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An Empirical Analysis of Agricultural Credit Utilization and Repayment Behaviour among Farmers

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Abstract

Agricultural credit is a key element to enhance agricultural productivity, agricultural income and agricultural development. Timely and adequate credit helps farmers to buy seeds, fertilizers, machines, irrigation and modern farming technology. But, there are a number of economic, social and institutional variables that affect the availability and use of agricultural credit by farmers. The present study was set out to analyze the various factors influencing the agricultural credit and also to find out the level of awareness of respondents about agricultural credit. Primary data were gathered from 200 respondents by structured questionnaire using convenient sampling technique. The analysis and interpretation were conducted using the statistical tools, including Mean, Standard Deviation, Friedman test and ANOVA. The analysis shows that availability of institutional finance, interest rate of loan, income level of farmer and type of crops are the most important factors that affect the agricultural credit. The study also reveals that there is no significant difference in agriculture income and level of awareness amongst the respondents. The research underscores the need to make agricultural credit more accessible, increase government support and raise awareness about agricultural credit schemes. The study offers some helpful lessons for policy makers, financial institutions and agricultural development authorities regarding more effective rural credit systems and sustainable agricultural development.

Keywords: Agricultural Credit, Farmers, Institutional Finance, Awareness, Government Policies and Technology Adoption.

Introduction

Agriculture is considered as the backbone of the Indian economy because the number of people involved in agriculture and the agriculture plays an important part in their lives. Financial resources and timely credit facilities are of great importance for the development of agriculture. Agricultural credit: loans that are granted to farmers for agricultural production, cultivation, irrigation, buying the machines, fertilizers, seed etc. for farming purposes. Credit is one of the key elements that can improve agricultural productivity and farmer's economic status. In recent years the institutional financing and agricultural loans requirements have increased with the modernization and technology in agriculture.

Agricultural credit is used to meet the financial difficulties of the farmers due to the seasonality of farming and uncertain climatic conditions. The farmers must resort to external financing for investing in quality in-puts and modern farming techniques. The credit facilities provided to farmers by the financial institutions (commercial banks, cooperative societies, regional rural banks and microfinance institutions) are provided under various schemes and subsidy programs of the government. These financial services boost rural development, job creation and poverty alleviation.

Despite provision of credit facilities, many agrarian farmers are not able to avail agricultural credit facilities due to various factors such as low income, no collateral security, less awareness, high interest rate and

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complex banking procedure. This affects small and marginal farmers who have limited resources (lack of money and financial institutions). Furthermore, natural disasters, plant failures and price fluctuations are other risks for farmers and lenders.

Policies and subsidy schemes of the government contribute greatly to the encouragement of agricultural credit among farmers. Agriculture financing and rural economic development is boosted through various measures such as crop loans, Kisan Credit Cards, interest subsidy and loan waivers. Meanwhile, agricultural credit needs have been increasing in response to the progressive changes in agriculture as well as agricultural infrastructure development.

In the present study it concentrates on identification of various important factors affecting agricultural credit and knowledge of farmer on agricultural credit. The study also explores the importance of institutional financing to agricultural development, and investigates the correlation between agriculture income and awareness levels. The aim of the research is to analyze the perceptions of the respondents so as to give useful recommendations for better agricultural credit system and sustainable development in agriculture.

Theoretical Background

One theory that has explained how agricultural credit can help to improve agricultural productivity and rural economic development is the Agricultural Credit Theory. Credit can be a catalyst for agricultural development if the farmers can make use of the resources for investment in productive activities and modern farming technology. The theories of rural finance support economic analysis suggest that credit for agriculture alleviates financial restrictions, and fosters investment into agriculture, which leads to production and income growth. To replace traditional moneylenders and supply the farmers with cheap finance, some institutional credit systems were evolved. The theory of agricultural finance emphasizes that the need of the farmers is to have short term, medium term and long term credit according to their farming needs. The short-term credit is used for seasonal cultivation operations, such as the purchase of labour services, fertilizers and seeds etc. Medium term credit is used to buy livestock and farm equipment and long term credit is used for land development, irrigation system and farm infrastructure. Sustainable profitability and productivity of agriculture is only possible with proper credit allocation.

It highlights the role of financial institutions like banks, cooperative societies and government institutions in promoting agriculture finance. The formal financial institutions are supposed to provide low interest loans, subsidies, and flexibility in repayment, for the rural development. The agricultural credit is also associated with the concept of financial inclusion which seeks access to financial services to all parts of society, especially rural and economically weaker, people.

One of the other important concepts associated with agricultural credit is the use of technology in agriculture. The intensive farming – including mechanization, drip irrigation, biotechnology and digital farming – requires a significant amount of capital investment. Access to credit provides farmers with the opportunity to explore new technologies, which boost efficiency and productivity. Technological diffusion theories suggest that the availability of finance leads to technology use and modernization of agricultural technologies. Risk and uncertainty theories are also very much related to agricultural credit as agriculture is greatly dependent on climatic condition, market price and natural resources. Farmers' ability to repay loans and their degree of risk are taken into account by financial institutions before taking out loans. Risks in agriculture are reduced by implementing risk reduction policies and providing credit facilitation measures to encourage the use of credit.

There is a body of theory known as behavioural finance that indicates that a farmer's awareness, attitudes and perceptions affect their borrowing decisions and the utilization of loans. Financial awareness and financial literacy plays a significant role in availing agricultural loan. Farmer's awareness and education level is positively correlated with the proper utilization of institutional finance. Thus, agricultural credit theories can be combined to conclude that institutional support, financial inclusion and utilization of agricultural technology and awareness are all crucial.

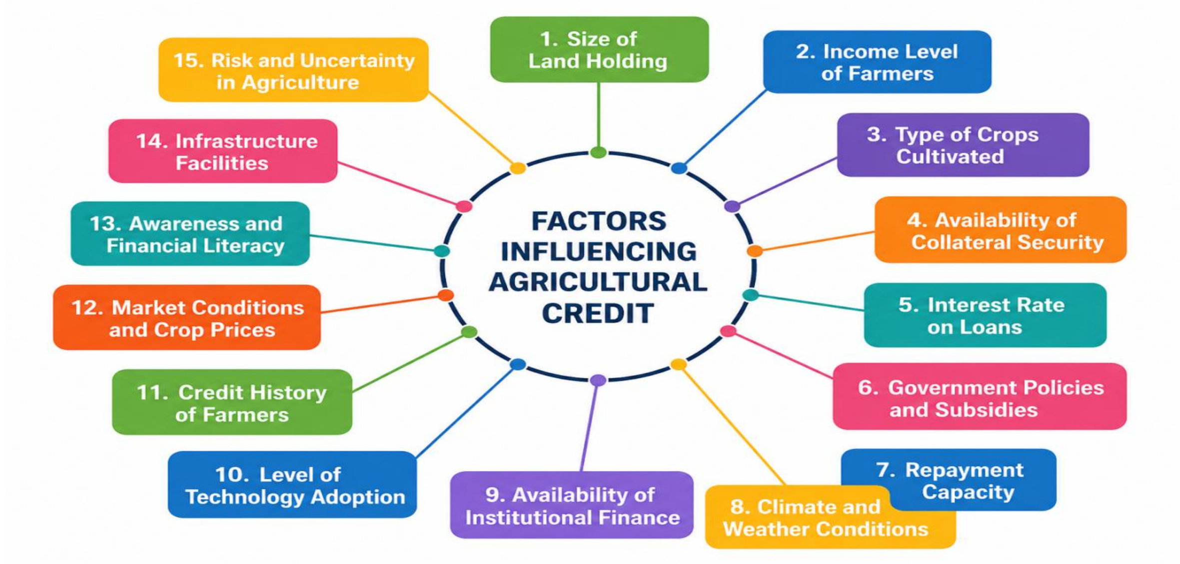

Figure: 1

Literature review and Research Agenda

Dubale S., Beshir H. (2020) findings showed that the education level, farming experience, extension services and agricultural income were significant and positively correlated with the loan-repayment performance. There was better repayment rate among farmers who were provided with good technical guidance and financial assistance. But problems like crop failures, market volatility and financial ignorance had a negative effect on their ability to repay. The scientists suggested that financial institutions put greater emphasis on farmer education and introduce monitoring systems to guide them to better recovery of agricultural loans and improve their ability to support sustainable rural development, and provide flexible repayment systems.

Alexpandi M. & Rameshkumar (2014) identified that institutional credit is crucial to improve agricultural productivity and livelihoods of the rural poor. It also highlighted that loans are also a positive force for loan repayments with good utilisation. The income of farmers, yield of their crops, ability to repay and their knowledge about banking procedures had significant effect on their repayment habit. The researchers concluded that timely credit disbursement, banking processes that are user-friendly, and strong monitoring of the utilization of the loans are essential to improve the repayment rate and the agricultural finance system in rural areas.

Chirwa (1997) results indicated farm income, farm size, education level and extension services' availability had significant effect on the loan repayment performance. The study also revealed that the farmers who are more productive and who have high income were more likely to pay their loans on time. The poor climatic conditions, low crop productivity levels and poor financial management had negative impacts on repayment behavior, however. The study highlighted the need of institutional support and education among the farmers and effective monitoring of credit to limit loan defaulters and make the agricultural credit program effective.

Research Gap

There are a number of studies on agricultural credit and rural finance, but many of them concentrate on repayment of loans, production of crops or government programs. Very little research has been done to investigate the overall impact of income level, farm crops grown, infrastructure facilities, interest rates, and institutional finance on access to agricultural credit. In addition, there is a lack of studies that examine the relation between farmers' agriculture income and farmers' awareness on agricultural credit.

In the earlier studies the problems of small farmers and marginal farmers have not been studied in detail, while the big farming areas have been considered. Moreover, the emergence of new dimensions in agricultural financing due to changes in agricultural technologies, digital banking services and modern financial systems are not sufficiently explored in previous studies.

In this regard, the present study attempts to bridge this gap of research by analyzing some of the determinants of agricultural credit and awareness of the respondents using statistical methods. The study gives fresh insights into the financing of agriculture and helps to enhance the knowledge of the farmers' perception of agricultural credit systems.

Importance of the Study

The study is significant as agricultural credit is one of the important factors to boost agricultural productivity and rural development. Farmers need proper financial assistance in order to buy seeds, fertilizers, machinery, irrigation equipments, etc. which are required for agriculture. Farmers might be at risk of experiencing financial difficulties due to lack of credit facilities, which can impact their cultivation and production activities.

This research contributes to finding out the most important factors affecting farmers' access to agricultural credit. These factors can help financial institutions and policy makers in developing effective schemes and support to the farmers for the loan. The study also emphasizes the role of institutional finance in alleviating the burden of informal money-lenders who may impose high interest rate.

The study is relevant for the government agencies, banks, cooperative societies and agricultural development authorities for enhancing financial system in rural areas. It also raises awareness on the financial literacy and institutional support to farmers. The study helps in understanding the financial behavior of farmers and their decision making process by analyzing the relationship between farmers' awareness levels and agriculture income.

In conclusion, the findings of the study suggest the recommendations to enhance the accessibility of agricultural credit, financial inclusion, and overall economic condition of the farmers, which would support the sustainable agricultural development.

Statement of the Problem

Financial assistance is crucial for the cultivation, production, and technological development of agriculture. There are several agricultural credit schemes and institutional financial services, but yet many farmers are experiencing problems to avail appropriate and sufficient credit facilities. The barriers in getting agricultural loans are low income, absence of collateral security, high interest rate, poor awareness and poor infrastructure. It is particularly harmful for small and marginal farmers as they tend to rely on informal sources of finance for which they have to pay higher rates of interest and are also faced with a greater financial burden. Poor institutional support and knowledge among farmers about the government subsidy schemes are other factors that influence farmer's access to agricultural credit. Furthermore, climatic vagaries, crop failures and price volatility add to financial risk and the ability to repay.

While there have been a number of Government schemes in place for agricultural finance, the success of these schemes is dependent on farmers awareness and access. Hence, the main determinants of agricultural credit need to be determined and attention needs to be given to the awareness of the farmers about institutional finance and subsidy programs. The current study tries to dissect these issues and make recommendations to develop agricultural credit systems and increase financial inclusion for farmers.

Objectives of the Study

1. To identify the factors influencing agricultural credit among farmers.
2. To analyze the relationship between agriculture income and level of awareness regarding agricultural credit.
3. To provide suggestions for improving agricultural credit facilities.

Research Methodology

The present study was set out to analyze the various factors influencing the agricultural credit and also to find out the level of awareness of respondents about agricultural credit. Primary data were gathered from 200 respondents by structured questionnaire using convenient sampling technique. The analysis and interpretation were conducted using the statistical tools, including Mean, Standard Deviation, Friedman test and ANOVA.

Analysis and Results

Agriculture forms the backbone of the Indian economy and serves as the foundation for the country's economic development. Agricultural credit plays a significant role in the growth of the agricultural sector and contributes greatly to poverty reduction and rural development. Recognizing the importance of agriculture in national progress, the government and banking institutions have established a broad and systematic financial framework to meet the increasing credit needs of farmers and the agricultural sector. The development of agriculture is largely influenced by local agro-climatic conditions, which affect crop production, farming practices, and overall agricultural productivity.

TABLE 1

Factors influencing Agriculture Credit Utilization and Repayment Behaviour among Farmers

Factors	Mean	Std. Deviation	Mean Rank
Income Level of Farmers	3.12	1.364	2.87
Type of Crops Cultivated	3.04	1.348	2.89
Infrastructure Facilities	3.06	1.340	2.73
Interest Rate on Loans	4.10	1.030	2.71
Availability of Institutional Finance	3.62	1.221	3.83

The above table gives explanation of the factors influencing agricultural credit based on mean, standard deviation and mean rank values. In the various factors, the factor 'Availability of institutional finance' was found with the highest mean rank 3.83 which shows that the most significant factor affecting agricultural credit is the ease with which collateral is obtained from the banks, cooperative societies and financial institutions. The Income Level of Farmers and Type of Crops Cultivated both had a mean rank of 2.89 and 2.87, indicating that the income level of the farmers and the type of the crops cultivated also have a significant influence in the acquisition of agricultural loan. The mean rank for Infrastructure Facilities was 2.73, which shows a moderate influence on agricultural credit. The interest rate on loans had the highest mean value of 4.10 and the lowest standard deviation of 1.030 indicating that respondents strongly agree that interest rates influence their decisions to borrow, and that their views are quite uniform. In general, the study finds that factors, such as institutional financial supports, farmer income, crop type and loan interest rate, are the most important factors affecting agricultural credit.

TABLE 2

Friedman Test

N	200
Chi-Square	94.893
df	4
Asymp. Sig.	0.000

The result of the Friedman Test to test the differences between the factors influencing agricultural credit is presented in the above table. The number of respondents taken into account in the study is 200. Chi-Square (calculated) = 94.893, with 4 degrees of freedom. The significance value (Asymp. The level of Sig) is 0.000, which is less than the acceptable level of 0.05. Thus, the finding is statistically significant. This suggests that there is a wide gap between the views of the respondents on the factors affecting agricultural credit. Therefore, the factors are not equal in importance and some of them are more influential in determining agricultural credit than others.

Agricultural Income

Agricultural income is an important economic factor that is directly related to agricultural activities and farmers' performance. The level of income earned from agriculture influences the financial condition, productivity, and overall satisfaction of farmers. In this study, the satisfaction level of farmers is classified based on their agricultural income. The significance of the difference among the respondents is tested using the appropriate statistical analysis as presented below.

TABLE 3

Agriculture Income and Level of Awareness

Factors	N	Mean	Std. Deviation	F	Sig.
Level of Technology Adoption	48	3.00	.875	1.349	.262
Government Policies and Subsidies	106	2.78	.966		
Availability of Collateral Security	46	2.70	.963		
Total	200	2.82	.946		

The above table shows the relationship between the level of awareness of factors influencing Agricultural credit and Agriculture income. Factor "Level of Technology Adoption" gave highest mean value 3.00 by the respondents who have higher level of awareness of technology use in agriculture. The mean value for Government Policies and Subsidies was 2.78 and the lowest mean value was for Availability of Collateral Security with a mean of 2.70. The opinions of the respondents are not very different from one another, as the overall mean opinion is 2.82, and the standard deviation is 0.946.

From ANOVA results, it can be seen that the calculated F value is 1.349 with the significance value of 0.262 which is larger than the standard value of 0.05. Hence, the result is not statistically significant. So, the null hypothesis is accepted and it can be concluded that the difference between the two variables (agriculture income and the level of awareness of the factors influencing agricultural credit) is not significant among the respondents.

Implications of the study

The study has implications for farmers, financial institutions, agricultural development agencies and agricultural policy makers. This study pinpoints the significant factors affecting agricultural credit and assists in grasping the financial requirements and problems of the farmers. If banks and cooperative societies are able to keep these in mind then they can formulate farmer-friendly policies and the lending process can be made easier.

The study also reminds us of the importance of institutional finance in fostering agricultural productivity and rural economic development. The outcome will enable financial institutions to improve credit availability, streamline the processes and provide flexible payment options to the farmers. The results can be utilized by their policy makers in order to design the effective subsidy schemes, interest rate concession and awareness creation to the rural population.

The study emphasizes on the importance of financial education and awareness on agriculture credit. Educating farmers on banking services and government schemes and how to use the loan is required, this can be achieved through awareness creation and training. The results also encourage the efficient use of agricultural techniques, with the financial provisions.

Generally, the study helps in enhancing the financial systems of the rural people, support sustainable farming, lessen farmers' reliance on informal credit markets and also boost the economic status of the farming communities.

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Recommendations and Suggestions

From the study results, a few recommendations can be made to enhance the availability and utilization of agricultural credit for farmers. To ensure farmers are easily able to access credit facilities, the process of getting a loan should be as simple as possible, and the documentation as minimal as possible, for financial institutions. In particular efforts should be made for small and low resource farmers, who tend to be less able to access institutional financing.

Banks and co-operative societies should provide loans at low rates of interest and flexible repayment schedule should be adopted in relation to the crop cycle and seasonal variation of the income. There is a need to sensitise people on agricultural finance and credit facilities by enhancing subsidy schemes by the government. Regular training sessions and financial literacy campaigns can create awareness of farmers on various service providers as well as government support schemes on digital finance.

Infrastructure facilities such as irrigation, storage facilities, transportation and electricity should be improved, and strengthened to increase agricultural productivity and creditworthiness. Special loans must be made by the government or financial institutions to encourage farmers to use technology in agricultural activities, such as agricultural machines, modern irrigation methods etc.

Crop insurance programmes also need to be enhanced to lessen financial risks due to natural disasters and crop failures. Farmers' agricultural credit programs need to be monitored and evaluated on an ongoing basis to ensure successful delivery and acceptance of the credit risk. All of these measures will lead to enhanced financial inclusion and improved agriculture development and farmer's economic status.

Conclusion

Agricultural credit is one of the most important factors contributing to the farm output, the income of farmers and the economic development of the rural communities. Timely and adequate financial assistance enables farmers to use modern agricultural technologies, purchase quality inputs and increase productivity. Several determinants of agricultural credit were taken into account and the relationship between awareness level of the respondents and the income gained from agriculture was analyzed.

The findings showed that the availability of agricultural credit is influenced by many factors such as availability of institutional finance, interest rates on agricultural loans, income level of the farmers, infrastructure facilities and type of crops grown. Institutional finance has been found to be one of the important determinants of agricultural borrowing decisions. Friedman Test showed that significant difference exists between the influencing factors and ANOVA showed no significant relationship between Agriculture income and awareness level.

The study recommends greater availability of finance, ease in banking process, awareness creation on government schemes and strengthening of institutional support systems. It is recommended to promote financial education for farmers and how to use agricultural credit effectively and not lenders. Technological development of agriculture and making available credit facilities at affordable rate should be the thrust of government organization and financial institutions' collaboration. Overall, the study highlights the importance of agricultural credit in achieving sustainable agriculture and improving farmers' socio-economic status. Good financial services can contribute to rural development, poverty alleviation, and job creation and long term economic security. The improvement of agricultural credit policy and agricultural institutional strengthening play important roles to the development of the agricultural sector and welfare of the farmers.

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