

An Impact of Agricultural Credit on Beneficiary Farmers

(With Reference to DCCB Anuppur)

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Abstract


At present Cooperative Banks have made an unprecedented contribution towards rural development and long-term credit delivery. The main objective of this research paper is to find the effect of Agricultural Credit lending by the District Central Cooperative Bank and also analyze the impact on farmers by the agricultural activities of District Central Cooperative Bank Anuppur Branch. This study will be based on primary data survey, which was collected from 4 tehsil of the Anuppur district through an interview method. To understand the effect, a time series graph and a paired sample T test was applied on the credit lending data, it was found that the agricultural lending caused a significant improvement in the condition of the farmers. Thus, these studies examine the organization, trend and pattern of agriculture credit and challenges faced by Cooperative banking institution in Anuppur.


Keywords: *Agricultural Credit, Cooperative Bank, Agriculture Development, Farmers, PACS, Rural Development*


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Introduction

India is a developing country where agriculture and its related activities play an important role in economic development Kanchu,(2012), but due to increase in globalization and industrialization, agriculture is becoming the only means of livelihood that's the reason the share of primary or agricultural sector in national income is decreasing every year as compared to other sector. Keeping this fact in mind, the government made various financial provisions from time to time, but despite the untiring efforts of the government, there was no significant progress in production, on the other hand, there was any improvement in the living standards of the farmers. As a result, most of the people being provide to public sector banks are not being utilized properly. At present the share of agriculture in most of the state of India is getting reduced, the situation in Madhya Pradesh has to be further enhanced as most of the population resides in the tribal and backward areas. Mishra and Udupa (2018). In such circumstances, financial assistance can be provided to small and marginal farmers only by developing financial facilities, so that farmers will avoid migrating to cities in search of employment and agriculture will become the medium of employment surgeon at the village level itself. Only District Central Cooperative banks can play an important role in this task, because the basic objective of establishing these banks is to develop rural and backward areas by promoting the spirit of cooperation rather than profit making(Maurya, 2015). District Central cooperative bank Anuppur also formulates its agricultural policies with the same basic objective in mind

so that the account holders don't have to face any financial problems and also use the financial sources of the bank properly Njavallial and Thoomkuzhy(2018). The Cooperative bank play most important role in agricultural development in rural farming areas. These banks are primary sources of agricultural development for farmers. In their schemes especially preference is given to cultivators for agricultural activities and development. Here, it works an important role in socio-economic development of farmers. These banks are basically doing three activities in their areas of operation like-Gives financial help to farmers their agricultural activities. Collection of deposits and providing Banking services to rural and semi unban area.

Literature Review

Sahani (2019), studies that at the present time Cooperative banks are important part of Indian banking system. Cooperative banks have more work to the rural area; through their huge network of PACS in the institution credit structure. Cooperative banks always play important part of national economy. Also study, that District Central Cooperative banks should increase their saving, deposits and also improve their policies and schemes. **Njavallial ,Thoomkuzhy (2018)**, is studied that in India Cooperative banks is an important medium for social and economic development in rural and backward areas. Because only Cooperative banks conduct the agricultural and economic activities at the ground level, as a result of this, policies related to agriculture and development made by the government can be converted into work, banks also promote its member's self-assistance and thrifts. **Mishra and Udupa (2018)**, observed that Cooperative banks and agricultural credit societies most of the work on rural areas, providing credit facilities and other financial support for improvement of socio-economic conditions of farming community. But at present time Cooperative banks are facing various types of problems like considerable pressure, reduce production and productivity and efficiency also. **Shastri (2017)**, noticed that the financial position of Warangal District Central Cooperative bank is improving every year along with the reserve fund of the bank is also increasing, but lack of education and the credit process of the bank is very long and inconvenience, the account holders have to face various types of problems due to which the financial facilities provided by the bank cannot reach the famers. That is the reason bank should improve their agricultural credit policy. **Maurya (2015)**, observed that credit facilities are playing very important role in increasing production in agriculture and improving productivity of agriculture. Due to lack of availability of farmers on time, farmers are deprived of the use of latest technologies. Therefore, to increase production per hectare and improve the productivity of farmer, so it is very important to provide financial assistance for the farmers by Cooperative banks. **Soyeliya(2013)**,studies that Co-operative banks and PACS are small size credit agencies which operate both in rural and semi urban areas. This banks specially work in rural area and give finance to agricultural activities but at the present time Co-operative bank face various types of problem like high transaction cost, low level of recovery and decrease agricultural production and productivities also some time Co-operative banks faced limited mobilized resources and government deliberate control that is the reason Co-operative banks could not achieve their targets. **Thirupathi(2012)**,observed that Co-operative banks main objective is to provide financial facilities to its members and borrower with a wide range of banking schemes like deposits policies, loans and other banking services. He also studies that the government should formulate specific agricultural policies and time to implement for the upliftment of Co-operative Banks.

Research Gap:

The past literature studies revealed that there were quite under implementation of the policies and schemes proposed by the government. The studies majorly lacked the necessary infrastructure which became the reason for the lending agencies to fail; this gap has been studied in this paper.

Development of hypotheses.

Objectives

- To study the impact of agricultural credit on agriculture development of beneficiary farmers.
- There are increase trends of nonpayment of agricultural loan in the DCCBs.

Research Design

Data and Sample

Selection of the Area: -The study covers all the 4 Tehsils of Anuppur district of Madhya Pradesh. The Anuppur district is predominantly poor agricultural oriented and board district of Madhya Pradesh. Sometime borrower are not aware of bank agricultural credit policies that is the reason this study has been selected Anuppur district for the research work on grounds of proximity of its work place and its familiarity with the economy of the district, last many years.

Selection of the Banks: -This study has selected for the research work Anuppur DCCBs Anuppur Branch and four PACS, an intensive study of the agricultural sector lending by the branches of the DCCBs banks covered by the study.

The selected Primary Agricultural Societies are: -

1. Primary Agricultural Credit society Anuppur
2. Primary Agricultural Credit society Patnakala
3. Primary Agricultural Credit society Dulehara
4. Primary Agricultural Credit society Funga

Data sources

The study will exclusively base on the data survey and banks annual reports. Primary data will be collected by the survey method using structured depth interview the primary data related to economic status, credit availing interest rate and purpose of loan.

Statistical test

Statistical test such as paired sample t test was used to study the utilization scenario of agricultural credits, while a simple time graph was used to analyze whether there has a significant utilization of the credit or not.

Data Analysis

The finding of this study is based on primary data survey. The relevant data techniques and tools like percentages, correlation, average, growth rate, tables and graphs have used to find out impact of farmers through bank policy.

Hypothesis

Test of Hypothesis

H0: There is no significant utilization of agricultural credit for agricultural purpose.

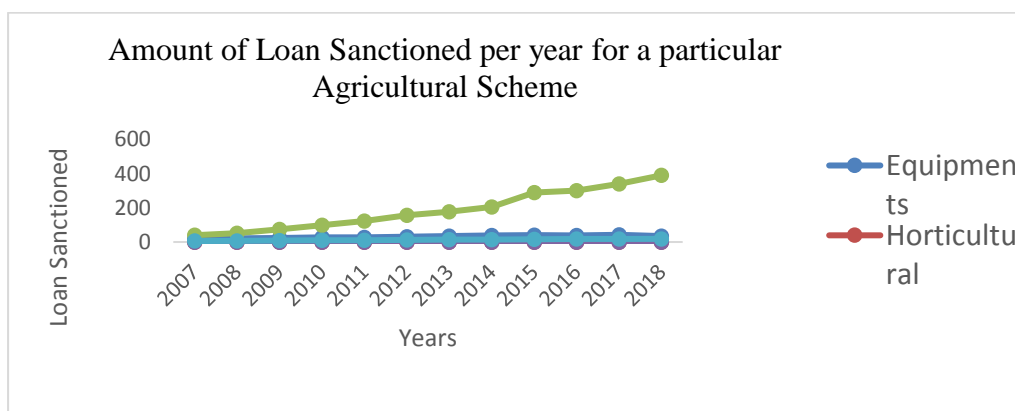
H1: There is a significant utilization of agricultural credits for agricultural purpose.

Year	Agricultural Schemes Loan Sanctioned (Unit Lac)				
	Equipment's	Horticultural	Irrigation	Land Reforms	Seeds/ Fertilizers
2007	20.43	0	39.98	0	5.88
2008	22.64	0	52.28	0	6.52
2009	23.89	0	73.54	0	9.01
2010	27.01	0	98.89	0	9.62
2011	27.52	0	123.49	0	10.79
2012	30.29	0	156.27	0	12.23
2013	34.22	0	178.43	0	14.01
2014	38.01	0	205.05	0	14.98
2015	40.98	0	289.56	0	16.23
2016	38.23	0	302.23	0	17.67

2017	42.35	0	341.55	0	18.42
2018	34.55	0	391.06	0	18.56

(Data Sources DCCB Anuppur Annual Reports)

Table 1: Year wise Loan Sanctioned under various Agriculture Schemes



(Data Sources: Primary Data Survey)

Figure 1: Amount of Loan Sanctioned per year for a particular Agricultural Scheme

The figure 1 and table 1, showed that the loan amount that was sanctioned by the District Bank of Anuppur was majorly in the schemes of irrigation which contributed to 81% of the total loan, followed by equipment which contributed to 14% of the total loan, and seeds or fertilizers which contributed to only 6% of the total amount. For analyzing the utilization of the amount by the Bank Beneficiary (mainly Farmers both genders included) we used Paired sample T test, to study before and after effect of loan sanctioned taking following variables into consideration (Agricultural Income & After loan Income; Saving & After loan saving; Debt & After loan Debt).

Table 2: Sample Statistics for the before and after loan for Income, Savings, Debt

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Agricultural income before loan	2.06	300	1.091	.063
	Agricultural income after loan	2.63	300	1.366	.079
Pair 2	Agricultural saving before loan	1.84	300	1.138	.066
	Agricultural saving after loan	2.28	300	1.131	.065
Pair 3	Agricultural debt before loan	1.33	300	1.036	.060
	Agricultural debt after loan	1.06	300	.391	.023

(Data Sources: Primary Data Survey)

Table 3: Sample Correlations for the before and after loan for Income, Savings, Debt

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Agricultural income before loan & Agricultural income after loan	300	.700	.000
Pair 2	Agricultural saving before loan & Agricultural saving after loan	300	.719	.000
Pair 3	Agricultural debt before loan & Agricultural debt after loan	300	.476	.000

(Data Sources: Primary Data Survey)

Table 4: Paired Sample T Statistics for the before and after loan for Income, Savings, Debt

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	Agricultural income before loan Agricultural income After loan	-.570	.984	.057	-.682	-.458	-10.033	.000***
Pair 2	Agricultural saving before loan Agricultural saving after loan	-.443	.850	.049	-.540	-.347	-9.034	.000***
Pair 3	Agricultural debt before loan Agricultural debt After loan	.270	.916	.053	.166	.374	5.103	.000***

*** Significant at 0.01 (*Data Sources: Primary Data Survey*)

Interpretation: The table 2 showed that there is a significant improvement in the income, savings and debt after the loans Sanction, as a mean of the before and after income increased from 2.06 to 2.63, similarly an significant improvement in visible in the savings(1.84 to 2.28) and a significant decrease in the debt amount (1.33 to 1.06) which signifies that after the loan , the beneficiary was able to clear his debt, which in conjunction with the increased income reflects the increase in utilization of credit disbursed by the Bank of Anuppur. Another visible proof of significant utilization is table 3 which indicate a significant ($p < 0.01$) correlation between before and after loan scenarios. The pair1 and pair 2 shows a positive correlation (0.700, 0.719) respectively, which suggest that a direct effect was examined of loan sanctioned amount, income and saving improvement. Where, a fairly significant correlation was observed between debts (0.476). Hence, suggesting that a significant utilization of the credit. Table 4 shows that is a significant improvement of the agricultural credit disbursed to the bank beneficiaries where the ($t=10.033, -9.034, 5.103$), $p < 0.01$. Hence, we reject the null Hypothesis.

Test of Hypothesis:

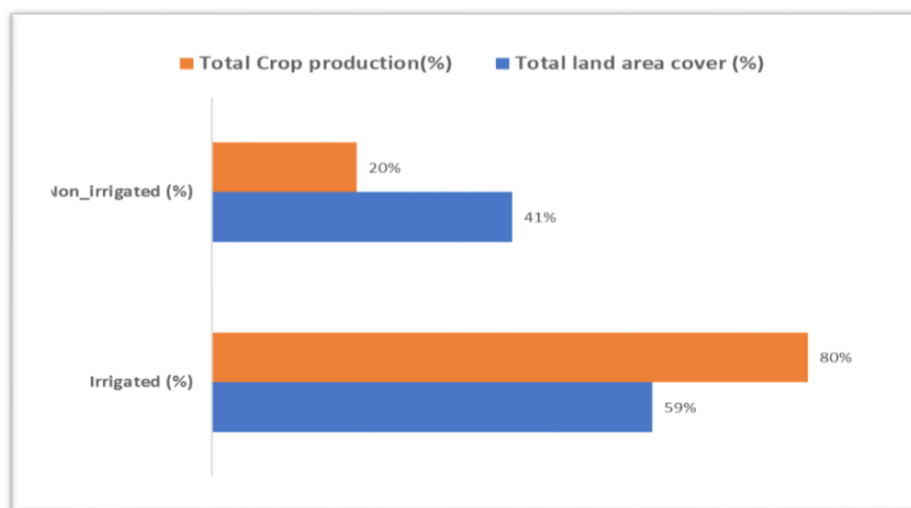
H02: There is no significant utilization of Agricultural Credit for agricultural purpose.

Ha2: There is a significant utilization of agricultural credit for agricultural purpose.

To study this, we will measure the production per hectare on irrigated and non-irrigated land, applying paired sample T test to measure the significance difference between the sample A from non-Irrigated and Sample B from irrigated land of Anuppur District. If the model is significant then Null hypothesis can be not accepted.

Years	Irrigation	Seeds/ Fertilizers	Equipment's
2007	39.98	5.88	20.43
2008	52.28	6.52	22.64
2009	73.54	9.01	23.89
2010	98.89	9.62	27.01
2011	123.49	10.79	27.52
2012	156.27	12.23	30.29
2013	178.43	14.01	34.22
2014	205.05	14.98	38.01
2015	289.56	16.23	40.98
2016	302.23	17.67	38.23
2017	341.55	18.42	42.35
2018	391.06	18.56	34.55

(Data sources *DCCB Anuppur Annual Reports*)



(Data Sources: Primary Data Survey)

Figure 2: percentage improvement in production after loan

As evidence from the figure 2 and table 5 the year wise loan table that majority of the loan amount was sanctioned for irrigation, followed by the equipments, seeds and fertilizers. As production is the result of appropriate irrigation, Availability of the equipment’s and use of best quality seeds, this study compared these features and utmost importance was levied upon the irrigation part. From the figure it becomes evident that the agricultural land area cover of the Anuppur District is about 254.22 hectares. Out of which 59% is irrigated while 41% is non irrigated land. The production can be viewed to have direct relation with the irrigation of the land, as the production is only 20% for the non-Irrigated land, while the yield was 80% upon irrigation. This is a clear demarcation between the productivity before irrigation and productivity after irrigation which increased by 61%. The scholar, further used paired Sample T test to compare the Rabi and Kharif crop production before and after irrigation which is provided below.

Table 6: Paired Sample Mean Statistics

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Kharif crop production before loan	7.992857	63	8.5255449	.9715760
	Kharif crop production after loan	38.502545	63	32.5807046	3.7129159

(Data sources: Primary Data survey)

Table 7: Paired Sample Mean Statistics

Paired Samples Test		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 2	Kharif crop production before loan	-30.5096883	33.5745962	3.8261803	-38.1301869	-22.8891897	-7.974	76	.000
	Kharif crop production after loan								

Data sources: (Primary Data survey)

Table 8: Paired Sample Mean Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Rabi crop production before loan	10.4594	63	11.90329	1.49967
	Rabi crop production after Loan	25.3082	63	22.07718	2.78146

Data sources: (Primary Data survey)

Table 9: Paired Sample Mean Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 2	Rabi crop production before loan	10.4594	63	11.90329	1.49967
	Rabi crop production after loan	25.3082	63	22.07718	2.78146

Data sources: (Primary Data Survey)

Table 10: Paired sample Test Result

Paired Samples Test									
Paired Differences					t	df	Sig.(2-tailed)		
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference						
			Lower	Upper					
Pair 1	Rabi crop production before loan Rabi crop production after Loan	-14.84879	25.08589	3.16052	-21.16659	-8.53100	-4.698	62	.000

(Data Sources: Primary Data Survey)

The table 6 showed that there is an increase in the production of kharif crops as the mean production before irrigation is 7.99 tons/hectare were as the mean production after irrigation is 38.5 tons/hectare which is almost 5 times. Hence, we do not accept the null hypothesis. The table7 showed that there is a significant change in the agricultural production in the Anupur District, $t (-7.974, df=76), p<0.001$. Table 8 and Table 9 showed that the production of the Rabi crops has shown significant improvement. The mean difference of before the irrigation (10.45) and after the irrigation (25.30), clearly reveals that the production has almost increased two times, clearly projecting the fact that the Anuppur District has shown a significant improvement in the production. The Model was found significant at p less than 0.01, indicating that the null hypothesis is not accepted. The paired sample T test table 10 found that the production improved significantly after the loan has been disbursed for the irrigation, this supported hypothesis that the production in the Anuppur district showed significant improvement.

Findings

As evidence of District Central Cooperative Bank annual reports and survey data it has been found that 41% of land in Anuppur district is being non-irrigated, the bank has provided maximum of credit to the farmers for irrigation, for the improvement of land and increase in the production from their financial sources. This is also found that there is a significant improvement in the utility and availability of the land for farming, irrigation of the land, better seeds for better yielding of the crop, better fertilizer for nourishing the field. The land reform improved significantly after the loan, about 88%, similarly, the use of equipment's for the farming also

improvement of 90% after the loan, similarly the irrigation also showed significant improvement after the loan accompanied by high grade seeds buying capacity and good fertilizer also showed significant improvement. Due to which at present, many cultivators and members of the bank are satisfied with the financial facilities of the bank. Apart from irrigation, the bank also gave adequate priority to the inclusion of agricultural equipment, fertilizers and new technologies in agriculture as per its objectives. As a result along with the improvement in production, the financial conditions and standard of living has also improved. Therefore it is also clear from the survey that from time to time, the banks have discharged its important role in increasing agriculture sector and revenue by providing financial assistance to farmers.

Suggestions

- It is clear from that data survey many small and marginal farmers of the bank do not take necessary funds for fear of repayment of loan, even when the value of land is high, due to which the financial sources of the bank are not being fully utilized. Therefore, the bank should organize awareness program from time to time and motivate farmers to take more loan.
- At the present time, the bank only makes loan sensations based on the land record of the farmers, which is not correct therefore the bank should change its credit procedure.
- According to their agricultural policies DCCB Anuppur provides credit facilities twice a year but maximum of time farmers are unable to repay the loans due to weather or other financial problems. As a result, with the deteriorating economic conditions of the cultivator's and banks financial sources also decrease, so the bank should amend its loan repayment rules as necessary.
- It is also suggested that bank officers and employees of the bank should make a compulsion to update the land records of the farmers by doing field visits from time to time, so that the bank will get information about the actual status of the farmers and also the bank's financial sources will be used properly.
- Various time farmers types of land are not equal everywhere but cost of rate is fixed for everywhere so it is suggest that bank should improve their credit policy.

Conclusion

In India Co-operative banks are powerful financial institutions of rural areas which are engaged in the works of production, distribution, and marketing, processing, servicing and banking. At the present time District Central Cooperative Bank Anuppur is constantly working for the development as a powerful banking structure and improving the economical and social condition of the farmers. The bank has not only provided financial assistance to the farmers through their agriculture schemes, but also organized the training program from time to time and made the farmers aware of the new agricultural techniques and solved their problems. As a result, small and marginal farmers prefer to get long-term financial support from government banks only, compared to other nationalized banks in the District. At the present, DCCBs Anuppur is powerful medium for providing financial facility in the entire district, but despite these achievements, the bank faces many challenges. The most important of these challenges is to distribute long-term financial support to small and marginal farmers at low interest rates because of increasing competition from other national banks, the financial sources of the bank have declined, the bank account holders are also getting more attracted to the populist schemes of other banks and prefer to seek financial assistance from other banks. In conclusion, it can say that at District Central cooperative bank Anuppur has operated many schemes/policies in the interest of rural development and farmers but these schemes have not been fully operationalized at the ground level, so the policies related to agriculture and finance of the bank have been partially effective. Therefore, in the coming times, the bank should try to implement the plan properly by increasing its financial sources; only then the bank will be able to achieve its original objectives and also change in the actual situation of the farmers will be possible.

Scope and Limitations of Study:

The study is based on survey of limited area much of the information was collected through personal interview of the borrowers which may contain respondent errors. Some borrowers are different language spoken may could not understand their language therefore it was difficult to get information by the borrowers.

Implication:

The study implies that the credit facilities gave the farmers an edge leading to betterment of their position in the Annapur district. The results suggested that the policy makers and alike shall be more careful while crafting new policies. It was found that the debts which were owned by the farmers were able to be recovered suggesting and supporting the fact that enhanced credit facilities act as positive moderator.

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