

**IMPACT OF KISAN CREDIT CARD SCHEME ON
AGRICULTURAL INCOME AND PRODUCTIVITY
AMONG FARMERS**

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ABSTRACT:

The credit is considered as one of the basic essentials for boosting vital sector of agriculture. It plays an important role in agricultural development because timely availability of capital leads to adoption of improved seed, fertilizer and modern technologies, which increase the agricultural income and productivity. Kisan credit card has emerged as innovative credit delivery mechanism to meet the production credit requirements in a timely and hassle free manner. It is a vital tool for the rural development. Right from the inception of this scheme the farmers are enjoying the inherent advantages. Aim of the present study was to study the impact of Kisan credit Card on agricultural income and productivity of the sample farmers in a backward district i.e. Ashoknagar, of Madhya Pradesh. For this purpose data were collected from 300 KCC holders from selected bank branches in the district during the year 2009-10. Data were analyzed using paired t test and simple linear regression with the help of SPSS. The findings show positive relationship between credit under KCC and agricultural productivity. Similar relationship was found with income of the sample farmers.

Keywords: Kisan Credit Card Scheme, Agricultural income, Agricultural productivity.

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Introduction

The credit is considered as one of the basic essentials for boosting vital sector of agriculture. It plays an important role in agricultural development because timely availability of capital leads to adoption of improved seed, fertilizer and modern technologies, which increase the agricultural income and productivity.

In order to provide adequate and timely credit support from the banking system to farmers for their cultivation needs, including purchase of all inputs, in a flexible and cost effective manner, the Kisan Credit Card Scheme (KCC) was introduced in August 1998. The scheme includes a reasonable component of consumption credit and investment credit within the overall credit limit sanctioned. (Economics Survey, 2009-10) The credit extended under the scheme is in the nature of revolving case credit and provide for any number of drawals and repayment within the limit, which is fixed on the basis of operational landholding, cropping pattern and scale of finance. (G.M. Yogisha and Karjagi, 2007) Beneficiaries covered under the scheme are issued with a credit card and a passbook or a credit card cum passbook incorporating the name, address, particulars of land holdings borrowing limit, validity period and a passport size photograph of the holder. This card serves as an identity card and facilitates recording of transaction. The borrower is required to produce the card cum passbook whenever he/she operates the account. (A. Subbiah, 2009)

About 936.72 lakhs of Kisan Credit Cards have been issued up to end of 2009-10 by the banks throughout the country and the overall cumulative sanctioned amount was 427748 crores. The Commercial Banks have issued the total highest number of KCCs amongst the three agencies. Maximum KCC issued by Commercial Banks (CBs) are 423.63 lakhs followed by Co-operative Banks 378.87 lakhs, and minimum issued by RRBs 134.21 lakhs. (S. Sirisha *et al.*, 2011)

Objective of the Study

1. To study the impact of Kisan Credit Card Scheme on agricultural income and productivity.

Hypothesis

H₀₁: Credit has not significant impact on agricultural income.

H₀₂: Credit has not significant impact on agricultural productivity.

Methodology

In order to fulfillment of the above mentioned objectives, the study was conducted in the Ashoknagar district of Madhya Pradesh. The district is divided into four tehsils namely Ashoknagar, Chanderi, Isagarh and Mungaoli. The district was purposively selected as a newly formed and agriculturally less developed district in the state. For selection of sample KCC holders, five branches in each tehsil which has made a higher progress in implementing Kissan Credit Card scheme were selected. For the selection of respondents a list of all the beneficiaries who benefited under KCC scheme were obtained from the selected bank branches. After getting list of beneficiaries (KCC holders), from each branch 15 farmers were selected using simple random sampling with due representation to various types of farmers according to their land-holding size. Thereby 75 KCC holders from each tehsil were selected for the study. So the numbers of KCC holders selected for the study were 300.

The collected data were analyzed by using paired t test and simple linear regression analysis as following;

1. Paired t test

To find out the impact of Kissan Credit Card Scheme on income the paired t test was done, which is a statistical test for difference between before and after credit provided by Kissan Credit Card Scheme to farmers in the study area.

$$\text{Paired t test} = \frac{|(d_i - 0_i)|}{\sqrt{Sd^2/n}}$$

Where,

$$D_i = (X_{1i} - X_{2i})$$

$$\text{and } Sd^2 = \frac{1}{n-1} \left\{ \sum d_i^2 - \frac{(\sum d_i)^2}{n} \right\}$$

2. Simple linear regression analysis

To assess the impact of KCC the simple linear regression analysis was used. The functional form and variables were as under:

$$Y = f(Cr)$$

Where,

Y = Agricultural Income (`)

Cr = Credit taken (`)

Impact of KCCS on Agricultural Income

Table No.1

Impact of KCCS on Agricultural Income

Particulars	Category of Sample KCC Holder					Total
	Marginal	Small	Semi medium	Medium	Large	
Mean Pre-loan Income (`)	21081.08	32415.73	49584.90	111685.19	242142.86	61140.00
Mean Post-loan Income (`)	35135.14	56595.50	88433.96	193425.92	413928.57	106503.33
Difference in Incomes (`)	14054.06	24179.77	38849.06	81740.73	171785.71	45363.33
% change in Incomes	66.67	74.59	78.35	73.19	70.94	74.19

Source: Field Survey.

The table 1 reveals that the average annual income from agricultural and its ancillary activities had increased from `61140.00 in the pre loan period to `106503.33 in the post loan period resulted in a net incremental income of `45363.33, which represents 74.19 percent increased over the pre loan period.

The table also reveals that the percentage of increase was highest in case of semi medium farmers (78.35 per cent), followed by small farmers (74.59 per cent), medium farmers (73.19 per cent), large farmers (70.94 per cent) and marginal farmers (66.67 per cent).

Impact of KCCS on Agricultural Productivity

Table 2 presents a detailed picture relating to the agricultural productivity among farmers alone at two points of time viz., pre-loan (before KCC) and post-loan period (after KCC).

Table No. 2

Impact of KCCS on Agricultural Productivity

Particulars	Category of Sample KCC Holder					Total
	Marginal	Small	Semi medium	Medium	Large	
TFP Before KCCS	1.25	1.39	1.41	1.38	1.34	1.38
TFP After KCCS	1.43	1.61	1.72	1.61	1.63	1.64
Difference in TFP	0.18	0.22	0.31	0.23	0.29	0.26
% Change in TFP	14.4	15.8	22.0	16.7	21.6	18.9

Source: Field Survey.

It can be seen from the table that the total factor productivity among farmers had increased from 1.38 in the pre-loan period to 1.64 in the post-loan period. The average total factor productivity after availing the loan increased by 0.26, which indicates 18.9 percent increased over the pre-loan period. The category wise classification further shows that the highest mean incremental total factor productivity from the loan based activity was recorded among semi medium farmers (0.31), followed by large farmers (0.29), medium farmers (0.23), small farmers (0.22) and the lowest among marginal farmers (0.18). The percentage increase in TFP was highest among semi medium farmers (22 percent), followed by large farmers (21.6 percent), medium farmers (16.7 percent), small farmers (15.8 percent) and marginal farmers (14.4 percent). There is significant difference in the total factor productivity among sample farmers between pre-loan and post-loan period.

Testing Of Hypothesis

H01: Credit has not significant impact on agricultural income.

Table No. 3

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 pre income - post income	-45363.3	57835.0034	3339.1055	-51934.5	-38792.2	-13.585	299	.000

The value of t for degrees of freedom 299 at 5% level of significance is 1.968. Calculated value of t is 13.585, which is greater than table value (1.968). So we reject the null hypothesis and conclude that there is a statistically significant difference between the post agricultural income and pre agricultural income. They are not independent. Hence the credit has significant impact on agricultural income.

H02: Credit has not significant impact on agricultural productivity.

Table No.4

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6966.703	3287.877		2.119	.035
	Total Input Cost	1.529	.037	.923	41.505	.000

a. Dependent Variable: Total Production (in Rs.)

Since p value is 0.000 which is less than 0.05 ($p\text{-value} = 0.000 < 0.05$), the relationship between credit and agricultural productivity is significant. Null hypothesis is rejected; hence the alternative hypothesis that 'Credit has significant impact on agricultural income' is accepted.

Thus, we conclude that Credit has significant impact on agricultural income and productivity.

Conclusion

It is concluded that an average annual income from agricultural and its ancillary activities had increased from `61140.00 in the pre loan period to `106503.33 in the post loan period resulted in a net incremental income of `45363.33, which represents 74.19 percent increased over the pre loan period. The total factor productivity among farmers had increased from 1.38 in the pre-loan period to 1.64 in the post-loan period. The average total factor productivity after availing the loan increased by 0.26, which indicates 18.9 percent increased over the pre-loan period. Thus, credit has significant impact on the agricultural income and productivity which has rejected null hypothesis i.e. Credit has not significant impact on agricultural income and productivity.

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