



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## “AN ANALYTICAL STUDY ON THE SOCIO-ECONOMIC CONDITIONS OF FARMERS BY AGRICULTURAL CREDIT IN MAHABLESHWAR REGION.”

Bagade Swapnil Rajan

Research Scholar, K. P. B. Hinduja College, Mumbai, India

### Abstract:

The universal development of the society and economy largely depends on the growth of agricultural sector. It is rightly said that if agriculture goes wrong nothing else will remain right. Availability of low cost, timely and adequate agricultural credit is important for agricultural development as availability of credit helps the farmers to come out of vicious circle of poverty and encourages them to use modern technology in agriculture which in turn results in rural transformation. Credit Cooperatives have been instrumental in making an unprecedented contribution towards agricultural development by making available long-term credit delivery. Credit Cooperatives have three-tier structure in which District Central Cooperative Banks are placed at the center and they play a crucial role in agricultural development by providing credit to needy farmers through PACs. This research paper is an attempt to study the impact on socio-economic conditions of farmers by agricultural credit of District Central Cooperative Bank in Satara district of Maharashtra.

**Key Words:** Agricultural Credit, DCCBs, Cooperative Banks, Socio Economic Factors

### Introduction:

India is an agrarian country. Agricultural development is important for capital formation and building strong industrial base. Hence, agricultural development is considered as an ‘accelerator’ to economic growth of the nation. Finance plays an important role in carrying on agricultural and allied activities. It is crucial for overall agricultural development. In India, large number of farmers are economically weak and hence, they have to depend on financial help for their agricultural development. Availability of credit is must for rehabilitation of farmers. Agricultural credit is the most important form of the credit. It is credit borrowed for growth of farm productivity. Agricultural Finance Corporation of India has defined Agricultural Credit as the amount of money needed by a farmer to achieve a proper combination of labourers, inputs, machinery, livestock and managerial ability, so that the planned level of income is generated by his farm. Capital of farmers is usually invested in land and stock. Hence, to meet their working capital needs, they are forced to take agricultural credit. To keep up with the competition and to improve quality of produce, even small farmers are forced to adopt farm mechanization which calls for more credit. Thus, farmers require funds to improve productivity, quality of produce and their own standard of living.

Sources of credit available to the farmers can be categorized as institutional and non-institutional credit. Non-institutional form of credit includes borrowing from money lenders, friends, traders, commission agents and relatives. Institutional sources include co-operatives, commercial banks and regional rural banks. Various initiatives have been taken up by GoI for agricultural credit. One such initiative was establishment of Co-operative banks which helped to meet the credit needs of small and marginalized farmers. Co-operative banks provide loans to farmers at reasonable interest rates. It has a vast network of branches in rural areas. It operates in a three tier system- State Co-operative Banks (SCBs) are at the apex, District Central Co-operative Banks

(DCCBs) are at the middle and Primary Agricultural Credit Societies (PACS) are at the end of the hierarchy and operates at village level. For the purpose of study, DCCBs are taken into consideration.

### Objectives of Research:

The present study is based on following objectives:

1. To understand the concept of DCCBs
2. To analyse the role of DCCBs in socio-economic conditions of farmers
3. To suggest measures to overcome the problems related to agricultural credit

### Research Methodology:

The study is based on primary data. The study is related to Satara District Central Co-operative Bank. For the purpose of research only Mahabaleshwar Taluka is taken into consideration. Total number of PACS in Mahabaleshwar Taluka were identified. It was found that there are 10 PACS in Mahabaleshwar. After this total number of members and regular borrowers of these PACS were identified. For this study 8 regular borrowers from each PACS were taken up ( $8 \times 10 = 80$  borrowers). For this research proportionate stratified random sampling is used for collecting the data. A well-defined structured questionnaire was administered only to the farmers who had availed credit facility from PACS of Satara DCCB in Mahabaleshwar region.

### 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 and Interpretation:

Primary data was collected using structured questionnaire that was filled up by 80 respondents. The data so collected is analysed and presented below:

### Demographic Profile of Farmers:

Study of demographic profile of farmers help us to get demographic details such as age, experience, gender, irrigation facility, cropping pattern, etc. This makes the analysis of socio economic impact of agricultural loan on their lives easier. The following are the demographic details of the selected respondents:

**Table No. 1**  
**Descriptive Statistics of Respondents' Demographics**

Particulars	Options	Frequency	Percentage
Age	Less than 30	9	11
	30 to 50	38	48
	More than 50	33	41
Gender	Male	74	93
	Female	6	7
Nature of Farming	Single Cropping Pattern	61	76
	Multiple Cropping Pattern	19	24
Irrigation of Land	Irrigated	76	95
	Non-irrigated	4	5
Ownership of land	Yes	60	75
	No	20	25

**Source: primary data**

### Interpretation and Analysis:

The above table shows the demographic profile of selected farmers, details are as follows:

Age helps us to understand the age bracket within which most of the farmers fall and it can help us to understand their experience in farming. 48 per cent farmers fall in the age group of 30 to 50 years, age of 41 per cent farmers is more than 50 years whereas 11 per cent are less than 30 years of age. It shows that majority of the farmers belong to millennial age group.

Attempt was made to include respondents of both the gender in the study. However, 93 per cent of the selected respondents were male whereas 7 per cent were female. It was found that female are equally involved in agricultural activities but they do not take up farming activity as a solo member.

76 per cent of the selected farmers opted single cropping pattern as they cultivate more of the cash crops such as wheat, jowar and sugarcane which takes more than one season to grow, whereas 24 per cent follow multiple

cropping pattern. Hence, as majority of them follow single cropping pattern, the cash flow must be half yearly, this is one of the reason for half yearly demand for credit.

95 per cent of the farmers mentioned that irrigation facility is available to them while 5 per cent mentioned that their land is non-irrigated. Due to availability of irrigation facility, the dependence of farmers on monsoon is limited.

75per cent of the farmers have land ownership whereas 25 per cent of the farmers do not own a land. It was found that majority of them possess the land due to ancestral property. It was also found that farmers who do not own a land have nothing to keep as a collateral to borrow loan for buying land.

### Effect of Loan on Income and Savings:

Availability of adequate, timely and pocket friendly credit always help in development of agriculture. This in turn leads to increase in the farm productivity. Increased productivity improves financial position of the farmers and leads to significant improvement in the income and savings. Primary data was collected to analyse the impact of borrowings from PACS of Satara DCCBs on the income and savings of the farmers.

Hypothesis was framed related to effect of agricultural loan on income and savings of the farmers-

**H<sub>0</sub>:** There is no significant improvement in income and savings of farmers after taking agricultural credit

**H<sub>1</sub>:** There is a significant improvement in income and savings of farmers after taking agricultural credit

For analysis paired sample T test is used to study before and after effect of loan sanctioned on income and savings of farmers, results are as follows:

**Table No.2**  
**Sample Statistics for Effects of Loan on Income and Savings**

Paired Sample Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Income of farmers before loan	2.54	80	2.41	0.2696
	Income of farmers after loan	4.14	80	3.48	0.3896
Pair 2	Savings of farmers before loan	1.68	80	2.01	0.2246
	Savings of farmers after loan	1.99	80	2.39	0.2668

Source: primary data

**Table No.3**  
**Paired Sample T- Statistics for Effects of Loan on Income and Savings**

		Paired Differences					t	Sig. (2-tailed)
		Mean	S.D.	Std. Error Mean	95% Confidence Interval of Difference			
					Lower	Upper		
Pair 1	Income of farmers before and after loan	1.6	1.07	0.12	1.366	1.834	11.23	0.00001
Pair 2	Savings of farmers before and after loan	0.32	0.38	0.0422	0.2367	0.4033	7.07	0.00001

Source: primary data

### Interpretation and Analysis:

It can be seen from table no.1 that there has a significant improvement in the income and savings of the selected farmers after borrowing loan. Increase in mean score from 2.54 to 4.14 after loan sanction shows improvement in the annual income of farmers after loan sanction, similarly rise in the mean score from 1.68 to 1.99 shows that savings of farmers have also visibly increased.

Table no. 2 shows a significant correlation between the scenarios before and after loan. In case of both income as well as savings,  $p < 0.01$  which shows a significant correlation between income and savings before and after loan sanction. Value of t in case of income is 11.23 whereas in case of savings it is 7.07. The value of p in both the cases is less than 0.01. Hence, the result is significant. Hence, we reject null hypothesis. Alternate hypothesis that **there is a significant improvement in income and savings of farmers after taking agricultural credit is accepted.**

### Effect of Loan on Asset Size:

Size of assets owned also highlights improvement in their socio-economic condition after taking agricultural loans from PACS. The details of asset size of selected farmers before and after loan sanction are given below. The following hypothesis was framed related to asset size and loan:

**H<sub>0</sub>:** There is no significant improvement in asset size of farmers after taking agricultural credit

**H<sub>1</sub>:** There is a significant improvement in asset size of farmers after taking agricultural credit

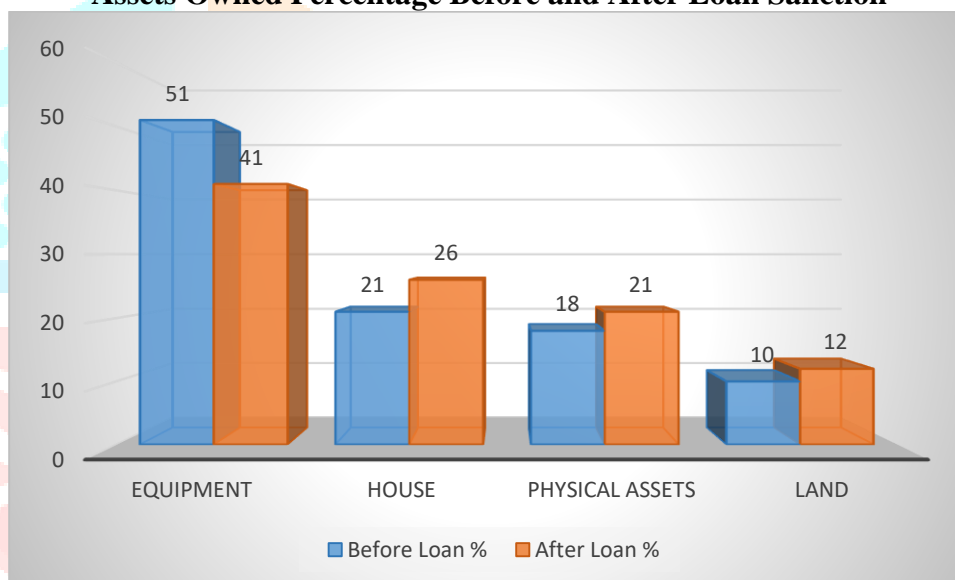
For analysis paired sample T test is used to study before and after effect of loan sanctioned on asset size and land holding, results are as follows:

**Table No. 4**  
**Assets Owned Percentage Before and After Loan Sanction**

Assets Owned	Before Loan		After Loan	
	No. of Farmers	%	No. of Farmers	%
Equipment	41	51	33	41
House	17	21	21	26
Physical Assets	14	18	16	21
Land	8	10	10	12

Source: primary data

**Graph No. 1**  
**Assets Owned Percentage Before and After Loan Sanction**



### Interpretation and Analysis:

It can be seen from the above graph that there has been an upward trend in the asset owned by farmers after loan sanction. Majority of the farmers have utilized the amount for purchase of equipment with a view to improve productivity. 26 per cent of them have preferred to buy home as it was a major requirement for them. Whereas 21 per cent have invested in physical assets such as vehicles and tractors which are necessary to carry the farm produce to the market and 12 per cent have invested the amount in land.

For analysis paired sample T test is used to study before and after effect of loan sanctioned on asset owned by farmers, results are as follows:

**Table No. 5**  
**T-Test: Paired Two Sample for Means Asset owned**

	Before	After
Mean	20	20
Variance	210	95.33333
Observations	4	4
Pearson		
Correlation	0.97532	
Hypothesized		
Mean Difference	0	
Df	3	
t Stat	0	
P(T<=t) one-tail	0.5	
t Critical one-tail	2.353363	
P(T<=t) two-tail	1	
t Critical two-tail	3.182446	

**Source: primary data**

### Interpretation and Analysis:

Parametric t-Test has been used to compare two population means. The analysis shows the change in asset owned by the farmers before and after tasking loans from PACS. This indicates the impact on their socio-economic condition post loan sanction. The value of t is 3.18. P value is 1. This is larger than 0.05, so we fail to reject the null hypothesis. This means we do not have sufficient evidence to there is a significant improvement in asset size of farmers after taking agricultural credit. Hence, alternate hypothesis is rejected and null hypothesis **there is no significant improvement in asset size of farmers after taking agricultural credit is accepted.**

### Land Holdings

Land holdings of Indian farmers is decreasing day by day which has become a challenge for Indian agriculture. Acreage of land in India has remained the same at 140 million since past 40 years whereas number of dependent farmers have doubled from 7 crore to 14 crore. Farmers are adding day by day but the size of land remains the same. The reason for reduction in the land holding is division of land among children. As the land at disposal becomes smaller, farmers' capacity to invest in land is also decreasing. Cost of inputs has also increased. In such scenario, agricultural credit can play a greater role to improve the income, savings and also help the farmers to occupy more land. A hypothesis related to land holding and loan was framed:

**H<sub>0</sub>:** There is no significant improvement in land holdings of farmers after taking agricultural credit

**H<sub>1</sub>:** There is a significant improvement in land holdings of farmers after taking agricultural credit

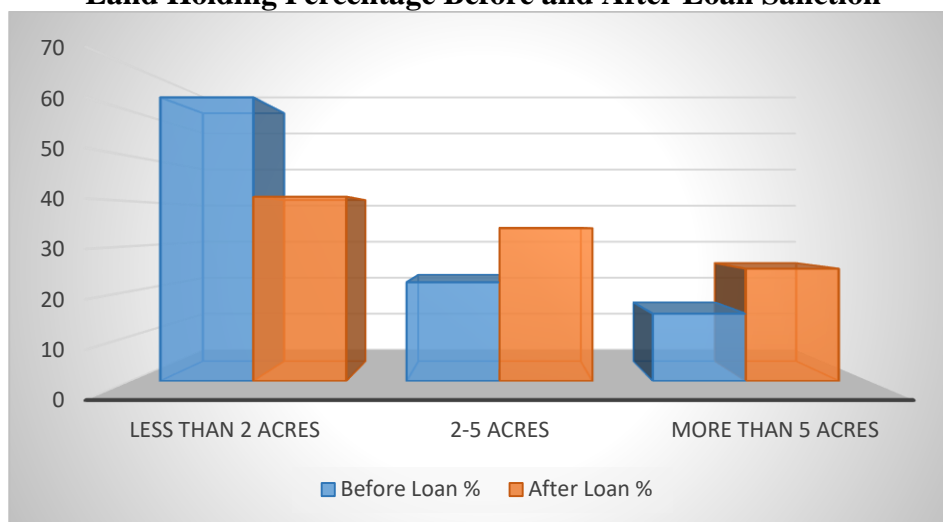
The effect of loan sanction by PACS of Satara DCCBs on our respondents' land holding is as follows:

**Table No. 6**  
**Land Holding Percentage Before and After Loan Sanction**

Land Holdings	Before Loan		After Loan	
	No. of Farmers	%	No. of Farmers	%
Less than 2 acres	50	63	33	41
2-5 acres	18	22	27	34
More than 5 acres	12	15	20	25

**Source: primary data**

**Graph No. 2**  
**Land Holding Percentage Before and After Loan Sanction**



**Interpretation and Analysis:**

It can be seen from the above table and graph:

Size of land holdings have improved after loan sanction. Loan has led to improvement in the income and savings of the farmers and this extra savings is invested in buying land by most of them. Farmers have invested in land as per their investment capacity. Majority of the respondents are small farmers and have bought less than 2 acres of the land but there are few well-to-do farmers as well who have invested in more than 5 acres of the land.

For analysis paired sample T test is used to study before and after effect of loan sanctioned on land holding of farmers, results are as follows:

**Table No. 7**  
**T-Test: Paired Two Sample for Means Land Holding**

	Before Loan	After Loan
Mean	26.66666667	26.66666667
Variance	417.33333333	42.33333333
Observations	3	3
Pearson Correlation	0.912845668	
Hypothesized Mean Difference	0	
Df	2	
t Stat	0	
P(T<=t) one-tail	0.5	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	1	
t Critical two-tail	4.30265273	

**Source: primary data**

Parametric t-Test has been used to compare two population means. The analysis shows the change in land holding of farmers before and after tasking loans from PACS. This indicates the impact on their socio-economic condition post loan sanction. It is further tested to see if this impact is significant or not. The value of t is 4.30. P value is 1. This is larger than 0.05, so we fail to reject the null hypothesis. This means we do not have sufficient evidence to there is a significant improvement in land holding of farmers after taking agricultural credit. Hence, alternate hypothesis is rejected and null hypothesis **there is no significant improvement in land holdings of farmers after taking agricultural credit is accepted.**

**Findings:**

The present study shows that Satara DCCB has provided maximum of loan to the farmers for land development, purchase of seeds, fertilizers and agricultural equipment. These has led to improvement in the farm productivity of the farmers and have contributed towards improvement of their socio-economic status. A slight improvement is seen in the land ownership, ownership of assets but it is not much impressive. Yield has increased as the

farmers' capacity to purchase high yield variety of seeds and fertilizers have improved post loan sanction. This has resulted in satisfaction among the farmers with the credit facility of banks. Improvement in the agriculture has indirectly contributed towards improvement in the financial status and thereby improvement in the socio-economic status of the farmers. Hence, it can be concluded from this study that Satara DCCB has been playing an important role in development of agriculture and thereby financial development of farmers in Mahabaleshwar Taluka by providing financial assistance to them.

### Recommendations:

1. Banks are expected to arrange awareness programmes for all the farmers as it has been seen that due to fear of inability of inability to repay the loans, many farmers do not borrow from bank which leaves the financial sources of bank not being fully utilized. Awareness programmes of banks must try to encourage farmers to borrow loan and should convince them about how loan can help to improve their farm produce and their financial position, if utilized properly.
2. Many farmers still find the loan sanction procedure difficult and complicated. DCCBs must work on simplifying the loan sanction procedure to make the entire process easier for the borrowers.
3. In many cases it is observed that productivity of land of each farmer is not same but still all farmers are charged with the same rate of interest. Bank officials must take a field visit and should analyse fertility of land and rate of interest should be determined accordingly.
4. Many farmers are not aware of subsidy schemes. Small farmers are still depend of non-institutional sources of credit to meet their financial needs. State department of agriculture and banks should take necessary efforts to create awareness about these schemes among farmers.
5. It was found during the course of study, that loan amount is not always used for the specified purpose and it is diverted to some other use. This leads to non-generation of income and thus loan default. Banks must appoint some field supervisors to keep inspecting if the loan amount is utilised for the stated purpose only. This might help to reduce the number of defaults.

### Conclusion:

Cooperative banking in India plays an important role especially in rural areas. The main function of co-operative banks is to release poor farmers from the clutches of money lenders. In Satara district of Maharashtra, credit co-operatives are playing an important role in upliftment of farmers. This study is related to Satara DCCB and it has been found that Satara DCCB not only provides agricultural credit to the farmers but it also organizes awareness programmes from time to time to make them familiar with new techniques of agriculture and subsidy schemes of banks. At present Satara DCCB is an important medium for providing agricultural loan in the entire district. Bank has helped in improvement in the socio-economic conditions of the farmers of this district, but still it faces number of challenges. The major challenge is to provide agricultural loan to small farmers at lower rate of interest as fertility and productivity of land is not same everywhere. Also DCCBs are facing a lot of competition and pressure from commercial banks as farmers are getting attracted towards the populist schemes of other banks and borrow loans from those banks. It can be concluded that Satara DCCB has been helping farmers in development of their socio-economic status, but it has not been completely successful in reaching small and marginalized farmers which makes the agricultural and financial policies of DCCBs partially effective. Hence, DCCBs must come up with some plan to target and include the excluded small and marginalized farmers so that the original objective of DCCBs can be completely achieved.

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