



Impact analysis of kisan credit card scheme: A comparative study of Punjab and Haryana

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Abstract

The present investigation was carried out during the year 2021-22, in two purposively selected Mansa district of Punjab state and Sirsa district of Haryana state. Since the implementation of the financial reforms, India's agricultural sector has received much more funding. In order to direct funding to rural parts of the nation so that farmers may get enough credit, the government and RBI have launched a number of plans and programmes. Its primary goal was to establish the Kisan Credit Card Scheme by drawing attention to the need for innovative financial tools to assist farmers. In 1998 following the committee's suggestions, the Shri R.V. Gupta initiative has underway. The study was undertaken to evaluate the impact of Kisan Credit Card Scheme on farm economy. This study is based on primary survey and data was collected from 240 farmers by personal interview from the study area. The study represents an attempt to ascertain the effects of KCC schemes on a variety of farm economy elements, such as cost and returns, productivity and production of beneficiary farmers in rice and wheat crops in Punjab and Haryana. The results of this study found that KCC programs have a positive effect on agricultural productivity and production in Punjab and Haryana for the two crops that were chosen. While in both states, wheat crops were shown to have higher productivity and production than rice crops. Furthermore, the findings of the study revealed that the credit offered under the KCC system was insufficient because there was a larger credit gap for the rice crop than wheat crop. The study showed that, on average, net returns for both KCC recipients and non-recipients were found to be negative, suggesting that there may be a financial shortfall in the cultivation of rice and wheat.

Keywords: Credit, Kisan credit card, gross return and cost benefit ratio

Introduction

Agriculture is a major sector of the Indian economy, accounting for around 16 per cent of GDP and over 50 per cent of employment. The institutional credit has been considered to play a pivotal role in agricultural development of India. The Kisan Credit Card (KCC) scheme was introduced in 1998 for issue of Kisan Credit Cards to farmers on the basis of their holdings for uniform adoption by the banks so that farmers may use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs. The scheme was further extended for the investment credit requirement of farmers. allied and non-farm activities in the year 2004. On 18 December, 2020 Prime Minister Narendra Modi launched Revised Scheme to Kisan Credit Card (KCC) which aims at providing adequate and timely credit support from the banking system under a single window to the farmers for their cultivation and other needs. The farmers eligible under the KCC scheme include small farmers, marginal farmers, share croppers, oral lessee and tenant farmers. The Self-Help Groups (SHGs) or Joint Liability Groups (JLGs) are also eligible for availing benefits under the said scheme. Agriculture is the primary sources of income for people in developing economies. However agricultural revenue has been decreasing over time, leaving many households unable to satisfy their basic necessities. Farmers require alternative sources of consistent income due to the unpredictability of agricultural revenue (Isengildina-Massa *et al.*, 2021). The Government of India (GOI) has periodically implemented policy thrusts aimed at increasing the productivity of these activities. These have resulted in the various agricultural revolutions, including the white revolution in milk production (beginning in the 1970s), the blue revolution (1973–2002) it aimed to boost the productivity and output of fisheries and the green revolution in cereal production (late 1960s–early 1980s).

Methodology

Methodology is a research structure or a procedure for conducting a research study. The states of Punjab and Haryana, which are well-known agricultural regions, have been selected as research areas in order to learn more about the purpose and effectiveness of the Kisan Credit Card Scheme. The study involves collection and analysis of primary data. The farmers provided the primary data related to KCC for the years 2021-2022 that was required according to the objectives of the study. The primary crop rice has been chosen based on the maximum area covered by this crop in the study region area for the year 2019-20. The data has been examined by using the proper statistical tools. Based on the study of the data, conclusions and results have been obtained.

Results and Discussion

The current paper represents an attempt to ascertain the effects of KCC schemes on a variety of farm economy elements, such as cost and returns, productivity and production of beneficiary farmers in Punjab and Haryana. The present study examines the adequacy of credit offered by KCC schemes for the production of rice in Punjab and Haryana

Table 1 reveals the total cost of credit incurred by farmers in Punjab on the basis of their size and beneficiaries or non-beneficiaries of the Kisan Credit Card (KCC) scheme. For KCC beneficiaries, the total cost of credit comprises transaction costs and interest costs.

Table 1: Total Cost of Credit Incurred in Punjab (Rs. Per Farmer)

Particulars	Size of Farmers	Transaction cost	Interest cost	Total cost of credit	Amount Borrowed	Cost of Credit as % of Amount Borrowed
Kcc Beneficiaries	Small	425.56	16268.21	16693.77	178240.48	9.37
	Medium	582.76	25010.15	25592.91	397430.26	6.44
	Large	1054.23	70254.91	71309.14	892335.67	7.99
Non-Kcc Beneficiaries	Small	813.87	35825.14	36639.01	140125.43	26.15
	Medium	732.38	55150	55882.38	345724.69	16.16
	Large	1185.62	80036.65	81222.27	892854.69	9.10

Source: Field Survey

It has been found that small, medium, and large KCC beneficiaries incur total credit costs of Rs. 16,693.77, Rs. 25,592.91, and Rs. 71,309.14, respectively with interest costs accounting for 9.37 per cent, 6.44 per cent and 7.99 per cent respectively of the amount borrowed. In contrast, non-KCC beneficiaries face higher transaction and interest costs, resulting in a significant total credit cost. Small, medium, and large non-KCC beneficiaries incur total credit costs of Rs. 36,639.01, Rs. 55,882.38, and Rs. 81,222.27,

respectively with interest costs representing 26.15 per cent, 16.16 per cent and 9.10 per cent respectively of the amount borrowed. The data underscores the substantial variation in the cost of credit for different farmer sizes and between KCC and non-KCC beneficiaries in Punjab.

Table-2 presents a detailed analysis of the impact of the Kisan Credit Card (KCC) scheme on the cost structure of rice crop cultivation in Punjab on the beneficiaries and non-beneficiaries across different farmer categories.

Table 2: Impact of KCC Scheme on Cost Structure of Rice Crop in Punjab (Rs. per Acre)

Sr. No.	Particulars	Small		Medium		Large		Overall	
		Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary
1	Land Preparation Cost	2578.81	2335.4	2778.83	2632.71	2934.73	2791.1	2764.12	2586.40
2	Seed and Sowing Cost	2931.54	2684.37	2936.92	3052.83	3438.76	3185.12	3102.41	2974.11
3	F.Y.M (including application) Cost	3728.83	2974.62	3885.49	3689.37	3627.15	3478.36	3747.16	3380.78
4	Fertilizer (including application) Cost	1995.5	1678.37	1838.96	1921.25	3687.34	3454.76	2507.27	2351.46
5	Irrigation Cost	9779.38	9834.62	11674.23	11738.84	14723.76	13763.23	12059.12	11778.90
6	Plant Protection Cost	6356.39	7145.87	7931.53	6962.86	8858.61	9450.43	7715.51	7853.05
7	Harvesting and Threshing Cost	6731.78	6954.29	7889.47	8191.1	12425.37	12467.66	9015.54	9204.35
8	Operational Cost	34102.23	33607.54	38935.43	38188.96	49695.72	48590.66	40911.13	40129.05
9	Interest on working capital	823.49	855.21	895.33	899.28	1023.82	1035.54	914.21	930.01
10	Variable cost	34925.72	34462.75	39830.76	39088.24	50719.54	49626.20	41825.34	41059.06
11	Management Charges @ 10%	3492.57	3446.28	3983.08	3908.82	5071.95	4962.62	4182.53	4105.91
12	Risk Factors @10%	3492.57	3446.28	3983.08	4088.82	5071.95	4962.62	4182.53	4165.91
13	Transportation Cost	2554.66	2645.85	2738.74	2685.50	3291.10	3345.98	2861.50	2892.44
14	Rental Value of Land	22845.40	22640.40	21560.00	21795.50	20870.30	20640.90	21758.57	21692.27
15	Total Cost	67310.92	66641.55	72095.65	71566.89	85024.85	83538.32	74810.47	73915.59
16	Value of Main Product	48238.82	47121.51	49134.87	48762.67	51285.85	50270.91	49553.18	48718.36
17	Value of By Product	2037.73	1764.45	1742.87	1589.43	1621.45	1433.57	1800.68	1595.82
18	Gross Returns	50276.55	48885.96	50877.74	50352.10	52907.30	51704.48	51353.86	50314.18
19	Returns over VC	15350.83	14423.21	11046.98	11263.86	2187.76	2078.28	9528.52	9255.12
20	Net Returns	-17034.37	-17755.59	-21217.91	-21214.79	-32117.55	-31833.84	-23456.61	-23601.41
21	B:C Ratio	-0.25	-0.27	-0.29	-0.30	-0.38	-0.38	-0.31	-0.32

Source: Field Survey

The table provides a comprehensive breakdown of the cost structure for wheat crop cultivation in Punjab, comparing Kisan Credit Card (KCC) beneficiaries and non-beneficiaries across various farmer categories. Various cost components were outlined in the study like including land preparation, seed and sowing, fertilizer, irrigation, plant protection, harvesting, operational costs, interest on working capital and others. It has been found that the average variable cost of cultivation for KCC beneficiaries' ranges from Rs. 34,925.72 to Rs. 50,719.54, while for non-beneficiaries, it ranges from Rs. 34,462.75 to Rs. 49,626.20.

The total cost, including management charges, risk factors, transportation and rental value of land, has been presented alongside the gross returns, net returns and benefit-cost ratio (B:C ratio). The results of the study revealed that on an average, the B:C ratio is negative for both KCC beneficiaries and non-beneficiaries, indicating a potential economic deficit in rice cultivation.

Table-3 shows the impact of the Kisan Credit Card (KCC) scheme on the productivity of rice crops in Punjab among different farmer categories.

Table 3: Impact of KCC Scheme on Productivity of Rice Crop in Punjab

Beneficiaries	Particulars	Categories of Farmers			Overall
		Small	Medium	Large	
KCC	Area (in acres)	156.8	301.6	580	1038.4
	Production (in qtls)	2279.68	5489.31	11024.62	18793.61
	Productivity (in qtls)	14.54	18.20	19.01	18.10
Non-KCC	Area (in acres)	146	329.6	626.8	1102.4
	Production (in qtls)	2004.5	5160.42	11673.37	18838.29
	Productivity (in qtls)	13.73	15.66	18.62	17.09

Source: Field Survey

It has been found that the KCC beneficiaries with a total cultivation area of 1038.4 acres, exhibit higher overall rice production of 18793.61 quintals compared to non-KCC beneficiaries, who cultivate 1102.4 acres and yield 18838.29 quintals. While non-KCC beneficiaries have a slightly larger cultivation area, KCC beneficiaries achieve a higher overall productivity of 18.10 quintals per acre, compared to 17.09

quintals per acre for non-KCC farmers. The productivity gains are notable across small, medium, and large farmer categories within the KCC scheme, emphasizing its positive impact on rice crop productivity in Punjab.

Table-4 evaluates the adequacy of credit accessed through the Kisan Credit Card (KCC) for rice crop cultivation in Punjab for different farmer sizes.

Table 4: Adequacy of Credit availed under KCC for Rice Crop in Punjab

Particulars	Category of KCC Beneficiaries			Average
	Small	Medium	Large	
Average Variable Cost of Cultivation	34925.72	39830.76	50719.54	41825.34
Average Total Cost of Cultivation	67310.92	72095.65	85024.85	74810.47
Average amount Sanctioned	45469.5102	52709.58355	61540.39	53239.83
Credit Gap from average Variable Cost	0	0	0	0.00
Credit Gap from average Total Cost	-21841.41	-19386.07	-23484.46	-21570.65
Credit Gap as % of Variable Cost of Cultivation	0	0	0	0.00
Credit Gap as % of Total Cost of Cultivation	-32.44854252	-26.8893725	-27.62069856	-28.99

Source: Field Survey

Table shows that average variable cost of cultivation varies from Rs. 34,925.72 for small farmers to Rs. 50,719.54 for large farmers, with an overall average of Rs. 41,825.34. The average total cost of cultivation ranges from Rs. 67,310.92 for small farmers to Rs. 85,024.85 for large farmers, averaging at Rs. 74,810.47. Despite covering the entire variable cost, there is a credit gap concerning the total cost, with negative values indicating a deficit. Small, medium,

and large farmers experience credit gaps of -32.45%, -26.89%, and -27.62%, respectively, as a percentage of the total cost of cultivation.

The table-5 presents the total cost of credit incurred by farmers in Haryana. Table also reveals that the costs of non-beneficiary farmers were higher than those of beneficiary farmers for both transactions and interest

Table 5: Total Cost of Credit Incurred in Haryana (Rs. per Farmer)

Particulars	Size of Farmers	Transaction cost	Interest cost	Total cost of credit	Amount Borrowed	Cost of Credit as % of Amount Borrowed
Kcc Beneficiaries	Small	365.24	13234.81	13600.05	175520.35	7.75
	Medium	493.43	23036.87	23530.3	406560.35	5.79
	Large	783.45	67098.42	67881.87	923540.66	7.35
Non- Kcc Beneficiaries	Small	515.39	32045.67	32561.06	157785.43	20.64
	Medium	598.86	50692.67	51291.53	398650.94	12.87
	Large	735.23	77124.82	77860.05	916832.84	8.49

Source: Field Survey

As compared to beneficiary farmers, whose KCC card is valid for five years and whose costs for legal documentation and commission are incurred just once at the time of KCC issuance, non-beneficiary farmers incurred greater transaction costs because they need to resubmit all of their documentation for each borrowing. Because of the revolving credit facility, which reduced interest costs, beneficiaries of KCC had lower interest costs than those of other credit sources. By adding this transaction and interest

costs, study found that the overall cost in Haryana of non-beneficiary farmers was high. Additionally, it has been noted that in the case of beneficiaries and non-KCC beneficiaries, large farmers paid more in overall costs for the amount borrowed.

Table 6 shows the impact of KCC scheme on cost structure of rice crop in Haryana of the beneficiaries and non-beneficiaries farmers. the beneficiaries and non-beneficiaries farmers.

Table 6: Impact of KCC Scheme on Cost Structure of Rice Crop in Haryana (Rs. per Acre)

Sr. No.	Particulars	Small		Medium		Large		Overall	
		Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary
1	Land Preparation Cost	2476.89	2067.43	2478.49	2365.36	2683.28	2541.89	2546.22	2324.89
2	Seed and Sowing Cost	2775.36	2519.39	2787.35	2943.35	3184.45	3012.48	2915.72	2825.07
3	F.Y.M (including application) Cost	3561.38	2854.13	3618.47	3523.34	3349.73	3278.49	3509.86	3218.65
4	Fertilizer (including application) Cost	1820.34	1535.67	1672.45	1654.56	3453.58	3261.97	2315.46	2150.73
5	Irrigation Cost	9679.38	9483.29	10345.32	10247.53	12650.43	12100.91	10891.71	10610.58
6	Plant Protection Cost	7339.12	6925.63	8891.1	7895.3	8658.61	8732.57	8296.28	7851.17
7	Harvesting and Threshing Cost	6416.48	6854.38	7851.49	8932.4	10312.4	11320.56	8193.46	9035.78
8	Operational Cost	34068.95	32239.92	37644.67	37561.84	44292.48	44248.87	38668.70	38016.88
9	Interest on working capital@12.5%	765.42	710.35	784.56	734.45	797.36	765.29	782.45	736.70
10	Variable cost	34834.37	32950.27	38429.23	38296.29	45089.84	45014.16	39451.15	38753.57
11	Management Charges @ 10%	3483.44	3295.03	3842.92	3829.63	4508.98	4501.42	3945.11	3875.36
12	Risk Factors @10%	3125.75	3295.03	3742.92	3882.53	4508.98	4559.22	3792.55	3912.26
13	Transportation Cost	2247.73	2143.56	2238.74	2385.50	3267.41	3345.98	2584.63	2625.01
14	Rental Value of Land	22845.40	22640.40	21560.00	21795.50	20870.30	20640.90	21758.57	21692.27
15	Total Cost	66536.69	64324.28	69813.82	70189.45	78245.52	78061.67	71532.01	70858.47
16	Value of Main Product	46386.78	45532.68	47672.69	46429.53	52432.93	50370.66	48830.80	47444.29
17	Value of By Product	1630.46	1587.62	1678.94	1432.60	1697.73	1533.57	1669.04	1517.93
18	Gross Returns	48017.24	47120.30	49351.63	47862.13	54130.66	51904.23	50499.84	48962.22
19	Returns over VC	13182.87	14170.03	10922.40	9565.84	9040.82	6890.07	11048.70	10208.65
20	Net Returns	-18519.45	-17203.98	-20462.19	-22327.32	-24114.86	-26157.44	-21032.16	-21896.25
21	B:C Ratio	-0.28	-0.27	-0.29	-0.32	-0.31	-0.34	-0.29	-0.31

Source: Field Survey

Study found that the beneficiary farmers incurred higher costs and returns per acre for their rice harvest than non-beneficiary farmers of all categories. The entire cost of the rice crop for beneficiaries Rs. 71532.01, more than the cost for non-beneficiaries, which was Rs. 70858.47 per acre. Table shows that the large farmers in the KCC beneficiary and non-beneficiary groups had the highest overall

cultivation costs, at Rs. 78245.52 and 78061.67 per acre, respectively.

Table 7 examines the impact of the Kisan Credit Card (KCC) plan for small, medium, and large farmers in Haryana on the production of their rice crops. A comparison has been made between the KCC scheme beneficiaries and the non-KCC beneficiaries.

Table 7: Impact of KCC Scheme on Productivity of Rice Crop in Haryana

Beneficiaries	Particulars	Categories of Farmers			Overall
		Small	Medium	Large	
KCC	Area (in acres)	138	305.6	632	1075.6
	Production (in qtls)	2455.34	5628.35	12487.89	20571.58
	Productivity (in qtls)	17.79	18.42	19.76	19.13
Non-KCC	Area (in acres)	129.6	325.2	744	1198.8
	Production (in qtls)	2045.65	5267.73	12460.24	19773.62
	Productivity (in qtls)	15.78	16.20	16.75	16.49

This shows that increased rice output has been a general outcome of the KCC plan. The ratio of production to the area under cultivation has been used to calculate productivity. It has been found that all types of KCC beneficiaries (small, medium, and large farmers) have improved rice productivity. As compared to non-KCC beneficiaries, who produce 16.49 quintals per acre, KCC beneficiaries produce 19.13 quintals per acre on average. This implies that farmers availing the KCC scheme were

getting better yield per acre compared to those who were not part of the scheme. 140 Within each category (small, medium and large), farmers benefiting from the KCC scheme have higher productivity compared to their non-KCC counterparts.

Table 8 examines the adequacy of credit availed under the Kisan Credit Card (KCC) for rice crop cultivation in Haryana among different farmer categories.

Table 8: Adequacy of Credit availed under KCC for Rice Crop in Haryana

Particulars	Category of KCC Beneficiaries			Average
	Small	Medium	Large	
Average Variable Cost of Cultivation	34834.37	38429.23	45089.84	39451.15
Average Total Cost of Cultivation	66536.69	69813.82	78245.52	71532.01
Average amount Sanctioned	50875.46	53214.71	58451.94	54180.70
Credit Gap from average Variable Cost	0.00	0.00	0.00	0.00
Credit Gap from average Total Cost	-15661.23	-16599.11	-19793.58	-17351.23
Credit Gap as % of Variable Cost of Cultivation	0.00	0.00	0.00	0.00
Credit Gap as % of Total Cost of Cultivation	-23.53	-23.77	-25.29	-24.25

Source: Field Survey

Table shows that the average variable cost of cultivation ranges from 34834.37 for small farmers to 45089.84 for large farmers, with an overall average of 39451.15. The average total cost of cultivation varies from 66536.69 for small farmers to 78245.52 for large farmers, averaging at 71532.01. The average amount sanctioned through KCC was 50875.46 for small farmers, 53214.71 for medium farmers, and 58451.94 for large farmers, with an overall average of 54180.70. While the credit covers the entire variable cost of cultivation for all categories, there is a credit gap concerning the total cost, with negative values indicating a deficit. The credit gap as a percentage of the total cost ranges from -23.53 per cent for small farmers to -25.29 per cent for large farmers, revealing that the sanctioned credit falls short of covering the full cost of cultivation, particularly in terms of total expenses, for all farmer categories in Haryana.

Conclusion

The study underscores the substantial variation in the cost of credit for different farmer sizes and between KCC and non-KCC beneficiaries in Punjab and Haryana. In Punjab the results of the study revealed that on an average, the B:C ratio is negative for both KCC beneficiaries and non-beneficiaries, indicating a potential economic deficit in rice cultivation. The productivity gains are notable across small, medium, and large farmer categories within the KCC scheme, emphasizing its positive impact on rice crop productivity in Punjab. This suggests that the sanctioned credit falls slightly short of covering the entire cost of cultivation, particularly in terms of total expenses, for all farmer categories in Punjab, indicating a potential need for adjustments in credit allocation to meet the financial requirements of wheat cultivation. It can be concluded that the KCC scheme for farmers has been an effective tool for mitigating their losses associated with rice cultivation in Haryana. However, it is noteworthy that none of the farmer categories selected for the study was able to profit from the production of rice in Haryana. Overall, it has found that the KCC scheme has a positive impact on rice crop productivity in Haryana, leading to higher yields per acre for farmers who have availed the credit facility.

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