



Research Article

ECONOMIC ANALYSIS OF COST AND RETURN OF MAIZE IN UDAIPUR DISTRICT OF RAJASTHAN

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Abstract: The present study was conducted to analyze the cost and return of maize crop in Udaipur district of Rajasthan. The study area was selected on the basis of highest gross cropped area of maize crop in study area. A sample of 120 farmers were selected randomly in the study area during the year 2020-21. Selection of farmers categorized into two categories i.e., beneficiary (tube-well irrigation) and non-beneficiary (other than tube-well irrigation) farms. The standard cost concept method of the CACP was used to calculate cost of cultivation of maize crop. Results revealed that overall cost of cultivation was found Rs. 30941.54 and Rs. 29301.93 on beneficiary and non-beneficiary farms, respectively. It was due to higher expenditure towards irrigation, hired human labour and fertilizers etc. Overall net return was found Rs. 6637.63 and Rs. 4343.74 on beneficiary and non-beneficiary farms, respectively. Return per rupee was found more on beneficiary farms compare to non-beneficiary farms.

Keywords: Maize, Tube-Well Irrigation, Cost

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Introduction

Maize is one of the important cereal crops in the world's agricultural economy both as food for humans and feed for animals. Maize is called "Queen of Cereals". Because of its higher yielding potentials compared to other cereal crops. Maize presents nutrients for people and animals and serves as a simple basic raw material to produce starch, oil, protein, alcohol beverages, food sweeteners etc. Maize is high yielding, easy to process, and cost of cultivation is less than other cereals. part of the maize plant has economic value: the grain leaves, stalk, tassel, and cob, all can be used to produce a large demand for food, feed, fuel and industrial raw material. Maize (*Zea mays* L.) is one of the maximum versatile rising plants having wider adaptability beneath various agro-climatic situations. Water is an important determinant factor to produce crops in the agriculture sector of the state. Rajasthan agrarian mainly depends upon the monsoon. The behaviour of monsoon in Rajasthan is usually erratic and uncertain. At present, less than one fourth of the state's area is under irrigation. The main sources of irrigation in Rajasthan are canals, tanks, tube-wells and wells. Irrigation is an important input in catalysing the use of improved seed and fertilizers.

Irrigation is used to reduce dependence on rainfall for agriculture and to inject dynamism in India's agriculture by providing assured water supply to the agricultural sector. It increases the agricultural production through multiple cropping and thereby helps to achieve self-sufficiency and to avoid imports of food grains. Irrigation helps small and marginal farmers with adequate water supply for intensive cultivation. It ensures proper and sustained growth in dry areas. Appropriate irrigation methods increase the productivity of land. Irrigation reduces regional disparities in agricultural production in different regions of the country. Irrigation helps to reduce income inequalities and improves the purchasing power of the rural community and to maintains price stability. The production and productivity of agriculture is mainly dependent on irrigation.

Material and Methods

The present study has been carried out in Udaipur district of Rajasthan during the agriculture year 2020-21. Three tehsils in Udaipur district viz., Vallabhnagar, Mavli and Girwa were chosen for the study based on the highest area under tube-well

irrigation source. Maize crop was selected based on highest gross cropped area in the study area. The selected farmers were categorised into three categories i.e., small, medium, and large on the basis of their land holdings using cumulative frequency distribution method. Thus, the categories were small farmers having area less than 2-hectare, medium farmers having 2 to 4 hectares land and large farmers having more than 4 hectares of land holding. A sample of 60 beneficiary farmers was selected randomly in the study area similarly, equal 60 also randomly selected number of non-beneficiary farmers to compare the importance of irrigation by selected irrigation source and other irrigation sources. Beneficiary farmers were raised the maize crop under tube-well irrigation in Udaipur district. Non-beneficiary farmers were used other irrigation source such as wells, pond, tank etc. other than tube-well irrigation source for the maize crop production.

Cost Concepts

The cost of cultivation was calculated by using simple tabular analysis and standard method used by CACP to work out the cost of cultivation of maize crop was adopted. This included Cost A1, Cost A2, Cost B1 Cost B2, Cost C1 Cost C2 and Cost C3. Details are under:

Cost A1: It includes value of hired human labour (permanent and casual), value of hired or owned bullock labour, value of owned and hired machinery labour, value of seed (farm produced and purchased), value of plant protection measures, value of manure (owned and purchased), value of fertilizers, depreciation on implements and farm buildings, irrigation charges, land revenue, cesses and other taxes, interest on working capital, miscellaneous charges etc.

Cost A2: Cost A1 + rental value for leased-in-land

Cost B1: Cost A1 + interest value of owned fixed capital assets (excluding land)

Cost B2: Cost B1 + rental value of owned land (net of land revenue) and rent paid for leased-in-land

Cost C1: Cost B1 + imputed value of family labour

Cost C2: Cost B2 + imputed value of family labour

Cost C3: Cost C2 + 10 per cent of Cost C2 to account managerial input of the farmer

Economic Analysis of Cost and Return of Maize in Udaipur district of Rajasthan

Table-1 Cost of cultivation of maize cultivation on beneficiary farms in Udaipur district (Rs/ hectare)

SN	Cost items	Farm size groups			Overall
		Small	Medium	Large	
1	Total human labour	9003.87(28.82)	8621.10(27.82)	8182.54(26.75)	8602.50(27.80)
(a)	Family labour	8173.62(26.16)	6843.00(22.08)	6150.85(20.11)	7055.82(22.78)
(b)	Hired human labour	830.25(2.66)	1778.10(5.74)	2031.69(6.64)	1546.68(5.01)
2	Animal labour	341.20(1.09)	193.61(0.62)	167.54(0.55)	234.12(0.75)
3	Machine labour	7680.34(24.58)	7734.17(24.95)	7927.75(25.92)	7780.75(25.15)
4	Seed	1987.50(6.36)	1999.05(6.45)	2006.34(6.56)	1997.63(6.46)
5	Manure (FYM)	1009.51(3.23)	929.34(3.00)	668.40(2.18)	869.08(2.80)
6	Fertilizer	1870.51(5.99)	1917.60(6.19)	2000.00(6.54)	1929.37(6.24)
7	Plant protection	1339.43(4.29)	1390.26(4.49)	1363.40(4.46)	1364.36(4.41)
8	Irrigation	536.12(1.72)	523.05(1.69)	460.50(1.51)	506.56(1.64)
9	Interest on working capital	1559.49(4.99)	1646.52(5.31)	1662.56(5.43)	1622.86(5.25)
A.	Total Variable cost	25327.97(81.07)	24954.70(80.52)	24439.03(79.89)	24907.23(80.49)
10	Rental Value of land	4870.50(15.59)	4926.30(15.89)	4990.10(16.31)	4928.97(15.93)
11	Depreciation on farm implements	504.73(1.62)	563.36(1.82)	602.20(1.97)	556.76(1.80)
12	Interest on fixed capital	537.52(1.72)	548.97(1.77)	559.23(1.83)	548.57(1.77)
B.	Total Fixed cost	5912.75(18.93)	6038.63(19.48)	6151.53(20.11)	6034.30(19.51)
	Total Cost (A+B)	31240.72(100.00)	30993.32(100.00)	30590.56(100.00)	30941.54(100.00)

Table-2 Cultivation of maize crop based on cost concepts on beneficiary farms (Rs. / Hectare)

Items	Small	Medium	Large	Overall
Cost A1/ Cost A2	17659.08	18675.06	18890.38	18408.17
Cost B1	18196.60	19224.02	19449.61	18956.75
Cost B2	23067.10	24150.32	24439.71	23885.71
Cost C1	26370.22	26067.02	25600.46	26012.57
Cost C2	31240.72	30993.32	30590.56	30941.54
Cost C3	17659.08	18675.06	18890.38	18408.17

Table-3 Cost and return from maize production on beneficiary farms

Yield and Income	Small	Medium	Large	Overall
Cost of Cultivation (Rs. /ha)	31240.72	30993.32	30590.56	30941.54
Value of main product (Rs. /ha)	25447.50	25911.50	27187.50	26182.17
Value of by product (Rs. /ha)	11173.50	11250.00	11767.50	11397.00
Cost of production (Rs. / quintal)	1780.10	1734.38	1631.50	1715.32
Gross return (Rs. / ha)	36621.00	37161.50	38955.00	37579.17
Net return (Rs. / ha)	5380.28	6168.18	8364.44	6637.63
Farm business Income (Rs. /ha)	18961.92	18486.44	20064.62	19170.99
Family labour Income (Rs. / ha)	13553.90	13011.18	14515.29	13693.46
Farm investment Income (Rs. /ha)	10788.30	11643.44	13913.77	12115.17
Return per rupee/B:C ratio	1.17	1.20	1.27	1.21

Income measures

1. Gross income/ return is the value of main product and by product.

$$\text{Gross income} = Q_{mp} \times P_{mp} + Q_{bp} \times P_{bp}$$

Where,

Q_{mp} = Quantity of crop main product

P_{mp} = Price of crop main product

Q_{bp} = Quantity of crop by product

P_{bp} = Price of crop by product

2. Farm business income = Gross income – Cost A1

3. Family labour income = Gross income – Cost B2

4. Farm investment income = Farm Business income – Imputed value of family labour

5. Net income = Gross income – Cost C2

Results and Discussion

Cost of cultivation of maize crop on beneficiary farms in Udaipur district

Among variable cost items, human labour (27.80 per cent) contributed highest share in total cost followed by machine labour (25.15 per cent), seed (6.40 per cent), fertilizer (6.24 per cent), interest on working capital (5.52 per cent), plant protection charges (4.41 per cent) and irrigation (1.04 per cent). While among fixed components, rental value of land (15.93 per cent), shared highest share in total cost followed by depreciation on farm implements (1.80 per cent) and interest on fixed capital (1.72 per cent). Across the various farm size categories, per cent share of human labour varied from 26.75 on large farm size to 28.82 on small farm size. The share of family labour found to be decreased with increase in farm size categories. These results were also reported by Ahirwar *et al.* (2015) [1]. While share of hired human labour was observed just reversed trend which was 2.66 per

cent on small farm size, 5.74 per cent on medium farm size and 6.64 per cent on large farm size. The per cent share of machine labour was found highest on medium, farm size followed by 25.92 per cent on large farm size and 24.58 per cent on small farm size. The share of seed in total cost was marginally increased with increase in farm size, which was 3.36, 6.45 and 6.56 per cent on small, medium and large farm size, respectively. The share of fertilizer cost and interest on working capital were also observed to be increased with increase in farm size categories. The share of irrigation cost was notified 1.72, 1.69 and 1.51 per cent in total cost on small, medium and large farm size categories. Thus, variable cost varied from 79.89 per cent on large farm size to 81.07 per cent on small farm size. Across different farm size categories, the share of all the fixed cost items such as rental value of land, depreciation on implements and interest on fixed capital were found to be marginally increased with increased in farm size categories. Thus, fixed cost was observed to be increased with increase in farm size categories, which was 18.93, 19.48 and 20.11 per cent on small, medium and large farm size, respectively.

Results showed that the cost of cultivation of maize crop decreases with increase in size of farms mainly due to more use of family labour and irrigation charges cost on small farms compared to other farms. Similar results were found by Agarwal and Singh (2017) [2] and Rout *et al.* (2018) [3] in their study.

Analysis of cost of maize cultivation based on cost concepts

The overall Cost A1/A2 was found to be Rs. 18408.17 as there was no leased in tendency on selected sample farms in study area. Cost B1 and Cost B2 on overall basis were worked out to be Rs. 18956.75 and Rs. 23885.71 per hectare respectively as depicted in [Table-2]. Cost C1, Cost C2 and Cost C3 were worked out to be Rs. 26012.57, Rs. 30941.54 and Rs. 18408.17 per hectare, respectively.

Table-4 Cost of cultivation of maize cultivation on non-beneficiary farms (Rs./Hectare)

SN	Cost items	Farm size groups			Overall
		Small	Medium	Large	
1	Total human labour	8475.34(29.41)	8030.78(27.38)	7878.48(26.47)	8128.20(27.76)
(a)	Family labour	7729.14(26.82)	6441.25(21.96)	5885.21(19.78)	6685.20(22.85)
(b)	Hired human labour	746.20(2.59)	1589.53(5.42)	1993.27(6.70)	1443.00(4.90)
2	animal labour	405.27(1.41)	268.00(0.91)	0.00(0.00)	224.42(0.77)
3	Machine labour	7435.69(25.80)	7564.00(25.79)	7712.00(25.91)	7570.56(25.84)
4	Seed	1975.26(6.85)	1988.48(6.78)	2000.05(6.72)	1987.93(6.79)
5	Manure (FYM)	954.11(3.31)	879.46(3.00)	705.43(2.37)	846.33(2.89)
6	Fertilizer	1489.70(5.17)	1605.05(5.47)	1878.53(6.31)	1657.76(5.65)
7	Plant protection	1118.62(3.88)	1372.09(4.68)	1497.80(5.03)	1329.50(4.53)
8	Irrigation	240.45(0.83)	224.08(0.76)	283.89(0.95)	249.47(0.85)
9	Interest on working capital	1436.53(4.98)	1549.07(5.28)	1607.10(5.40)	1530.90(5.22)
A. Total Variable Cost		23530.97(81.65)	23481.01(80.06)	23563.28(79.18)	23525.08(80.30)
10	Rental Value of land	4225.27(14.66)	4686.46(15.98)	4948.06(16.63)	4619.93(15.76)
11	Depreciation on farm implements	580.87(2.02)	629.08(2.14)	685.29(2.30)	631.75(2.15)
12	Interest on fixed capital	480.61(1.67)	531.55(1.81)	563.34(1.89)	525.17(1.79)
B. Total Fixed Cost		5286.75(18.35)	5847.09(19.94)	6196.69(20.82)	5776.84(19.70)
Total Cost (A+B)		28817.72(100.00)	29328.10(100.00)	29759.96(100.00)	29301.93(100.00)

Table-5 Cost of cultivation of maize crop based on cost concept on non-beneficiary farms (Rs. / Hectare)

Items	Small	Medium	Large	Overall
Cost A1/ Cost A2	16382.70	17668.84	18363.36	17471.63
Cost B1	16863.31	18200.39	18926.69	17996.80
Cost B2	21088.58	22886.85	23874.75	22616.73
Cost C1	24592.45	24641.64	24811.90	24682.00
Cost C2	28817.72	29328.10	29759.96	29301.93
Cost C3	31699.49	32260.91	32735.96	32232.12

Table-6 Cost and return from maize production on non-beneficiary farms in Udaipur district

Yield and Income	Small	Medium	Large	Overall
Cost of cultivation (Rs. / ha)	28817.72	29328.10	29759.96	29301.93
Value of main product (Rs. /ha)	23171.00	23867.00	24505.00	23847.67
Value of by product (Rs. /ha)	9585.00	9841.50	9967.50	9798.00
Cost of production (Rs. / quintal)	1803.36	1781.78	1760.94	1782.03
Gross return (Rs. / ha)	32756.00	33708.50	34472.50	33645.67
Net return (Rs. / ha)	3938.28	4380.40	4712.54	4343.74
Farm business Income (Rs. /ha)	16373.30	16039.66	16109.14	16174.04
Family labour Income (Rs. / ha)	11667.42	10821.65	10597.75	11028.94
Farm investment Income (Rs. /ha)	25026.86	27267.25	28587.29	26960.47
Return per rupee	1.14	1.15	1.16	1.15

Table-7 Input wise overall comparative cost of maize cultivation on beneficiary and non-beneficiary farms (Rs. / Hectare)

SN	Particulars	Beneficiary farms	Non-beneficiary farms	Differences (column3-4)	Percentage increases or decreases over non-beneficiary (Column 5/4)
1	2	3	4	5	6
1	Total human labour	8602.50	8128.20	474.30	5.84
(a)	Family labour	7055.82	6685.20	370.62	5.54
(b)	Hired human labour	1546.68	1443.00	103.68	7.19
2	animal labour	234.12	224.42	9.69	4.32
3	Machine labour	7780.75	7570.56	210.19	2.78
4	Seed	1997.63	1987.93	9.70	0.49
5	Manure (FYM)	869.08	846.33	22.75	2.69
6	Fertilizer	1929.37	1657.76	271.61	16.38
7	Plant protection	1364.36	1329.50	34.86	2.62
8	Irrigation	506.56	249.47	257.08	103.05
9	Interest on working capital	1622.86	1530.90	91.96	6.01
A. Total Variable Cost		24907.23	23525.08	1382.15	5.88
10	Rental Value of land	4928.97	4619.93	309.04	6.69
11	Depreciation on farm implements	556.76	631.75	-74.98	-11.87
12	Interest on fixed capital	548.57	525.17	23.41	4.46
B. Total Fixed Cost		6034.30	5776.84	257.46	4.46
Total Cost (A+B)		30941.54	29301.93	1639.61	5.60

Cost A1/ A2, Cost B1 and Cost B2 increased with the increase in size of farms due to increased use of inputs. Whereas Cost C1, Cost C2 and Cost C3 decreased with the increase in the size of farms due to decreased contribution of imputed value of family labour in the total cost. These similar finding were obtained by Choudhri *et al.* (2018) [4] in economics of maize crop in Bahraich district in Uttar Pradesh.

Economics of maize cultivation

Comparison of cost, income and return per rupee of maize cultivation on beneficiary farms in Udaipur district are shown in [Table-3]. The cost of production for small, medium and large farmers was Rs. 1780.10, Rs. 1734.38 and Rs. 1631.50 per quintal, respectively. The overall gross return was Rs. 37579.17 per hectare.

Table-8 Overall comparison of total cost of maize on beneficiary and non-beneficiary farms in Udaipur district Rs. / Hectare

SN	Particulars	Beneficiary farms	Non-beneficiary farms	Differences (column3-4)	Percentage increases or decreases over non- beneficiary (Column 5/4)
1	2	3	4	5	6
1	Cost A1/ Cost A2	18408.17	17471.63	936.54	5.36
2	Cost B1	18956.75	17996.80	959.95	5.33
3	Cost B2	23885.71	22616.73	1268.98	5.61
4	Cost C1	26012.57	24682.00	1330.57	5.39
5	Cost C2	30941.54	29301.93	1639.61	5.60
6	Cost C3	34035.69	32232.12	1803.57	5.60

Table-9 Overall comparison of cost and return of maize on beneficiary and non-beneficiary farms in Udaipur district

SN	Particulars	Beneficiary farms	Non-beneficiary farms	Differences (column3-4)	Percentage increases or decreases over non-beneficiary (Column 5/4)
1	2	3	4	5	6
1	Cost of cultivation (Rs. / ha)	30941.54	29301.93	1639.61	5.60
3	Value of main product (Rs. /ha)	26182.17	23847.67	2334.50	9.79
5	Value of by product (Rs. /ha)	11397.00	9798.00	1599.00	16.32
6	Cost of production (Rs. / quintal)	1715.32	1782.03	-66.70	-3.74
7	Gross return (Rs. / ha)	37579.17	33645.67	3933.50	11.69
8	Net return (Rs. / ha)	6637.63	4343.74	2293.89	52.81
9	Farm business Income (Rs. /ha)	19170.99	16174.04	2996.96	18.53
10	Family labour Income (Rs. / ha)	13693.46	11028.94	2664.52	24.16
11	Farm investment Income (Rs. /ha)	12115.17	9488.84	2626.34	27.68
12	Return per rupee	1.21	1.15	0.07	5.82

Overall net return of the sample farms worked out to be Rs. 6637.63 per hectare. Overall farm business income, family labour income and farm investment income in maize production was worked out to be Rs. 19170.99, Rs. 13693.46 and Rs. 12115.17 per hectare, respectively. Return per rupee was lowest (1.17) on small farms and highest on large farms (1.27) showing that maize cultivation in the area was profitable to the farmers. It was probably due to high cost of production per quintal on small farms than medium and large size farms.

Cost of cultivation of maize crop on non-beneficiary farms

The [Table-4] revealed that in percentage terms, variable costs accounted for 80.30 per cent of total costs, while fixed costs accounted for 19.70 per cent. Among the variable cost items, human labour was one of the major components in operational cost contributing 27.76 per cent followed by machine labour 25.84 per cent on overall basis. The cost of family labour was found to be lowest on large farm size. The cost of family labour for a small farm size was Rs. 7729.14 per hectare, which was more than the overall family labour cost (Rs. 6685.20).

The cost of seed per hectare in case of small farm size was Rs. 1975.26, which was lower than overall cost of Rs. 1987.93. The cost of seed on large size farms was Rs. 2000.05 per hectare. Mostly farmers were used hybrid seeds purchased from the local/ nearby market. The cost of manure on small farms was Rs. 954.11 per hectare, which was higher than other farm size. The cost of fertilizer was more on medium farms i.e., Rs. 1605.05 than overall cost of Rs. 1657.76 per hectare. It was lower in the case of small size farms than overall cost of fertilizer because farmers of small farm size used less quantity of fertilizers due to their poor financial condition. The cost incurred on plant protection was found to be highest on large farms Rs. 1497.80 which was more than overall cost Rs. 1329.50 per hectare. The per hectare irrigation charges on sample farms were of Rs. 249.47. In the case of medium size of farms, the irrigation charges were lowest (Rs.224.08) but the difference was not much among farm size categories.

Rental value of land was the only important component of fixed costs contributing 15.76 per cent on per hectare basis of the overall total cost in the study area. The overall per hectare rental value was Rs. 4619.93. Depreciation cost and interest on fixed capital increased with the increase in size of land holding. The depreciation charges were more on large farms i.e., Rs. 685.29 than other sizes of sample farms. It was lowest in the case of small size farms i.e., Rs. 580.87. The interest on fixed capital observed highest on large size farms (Rs. 563.34) followed by medium size farms (Rs. 531.55) and small size farms (Rs. 480.61) on per hectare basis.

The increasing trend of depreciation and interest on fixed capital indicated that large farmers have a greater number of farm assets. This was due to the fact that

large farmers were economically sound and their cultivable land area was more than small and medium farms. Thus, the enhanced purchasing power induced the large farmers to purchase new farm assets to adopt modern farm practices (i.e., mechanization) with a purpose to maximize their farm income.

Analysis of cost of maize cultivation based on cost concepts

The overall cost A1/ A2 was found to be Rs. 17471.63 as there was no leased in tendency on sample farms in the study area shown in [Table-5]. Cost B1 and Cost B2 were worked out to be Rs. 17996.80 and Rs. 22616.73 per hectare respectively, on the overall basis. Cost C1, Cost C2 and Cost C3 were worked out to be Rs. 24682.00, Rs. 29301.93 and Rs. 32232.12 per hectare, respectively. All costs increased with the increase in size of farms.

Economics of maize cultivation

The [Table-6] revealed that cost of production for small, medium and large farms was Rs. 1803.36, Rs. 1781.78 and Rs. 1760.94 per quintal, respectively. The overall gross return from maize crop during the year 2020-21 was estimated as Rs. 33645.67 per hectare.

Overall net return of the sample farms worked out to be Rs. 4343.74 per hectare. It was lowest (Rs. 3938.28) on small farms and highest (Rs.4712.54) on large farms. Overall farm business income, family labour income and farm investment income in maize production was worked out to be Rs. 16174.04, Rs. 11028.94 and Rs. 26960.47 per hectare, respectively. These results are in lined to the findings of Srivastava *et al.* (2015) [5]. The average return per rupee was worked out to be Rs. 1.15. Return per rupee investment was lowest (1.14) on small farms, followed by medium farms (1.15) and highest on large farms (1.16) showing positive returns from maize cultivation to their investment on the sample farms but the results are not encouraging. Singh *et al.* (2017) [6] and Lal *et al.* (2020) [7] were observed similar findings in their study.

Comparison of maize cultivation on beneficiary and non-beneficiary farms

The level of input use and cost of different items were worked out to compare the cost of cultivation of maize under tube-well source of irrigation and other than tube-well irrigation source in Udaipur district and are depicted in [Table-7]. The total cost of cultivation on beneficiary and non-beneficiary farms was Rs. 30941.54 and Rs. 28839.94 per hectare, respectively showing an increase of 5.60 per cent cost on beneficiary farms over non-beneficiary farms.

The major difference on input cost of maize on beneficiary and non-beneficiary farms observed as Rs. 257.08 per hectare on irrigation which was 103.05 per cent higher than the cost incurred on the former one.

Fertilizers ranked second costlier operation on beneficiary farms over non-beneficiary farms as the difference in cost was Rs. 271.61 per hectare (16.38 per cent). Other costlier items of maize cultivation per hectare on beneficiary farms were hired human labour i.e., Rs. 103.68 (7.19 per cent), rental value of land i.e., Rs. 309.04 (6.69 per cent), interest on working capital of Rs. 91.96 (6.01 per cent), respectively over non-beneficiary farms. The cost of cultivation of maize on beneficiary farms observed higher than non-beneficiary farms because of its higher expenditure towards irrigation, hired human labour, fertilizers, machine labour etc.

Cost concepts of maize cultivation on beneficiary and non-beneficiary farms

[Table-8] shows that, the per hectare Cost A1/ Cost A2, Cost B1, Cost B2, Cost C1, Cost C2 and Cost C3 of maize on beneficiary farms were Rs. 936.54 (5.36 per cent), Rs. 959.95 (5.33 per cent), Rs. 1268.98 (5.61 per cent), Rs. 1330.57 (5.39 per cent), Rs. 1639.61 (5.60 per cent) and Rs. 103.57 (5.60 per cent) higher than the non-beneficiary farms, respectively on the sample farms.

Overall comparison of cost and return of maize on beneficiary and non-beneficiary farms

The [Table-9] indicated that, net return, farm business income, family labour income and farm investment income per hectare of maize on beneficiary farms found Rs. 2293.89 (52.81 per cent), Rs.2996.96 (18.53 per cent), Rs. 2664.52 (24.16 per cent) and Rs. 2626.34 (27.68 per cent) higher than non-beneficiary farms, respectively on the sample farms. On an average, return per rupee of maize on beneficiary farms came to be 5.82 per cent higher than non-beneficiary farms. Cost of production was observed to be less -3.74 per cent on beneficiary farms compared to non-beneficiary farms because of efficient and timely use of assured irrigation along with required inputs.

Conclusion

From the above discussion it can be concluded that the cultivation of maize was more profitable for beneficiary farms as compared to non-beneficiary farm in study area. Which might be timely irrigation facilities and lifesaving irrigation facilities were available on beneficiary farms. Overall cost of cultivation was found Rs. 30941.54 and Rs. 29301.93 on beneficiary and non-beneficiary farms, respectively. It was due to higher expenditure towards irrigation, hired human labour and fertilizers etc. Overall net return was found to be Rs. 6637.63 and Rs. 4343.74 on beneficiary and non-beneficiary farms, respectively.

Application of research: Return per rupee was found more on beneficiary farms compare to non-beneficiary farms.

Research Category: Agricultural Economics & Management

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Study area / Sample Collection: Udaipur district of Rajasthan

Cultivar / Variety / Breed name: Maize

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