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Determinants of Rural Credit in Odisha: A Case Study in Bijepur Block of Bargarh District

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ABSTRACT

This study has been designed to examine the determinants of rural credit in Odisha. In rural India, most of people take loans from the various formal as well informal sources. The amount of credit depends upon its determinants such as the size of households, rate of interest, size of landholdings, and size of own residential plots basing on these determinants rural people draw credit, but because of not good return from their field, they are unable to repay on time. Thus, it's necessary to study the change in living patterns and their activities with the changing situation. Also need to change the utilization of credit, so that they would not face any problems of repayment of credit in future and have the right way of investing in their field for a good return. This study contains an introduction, objectives, methodology and the details of rural credit and its conclusion.

Keywords: Agricultural finance, Institutional and non-institutional credit sources, Rural credit

JEL Classification Codes: Q14

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I. INTRODUCTION

In country like India most of the rural people depend on credit, formal as well as informal credit. There are various types of formal credit which is sanctioned through the banks, consisting of short, medium and the long term credit. Different people prefer different terms of credit according to their needs. The problem of rural credit is just not only related to one or two individuals but it is passed on from generation to generation, taking or incurring credit for various purposes to satisfy the needs. In our country some people take loan for productive purposes and some others for unproductive purposes. However, debt

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is mostly incurred by the rural people for unproductive purposes such as to meet the family's needs, performing social functions (like rituals of marriage, birth, death), litigations, etc. Since the money is taken not for contribution to the production, instead for consumption, it drags rural people into indebtedness.

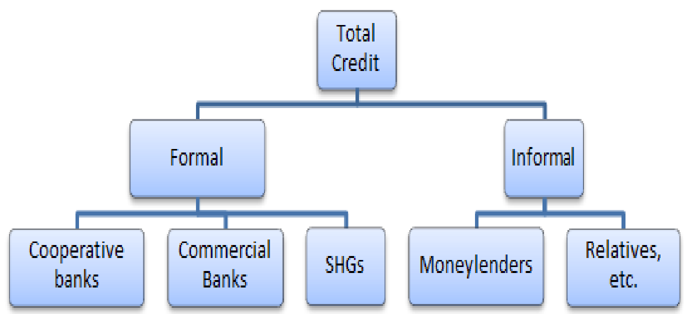

Figure-1: Sources of rural credit

Source: Authors' compilation from different sources

There are also various determinants to take loan from the banks such as size of households, average interest rate, size of cultivable land holdings, size of own residential plots, etc. With the help of these determinants people of the study area are taking loans, though it is not possible for them to repay the credit amount on time. Still people are taking loans to repay earlier loan. Thus, to clear these present loans, rural people incur the debts again. In this way, they are trapped in the clutches of credit, which is passed on from one generation to another and the result is same i.e. indebtedness. For many medium and small farmers, the agricultural production is so less and in many times due to drought and flood crops are destroyed that they are unable to provide for such of unproductive expenditure.

II. THE REVIEW OF LITERATURE

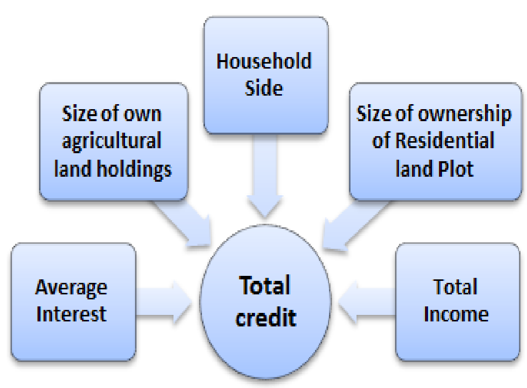

Figure-2: Determinants of Rural Credit in Odisha

Source: Authors' compilation from different sources

Singh and Toor (2005) in their study observed the agrarian crisis with special reference to indebtedness among Punjab farmers. The purpose for which a loan is taken is an important indicator of its potential for repayment. The highest debt was reported on unproductive purposes like marriages, social ceremonies, family maintenance and health care (Singh & Toor, 2005).

Nwaru, Essien and Onuoha (2011) have highlighted their study about the determinants of informal credit, demand and supply among food crop farmers in

Akwa Ibom state, Nigeria. Here a multistage sampling technique was adopted in selecting 96 credit users, arable crop farmers and 24 informal credit sources from 6 villages. In the line with the findings of the study, it was recommended that steps be taken for reducing the high interest rates charged by informal credit suppliers (Nwaru, Essien & Onuoha, 2011).

George (2013) has highlighted a study on the cost of delivering rural credit in India. Administrative costs are those which are directly attributable to the processing, delivering, and administering of loans with the objectives to develop an understanding of the true costs of credit delivery to rural customers and to compare these costs across the various channels. The model being explored here is that a bank has a total of Rs.100 million (Rs.10 crore) of credit that has to reach 10000 rural customers for an amount of Rs.10000 each, using a number of channels (George, 2013).

Godara, Singh and Singla (2014) have a study on the agriculture credit in India which is an analytical study with different objectives like to analyze the differences between requirements and availability of agriculture credit among small farmers, marginal farmers and large farmers and to make quest about issues, concerns, trends and causes related to agriculture credit in India. The study has been conducted on the basis of secondary data as well as primary data from 90 beneficiaries of six banks of three districts namely Jind, Sirsa and Bhiwani of Haryana state by using convenient sampling method (Godara, Singh & Singla, 2014).

Rani (2014) has conducted a study on impact of the rural indebtedness in Patiala District of Punjab. In the study primary data has been used. An important aspect which emerged in the last few years is that credit is obtained by the small, marginal and large farmers to raise their income. For the agricultural activities, availability of credit is important for the farmer to have some agricultural inputs like chemical fertilizers, pesticides, and also payment for the irrigation, wages of labourers, rent for machinery and so on. Only because of such payments, credit is necessary for the small, marginal and large farmers. Mostly the small and marginal farmers are fully dependent on agricultural credit (Rani, 2014).

Mazumder, Chakravarty and Bhandari (2014) have made a study on recovery performance of the primary agriculture credit societies in India. It is a study with the basis that regional disparity would occur based on the recovery performance of agricultural credit by the PACS and also credit and its effects in India. The study is based on secondary data sources like PACK and NABARD. The study explores how banks recover their loans which are given to the farmers as agricultural credit (Mazumder, Chakravarty & Bhandari, 2014).

Reetu (2015) has made a comparative study on agricultural indebtedness in India with regard to NSSO 59th and 70th rounds. The objectives of the study are to examine indebted farmer households in each state, find outstanding loan per farmer household and also outstanding loan by source of loan. The study concludes that agricultural indebtedness is high in many states. Also, most of the indebted farmer households belong to the marginal and small farmers and are concentrated in the disadvantaged social groups such as SC, ST and OBC (Reetu, 2015).

Anneshi and Gowda (2015) have made an economic analysis of rural indebtedness of farmer households in the Davangere district of the Karnataka with the objectives: to study the sources of the borrowings for different category of the farmers and also to ascertain the factors influence the indebtedness of farmers in the District. Here it is basically a study on the farming community (Anneshi & Gowda, 2015).

Bala (2015) has made a study on repayment of agricultural credit performance of RRBs. It is a case study of Sirsa district, with the objectives to analyze the recovery performance of the agricultural loans of RRB in Haryana and also the problems of respondents while repayment of loans to the RRB. Here primary data is used and simple random sampling technique has been applied for collection of data. The study encourages the borrowers to utilize the loans in economic activities for the growth of economy (Bala, 2015).

Mishra A. K. and Mohapatra U. (2017) conducted a study on agricultural finance in India. The study is based on secondary data collected from Agricultural Statistics at a Glance Report 2008. It has shown both productive and unproductive needs of finance. The result shows that institutional loans for agriculture has increased in the last four decades (Mishra & Mohapatra, 2017).

Mohanty (2017) has made a study on agricultural credit market in Odisha, with the objectives to study the nature and sources of agricultural market in Odisha and to know the status and challenges of different credit markets in Odisha. It also suggests some measures to make available the credit for the farmers and focus their utilization in the field. The study has made use of secondary data. The study found that farmers take loans for both productive and unproductive purpose, and also that because of the unproductive purpose people unable to reply their loan on right time (Mohanty, 2017).

Obeta (2018) has a study on agricultural credit in Nigeria. The study is on performance at the farm level, with objectives like to increase the institutionalization of agricultural credit, to concessionary interest rate policy like this (Obeta, 2018).

The above research works conclude that there is both formal and informal credit taken by rural as well as urban people. Most of the studies have found that there is unproductive expenditure of credit money, that is, farmers are not investing in their required field so that they are unable to repay the loan money. However, some other farmers are investing in their required field but not getting good return because of some external fluctuation or diseconomies like drought, flood, etc., and rest few are not having any problem in their production process and having good interaction with banks.

III. OBJECTIVES

- To find out the determinants of rural credit accessed by the households
- To examine the pattern of access and use of credit in terms of purpose and institution by rural households

- To explore the propensity of response between total amount of credit and its determinants

IV. DATA AND METHODS

Data

The scope of the study is purposefully kept limited to 80 households of Bijepur Block to develop an understanding of the problem. The data was obtained through the scheduled questionnaire and structured personal interview. Simple random sampling method is used to solicit the data from sample households. Sample data are homogenized to develop the normal coherence of data. Samples of four loanee households are chosen from 20 Gram Panchayats of Bijepur block which constitute the universe. The limitation of the study is that it has taken one block of Bargarh district, Odisha.

Analytical Tools

Data is analyzed through the SPSS with the help of multiple regression, and tests of multicolinearity and normality like Kolmogorov-Smirnov test, Shapiro-Wilk test, ANOVA (Analysis of Variance), etc. have been conducted. The main variables that have been analyzed are income of HHs, type of occupation, level of education, having credit with formal and informal sources.

V. ANALYSIS AND RESULTS

Data Analysis

Based on objectives the following hypotheses have been outlined:

H_0: No relationship between total amount of credit & and its determinants
H_1: Relationship between total amount of credit & and its determinants

Table-1: Multicollinearity Test

Independent Variables	Tolerance	VIF
Average interest rate	0.958	1.044
Size of own agricultural land holdings	0.871	1.148
Household Size	0.786	1.272
Size of ownership of residential land plot	0.891	1.122
Total Income	0.853	1.172
Dependent variable: Total amount of credit		

Source: Primary data

In Table-1 the multicollinearity test has been conducted to show the how linearly determinants are related among themselves. The above table explains that there is no multicollinearity problem between the independent variables as the value of Variance Inflation Factor (VIF) is less than 10. It means each determinant is linearly independent.

Table-2: Test of Normality

	Kolmogorov-Smirnov test			Shapiro-Wilk test		
Independent variables	Statistic	Df.	Sig.	Statistic	Df.	Sig.
HHS	0.281	80	0	0.862	80	0
Total Income	0.174	80	0	0.693	80	0
Size of cultivable land	0.13	80	0.002	0.933	80	0
Average interest rate	0.346	80	0	0.664	80	0
Size of ownership of residential land plot	0.303	80	0	0.521	80	0

Source: Primary data

Table-2 shows the test of normality through Kolmogorov-Smirnov test as well as Shapiro-Wilk test. In the above table all the S-K statistic value of independent variables lie between 0.05-1, it means the null hypothesis is rejected and the alternative hypothesis is accepted. The data is normally distributed in the model.

Table-3: Multiple Regression

Variables	Coefficients	t values	Significance
(Constant)	-1316.92	-0.161	0.873
Average interest rate	25996.21	6.871	.000*
Size of own agricultural land holdings	13676.4	7.03	.000**
Household size	-501.578	-0.252	0.802
Total Income	0.002	0.032	0.975
Size of ownership of Residential land Plot	-180442	-2.709	.008***

Source: Primary data

Table-3 shows that size of land holding and average interest rates are significant and all other variables are insignificant.

Model Summary

R^2 = 57.9%, that is, the model is a good fit.

Regression Model

$Y = \alpha+\beta 1X1+\beta 2X2+\beta 3X3+\beta 4X4+\beta 5X5+Ui$

Y = Dependent variable i.e. total amount of credit taken from various institutions

α = Constant over the period of time

β1X1 = Size of households

β2X2 = Total income

β3X3 = Size of land holding

β4X4 = Average interest rate

β5X5 = Size of Own residential plots

Ui = residuals

P_F = 0.0 (Significance level)

⇒ Reject H_0 => Accept H_1

⇒ Significant relationship between dependent & independent variables

Here the study has assessed amount of credit with people from different economic categories, where we can see which category people draw what amount of credit.

Table-4: Difference in the Average Annual Credit among Different Economic Categories

Economic category	Mean
APL	28666.67
BPL	41518.52
BPL but don't have card	23200
APL but don't have card	60000
Antyodaya Annapurna card	32500
Total credit	32812.5

Source: Primary data

The above table represents the difference in the average annual credit among different economic categories. It means the people those who are from APL group have the average or mean annual credit of Rs 28666.67, those from BPL group have Rs. 41518.5, those from BPL but without card have Rs. 23200 and so on as mentioned in the above table. Here it shows that those from the APL but without card have the highest average credit and those from BPL but without card have the lowest average annual credit.

Findings

- The study represents that respondents of the study area are taking loan from various banks and other financial institutions
- The data has been tested for normality; there is no multicollinearity problem and the model is good fit as it has 57.9% of R^2
- Fewer respondents are taking loan from commercial banks and SHGs and rest are from cooperative banks, but they unable to repay the loan amount on time, so outstanding amount is so high
- Majority of the respondents are taking loan for agricultural purposes

Interpretation of the Findings

The present study tries to analyze the dynamics of rural income because of the availability of funds provided by cooperatives bank as well as different commercial banks. Rural people take loan from different financial institutions and invest in agriculture and other small enterprises. This small investment gives very small return, but there is a great contribution to the society as well to the GDP of the nation. Sometimes rural debtors fail to repay the credit amount on time, still they take loan to repay the earlier loan and keep hope to get a good return in future. In this circumstances the study found that, a very small contribution to the country's economy made a huge amount in macro sense.

VI. CONCLUSION

This study concludes that the rural households are accessing the institutional credit for different purposes, based on the different determinants consisting of income of the households, rate of interest, size of land holdings, size of own residential plots. There are different causes like drought, flood, repayment of previous loan and use of loan money mostly in consumption purposes, which are the reasons behind the non-repayment of loans by the rural households.

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