful difference between the family income of beneficiaries and the repayment of the loan.

### Conclusion

On the basis of above study we can conclude that the various demographic factor as well as level of utilization of loan has a significant impact on agricultural productivity, earning capacity, living standard of beneficiary and finally the repayment capacity of beneficiary is affected. Under this research study various factor have been discussed which are responsible to affect the repayment level.

Generally, the utilisation level of credit directly affects the repayment capacity of beneficiary but due to various reasons, the productivity by each beneficiary is not equal. In this research study as 51% beneficiaries utilised the sanctioned loan/credit completely whereas 40% partially utilised and 9% not utilised the loan approved to them but on the basis of table of repayment level it is cleared that out of 300 beneficiaries only 61 beneficiaries repaid and number of partially repaid and non- repayment is 115 and 124 respectively. The variation between utilisation level and repayment level shows that there are there are other reasons also which affected the repayment capacity and at the time study it it cleared that such various demographic factor are ;- age, land holding, family member engaged in agricultural activities, family income, and type of family.

To analyse the impact of demographic factor on repayment capacity anova test has been applied which presented that in the case of land holding, family member engaged in agricultural activities, family income, and type of family null hypothesis is accepted but in case of age group null hypothesis is rejected.

# References

- Agrawal.A.N. (1986) "App. in basic economic information" national publishing houses, New Delhi page 50,.
- Kewal Kumar, (1987), "Institutional Financing of Indian Agriculture", Deep and Deep Publication, New Delhi, pp.27-33.
- Lalitha N. and Dayanandan R.( 2005), "NABARD and Rural Transformation", New Delhi, dominant, ISBN 81-7888-292-2
- Mehrotra, S.R." Institutional Credit and Agricultural growth "Print well publisher, Jaipur,1987, pp. 286
- Mohan Rao, L.K., et al. (1985), "Impact of Bank Finance: A comparative study" Indian Cooperative Review, Vol.23, No.1, July 1985, pp.47-53.
- Patel, R.H. et al. (1987), "A study of utilization of Farm Credit", Indian Co-operative Review, Vol.25, No.1, July 1987, pp.93-101
- Punna Rao, P & Ch. Satyanarayan, (1990), "Credit Utilisation Pattern of small and marginal farmers of Grameena Bank", Land Bank Journal, Vol.24, Issue H, December 1990, pp.15-22.
- Sidhu, M.S., et al., (1985), "Impact of bank lending on weaker sections: A case study of Ludhiana District", Land Bank Journal, Vol.24, Issue II, Dec. 1985, pp. 29-36.
- Vaikunthe, L.D, (1991), "Agricultural Co-operative credit Utilisation and Recovery performance (A case study of KCC Bank, Dharwad)", Indian Co Operative Review, Vol. 29, No.1, July 1991, pp.39-43.
- Venkiteswaran, S and Janarthanan Pillai,B.R., (1991), "Utilisation of LongTerm Loans- A case study", Land Bank Journal, Vol. 24, Issue III, March 1991,pp.47-56.
- Yadav, A.K., and Singh, B.N., (1996), "Impact of Institutional Credit on Investment, Income and Employment in Farming- An Economic Analysis with Reference to Deoria District of Uttar Pradesh", Indian Co-operative Review, Vol.33, No.3, Jan 1996, pp.273-279.

