



AN ECONOMIC ANALYSIS OF PRODUCTION AND MARKETING IN RAPESEED-MUSTARD CROP IN BASTAR PLATEAU OF CHHATTISGARH, INDIA

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Abstract

An attempt has been made in this study to examine the economic analysis of production and marketing of rapeseed-mustard in Bastar Plateau of Chhattisgarh State, India. The study was conducted in Tokapal and Lohandiguda blocks in Bastar district of Chhattisgarh State, India. Fifty two farmers were selected randomly from ten villages from these blocks to collect the required information on the cost of cultivation, marketing and other aspects for the present study. The primary data was collected from the rapeseed-mustard producers through personal interview method with the help of well prepared schedule and questionnaire for the production and post harvest year for rabi rapeseed-mustard 2013-14. The average cost of cultivation and input-output ratio of rapeseed-mustard was worked out as Rs. 11030.14/ha. and 1: 1.23. The average Cost A₁, Cost B₁, Cost B₂, Cost C₁, Cost C₂ and Cost C₃ were observed as Rs.11026.84, Rs.11529.45, Rs.18121.71, Rs.19231.26, Rs.25823.47 and Rs.18405.81 per hectare. The three type of marketing channel identified in the study area were Channel-I: Producer – Village trader, Channel-II: Producer – Retailer – Wholesaler and Channel-III: Producer – Wholesaler. The marketable surplus of rapeseed-mustard is observed as 2.85 quintal, 3.60 quintal, 4.00 quintal and 6.74 quintal per farm which is 99.30 per cent, 99.17 per cent, 93.00 per cent and 99.26 per cent to their total production at marginal, small, medium and large farms respectively. The average marketable surplus of rapeseed-mustard is found to be 4.44 quintal constituting 99.32 per cent to the total quantity produced. The quantity of rapeseed-mustard sold per farm was very less which was mainly due to low productivity. Lack of irrigation facilities (89.00 per cent) followed by lack of recommended package and practices, particularly, doses of fertilizer, insecticides and pesticides were perceived by 84.00 per cent of rapeseed-mustard farmers were major constraints in rapeseed-mustard cultivation. More than 81.00 per cent rapeseed-mustard producers perceived that transportation of small quantity of produce was not an economical option if they sold their small produce in the market. The study suggested that urgent attention must be paid towards enhancing the productivity and marketing of rapeseed-mustard by providing improved and high yielding varieties, technology, irrigation, marketing, price support, policy and effective extension.

Key words : Rapeseed-mustard, cost and returns, marketing and major constraints.

Introduction

Rapeseed-mustard belong to family cruciferae and genus *Brassica*. Rapeseed (*Brassica campestris*) commonly called is Sarson or Toria is herbaceous annual plant shorter than mustard (rai) between 45-150 cm. Mustard (*Brassica juncea*) common name is called rai. Rapeseed-mustard, its oil and its oil meal may contain anti-nutritional factor such as goiterogens (thioglucosides or glucosinolates), tannic acid, erucic acid, sinapine (cholinester), pectins and oligosaccharides. Mustard stimulates digestion and salivary secretion. Mustard seeds have high energy content, having 28-32% oil with relatively

high protein content (28-36%). The amino acid composition of mustard protein is well balanced; it is rich in essential amino acids. Mustard oil has 20-28% oleic acid, 10-20% linoleic and 30-40% erucic acid.

India accounts for about 14.46 per cent of world's oilseeds area and 6.97 per cent of world's oilseeds output (FAO Year Book, 2013). It has second and third rank in the world in the production of groundnut (8.2%) and rapeseed-mustard (13.7%). The vegetable oil consumption in India is continuously rising and has sharply increased in the couple of years touching around 13.8 kg/head/year. States ranking of oilseeds in 2012-2013 are Madhya Pradesh (29.93%), Rajasthan (19.99%) and

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Maharashtra (16.19%) (Pocket Book on Agricultural Statistics, 2013).

Total area under rapeseed-mustard cultivation is 47542 ha. while production is 26999 metric tonnes in Chhattisgarh. The area under rapeseed-mustard in Bastar plateau is 4858 ha. (10.22%) and production is 2906 metric tonnes (10.76%) of total area and production in Chhattisgarh. In Bastar district, rapeseed-mustard crops were grown in 1630 ha. (33.55%) and production was 1135 metric tonnes (39.06%) of total oilseeds area and production in Bastar plateau. This district has 9th position in area and 6th position in production of rapeseed- mustard in the state. (Commissioner of Land Revenue, 2014).

Very few studies have been conducted in the past to examine the production and marketing of rapeseed-mustard in Chhattisgarh more so, in Bastar district and so looking to above facts, a study is essential to undertake through which a detailed insight can be obtained to analyse an economic analysis of production and marketing of rapeseed-mustard in Bastar plateau of Chhattisgarh state with the following specific objectives:

1. To estimate the cost and return of rapeseed-mustard in the sampled households.
2. To examine the disposal pattern of rapeseed-mustard in the study area.
3. To identify the major constraints in production and marketing of rapeseed-mustard and suggest suitable measures to overcome them.

Methodology

1. Cost of cultivation

The cost concepts approach to farm costing is widely used in India. To work out the cost of cultivation standard method of cost of cultivation employed by Commission on Agricultural Costs and Price (CACP), Directorate of Economics and Statistics, Government of India was adopted which include Cost A₁, Cost A₂, Cost B₁, Cost B₂, Cost C₁, Cost C₂ and Cost C₃.

2. Disposal pattern

To examine the marketing pattern of major oilseeds at different categories of farms, simple analysis was done. To estimate the marketable surplus of produce, total quantity used for different purposes was estimated as under :

$$MS = P - (C + W + C_f)$$

Where,

MS – Marketable Surplus

P – Total Production

C – Family Consumption

W - Quantity use for Wage

C_f – Quantity used for cattle feed.

Results and Discussion

1. Cost and returns of rapeseed-mustard

The cost of cultivation of rapeseed-mustard production is presented in table 1. It reveals that average total cost of cultivation was found to be Rs.25823.47/ha. which varies from Rs. 21215.90/ha. at marginal farms to Rs. 29000.13/ha. at large farms. The higher cost incurred on cultivation was by medium farms followed by large farms. The contribution of total labour cost for cultivation of crop was found to be Rs. 12806.61/ha. The average total human labour share to total cost for cultivation was observed as Rs. 8446.63/ha. which was 32.71 per cent to the total cost of cultivation, which was higher at marginal farms Rs.8663.64/ha. followed by small Rs. 8629.10/ha., large farms Rs. 8616.33/ha. and medium farms Rs. 7979.17/ha. When we see through the operation wise labour use, then the average intercultural operation cost was higher, followed by harvesting operation. The contribution of total bullock labour estimated was Rs. 3493.61/ha. (13.52 per cent) which ranges from Rs. 2291.00/ ha. (7.99 per cent) at large farms to Rs. 4145.94/ ha. (17.45 per cent) at small farms. The average input cost for cultivation of rapeseed-mustard crop was observed as Rs. 16403.28/ha. (63.52 per cent) which varies from Rs.14490.84/ha. at marginal to Rs.17772.59/ ha. at large farms. The figure shows that total input cost increased with farm size. The average fixed cost was found to be Rs. 9420.19/ha. at average farms which was 36.48 per cent of the total cost.

2. Yield, cost and return of rapeseed-mustard at the sampled farms

The yield, value of output per hectare and cost of production per quintal of rapeseed-mustard on the sample farms have been worked out in table 2. It indicates that the average yield per hectare of rapeseed-mustard came to 12.74 qtl./ha. where higher yield was found at medium farms (13.33 qtl./ha.) and the lowest was observed at marginal farms (11.62 qtl./ha.). The average gross return estimated was Rs. 34778.77/ha. which varies from Rs. 31025.40/ha. at marginal farms and Rs. 36454.42/ha. at large farms. The average net return was calculated as Rs. 8954.73/ha. which was higher at small farms (Rs.11017.04/ha.), followed by marginal farms (Rs. 9809.50/ha.).

Table 1 : Input wise cost of cultivation of rapeseed-mustard on the sampled farm.

S. No.	Particulars	Owned /hired	Marginal	Small	Medium	Large	Average	
A. Variable cost								
1.Human labour cost	i) Field preparation	Owned	560.81 (2.64)	637.84 (2.68)	355.37 (1.22)	369.77 (1.29)	476.72 (1.85)	
	ii) Application of manure and fertilizer	Owned	114.86 (0.54)	340.54 (1.43)	111.57 (0.38)	237.94 (0.83)	198.73 (0.77)	
	iii) Sowing	Owned	682.43 (3.22)	843.24 (3.54)	756.20 (2.61)	604.50 (2.11)	725.93 (2.81)	
	iv) Intercultural	Owned	1885.13 (8.89)	1605.40 (6.75)	1623.97 (5.60)	1369.78 (4.78)	1620.93 (6.27)	
		Hired	0.0 (0.00)	145.94 (0.61)	247.93 (0.85)	347.27 (1.21)	188.14 (0.27)	
	v) Irrigation	Owned	270.27 (1.27)	0.0 (0.00)	0.0 (0.00)	289.38 (1.01)	129.15 (0.50)	
	vi) Plant protection	Owned	756.76 (3.57)	832.43 (3.50)	557.85 (1.92)	553.05 (1.93)	671.29 (2.60)	
		Hired	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	64.30 (0.22)	14.84 (0.06)	
	vii) Harvesting	Owned	1344.6 (6.34)	1291.89 (5.43)	1384.29 (4.77)	1337.62 (4.67)	1341.26 (5.19)	
		Hired	0.0 (0.00)	194.6 (0.82)	231.84 (0.80)	594.85 (2.07)	252.8 (0.98)	
	viii) Transportation from field to threshing place	Owned	1344.60 (6.34)	875.67 (3.68)	739.67 (2.55)	823.15 (2.87)	932.53 (3.61)	
		Hired	0.0 (0.00)	48.65 (0.20)	165.28 (0.57)	286.17 (1.00)	125.88 (0.49)	
	ix) Threshing and winnowing	Owned	1298.78 (6.12)	1277.76 (5.37)	1089.89 (3.76)	1040.8 (3.63)	1173.73 (4.54)	
		Hired	0.0 (0.00)	97.3 (0.41)	231.84 (0.80)	311.9 (1.09)	163.18 (0.63)	
	x) Transportation from field to home	Owned	405.40 (1.91)	437.84 (1.84)	483.47 (1.67)	385.85 (1.35)	431.52 (1.67)	
	Total human labour cost			8663.64 (40.83)	8629.10 (36.26)	7979.17 (27.51)	8616.33 (30.07)	8446.63 (32.71)
	2. Bullock labour cost	-	Owned	2209.45 (10.41)	4145.94 (17.42)	3933.89 (13.56)	2291 (7.99)	3209.83 (12.42)
			Hired	1229.73 (5.80)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	283.78 (1.10)
		Total bullock labour cost			3439.18 (16.21)	4145.94 (17.45)	3933.89 (13.56)	2291 (7.99)
	3.Machine cost	-	Owned	0.0 (0.00)	0.0 (0.00)	432.02 (1.49)	675.24 (2.36)	280.44 (1.08)
Hired			0.0 (0.00)	0.0 (0.00)	432.02 (1.49)	1999.03 (6.97)	585.93 (2.27)	

Table 1 continued....

Table 1 continued....

	Total hired machine cost		0.0 (0.00)	0.0 (0.00)	864.04 (2.98)	2674.27 (9.33)	866.37 (3.35)
	Total labour cost		12102.82 (57.04)	12775.05 (53.68)	12777.10 (44.06)	13581.60 (47.39)	12806.61 (49.59)
4. Material cost	i) Seed		160.47 (0.76)	199.32 (0.84)	171.49 (0.59)	207.8 (0.72)	184.28 (0.71)
	ii) Fertilizer		1804.05 (8.50)	2918.92 (12.27)	3393.60 (11.70)	3342.44 (11.66)	2896.3 (11.21)
	iii) Plant protection		341.22 (1.61)	389.18 (1.63)	396.69 (1.37)	463.02 (1.61)	397.32 (1.54)
	Total material cost		2305.74 (10.61)	3507.42 (14.74)	3961.78 (13.66)	4013.26 (14.00)	3477.9 (13.47)
	Interest on working capital		82.28 (0.39)	93.17 (0.39)	122.98 (0.42)	177.73 (0.62)	118.77 (0.46)
	Total variable cost		14490.84 (68.30)	16375.63 (68.81)	16861.86 (58.14)	17772.59 (62.02)	16403.28 (63.52)
B. Fixed cost	i) Rental value of owned land		6342.90 (29.90)	6675.67 (28.05)	6694.21 (23.08)	6623.79 (23.11)	6592.25 (25.53)
	ii) Land revenue		1.92 (0.009)	2.0 (0.008)	2.17 (0.007)	2.24 (0.008)	2.08 (0.008)
	iii) Depreciation value		216.22 (1.02)	562.16 (2.36)	4595.04 (15.84)	3498.39 (12.21)	2323.25 (9.00)
	vi) Interest of fixed capital		164.02 (0.77)	180.99 (0.76)	846.85 (2.92)	759.33 (2.65)	502.61 (1.95)
	Total fixed cost	-	6725.06 (31.70)	7420.82 (31.18)	12138.27 (41.86)	10883.75 (37.98)	9420.19 (36.48)
Total (A+B) cost	-	21215.90 (100.00)	23796.45 (100.00)	29000.13 (100.00)	28656.34 (100.00)	25823.47 (100.00)	

Note: Figure in the parentheses indicates the percentages to the total cost of cultivation.

3. Cost concept – cost and return of rapeseed-mustard on the sampled households

The cost and returns on the basis of cost concept in the cultivation of rapeseed-mustard have been presented in table 3. Table portrays that on an average per hectare Cost-A₁, Cost-B₁, Cost-B₂, Cost-C₁, Cost-C₂ and Cost-C₃ were worked out to be Rs. 11026.84, Rs. 11529.45, Rs. 18121.71, Rs. 19231.26, Rs. 25823.47 and Rs. 28405.81, respectively in average farm situation. These costs were observed highest at Rs. 14356.79, Rs. 15203.64, Rs. 21897.85, Rs. 22305.92, Rs. 29000.13 and Rs. 31900.14 respectively under medium farm situation. The incomes over different costs were also worked out. The average per hectare income over Cost-A₁, Cost-B₁, Cost-B₂, Cost-C₁, Cost-C₂ and Cost-C₃ calculated was Rs. 23751.40, Rs. 23248.79, Rs. 16656.54, Rs. 15546.98, Rs. 8954.77 and Rs. 6372.43, respectively. The average

input-output ratio was estimated 1:1.33, which was higher at small and marginal farms followed by large farms.

4. Marketable surplus of rapeseed-mustard at sample households

The total quantity produced, quantity used at home and for seed purpose is shown in table 4. The total quantity produced of rapeseed-mustard is estimated as 2.87 quintal, 3.63 quintal, 4.30 quintal, 6.79 quintal and 4.38 per farm at marginal, small, medium, large and average farms respectively, which shows that the total quantity produced at these farms is increasing as the size of holding increased. Out of this quantity, almost all farmers across the categories were retaining very small (0.46 per cent) quantity for the purpose of seed for next year. Generally, 0.15-0.35 per cent quantity of produced used by these producers for their home use for oil and pickle making. Remaining 99.32 per cent per farm quantity of rapeseed-

Table 2 : Yield, cost and return of rapeseed-mustard on the sample farms (Rs./ha).

S. no.	Particulars	Farm size				
		Marginal	Small	Medium	Large	Average
	Sample farm (n)	12	13	15	12	
1.	Input cost (Rs.)	21215.90	23796.45	29000.13	28656.34	25823.47
2.	Yield (Qtl/ha)	11.62	12.76	13.33	13.10	12.74
3.	Gross return (Rs.)	31025.40	34813.49	36409.03	36454.42	34778.24
4.	Net return (Rs.)	9809.50	11017.04	7408.90	7798.08	8954.73
5.	Cost of production (Rs./qtl)	1825.81	1864.92	2175.55	2187.51	2026.96
6.	Input-Output ratio	1 : 1.46	1 : 1.46	1 : 1.25	1 : 1.27	1 : 1.35

Table 3 : Break-up of cost, cost concept wise income over different cost in rapeseed-mustard on the sample farm (Rs./ha).

S. no.	Particulars	Marginal	Small	Medium	Large	Average
	Sample farm (n)	12	13	15	12	
A.	Break-up cost					
	1. Cost A ₁	6045.34	8797.18	14356.79	14261.38	11026.84
	2. Cost B ₁	6209.36	8978.17	15203.64	15020.71	11529.45
	3. Cost B ₂	12552.26	15653.84	21897.85	21644.50	18121.71
	4. Cost C ₁	14873.00	17120.78	22305.92	22032.55	19231.26
	5. Cost C ₂	21215.90	23796.45	29000.13	28656.34	25823.47
	6. Cost C ₃	23337.49	26176.09	31900.14	31521.97	28405.81
B.	Income over different cost					
	1. Income over cost A ₁	24980.06	26016.31	22052.24	22193.04	23751.40
	2. Income over cost B ₁	24816.04	25835.32	21205.39	21433.71	23248.79
	3. Income over cost B ₂	18473.14	19159.65	14511.18	14809.92	16656.54
	4. Income over cost C ₁	16152.40	17692.71	14103.11	14421.87	15546.98
	5. Income over cost C ₂	9809.50	11017.04	7408.90	7798.08	8954.77
	6. Income over cost C ₃	7687.91	8637.40	4508.89	4932.45	6372.43
C.	Gross income	31025.40	34813.49	36409.03	36454.42	34778.24
D.	Total cost	23337.49	26176.09	31900.14	31521.97	28405.81
E.	Input-output ratio	1 : 1.33	1 : 1.33	1 : 1.14	1 : 1.16	1 : 1.23

mustard is ready with them to dispose off to fulfill their other cash needs. Table clearly reveals that the marketable surplus of rapeseed-mustard is observed as 2.85 quintal, 3.60 quintal, 4.00 quintal and 6.74 quintal per farm, which is 99.30 per cent, 99.17 per cent, 93.00 per cent and 99.26 per cent to their total production at marginal, small, medium and large farms respectively. The average marketable surplus of rapeseed-mustard is found to be 4.44 quintal constituting 99.32 per cent to the total quantity produced.

5. Quantity sold of rapeseed-mustard

The three type of marketing channel identified in the study area were as Channel-I: Producer – Village trader,

Channel-II: Producer – Retailer – Wholesaler and Channel-III: Producer – Wholesaler at the producer level. The quantity sold by the producers is given in table 5. It is clear that three types of market intermediaries are prevailing in the study area. Most of the growers sold their about 77.54 per cent, 86.11 per cent, 16.50 per cent, 16.32 per cent and 40.20 per cent produce through village traders at marginal, small, medium, large and average farms, respectively. During the course of study, it was told by the growers that due to lack of demand from the consumers directly, most of the quantity is disposed-off by them through village traders.

Table 4 : Marketable surplus of rapeseed-mustard of sampled households. (In quintal per farm)

S. no.	Particulars	Farm size				
		Marginal	Small	Medium	large	Average
1.	Sample farm	n = 12	n = 13	n = 15	n = 12	
2.	Total quantity produced	2.87 (100.00)	3.63 (100.00)	4.30 (100.00)	6.79 (100.00)	4.38 (100.00)
3.	Quantity retained for seed	0.01(0.35)	0.02(0.55)	0.02 (0.46)	0.04 (0.59)	0.02(0.46)
4.	Quantity used for home	0.01 (0.35)	0.01 (0.27)	0.01 (0.23)	0.01 (0.15)	0.01 (0.23)
5.	Total quantity Utilized	0.02 (0.70)	0.03 (0.83)	0.03 (0.70)	0.05 (0.74)	0.03 (0.68)
6.	Marketable surplus	2.85 (99.30)	3.60 (99.17)	4.00 (93.00)	6.74 (99.26)	4.44 (99.32)

Note: Figures in parenthesis indicate percentage to total quantity produced per farm.

Table 5 : Quantity sold of rapeseed-mustard through different intermediaries. (In quintal per farm)

S. no.	Particulars	Farm size				
		Marginal	Small	Medium	large	Average
1.	Village traders	2.21 (77.54)	3.10 (86.11)	0.66 (16.50)	1.10 (16.32)	1.73 (40.52)
2.	Retailers	0.64 (22.46)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.15 (3.51)
3.	Wholesalers	0.00 (0.00)	0.50 (13.89)	3.34 (83.50)	5.64 (83.68)	2.39 (55.97)
	Total marketable surplus	2.85 (100.00)	3.60 (100.00)	4.00 (100.00)	6.74 (100.00)	4.27 (100.00)

Note: Figures in parenthesis indicate percentage to total marketable surplus per farm.

Table 6 : Price received by producers from different intermediaries of rapeseed-mustard.

(In Rupees/quintal)

S. no.	Particulars	Farm size			
		Marginal	Small	Medium	Large
1.	Village trader	2560.00	2676.67	2670.00	2726.67
2.	Retailers	2780.00	0.00	0.00	0.00
3.	Wholesalers	0.00	2780.00	2792.73	2838.89
4.	Average	2670.00	2728.33	2731.36	2782.78

6. Price received of rapeseed-mustard by producers from different intermediaries

The price received by producers from different intermediaries is given in table 6. It is clear that three different market intermediaries were giving different prices to the rapeseed-mustard producers. The village trader has a small shop at village. Farmers who have less quantity of rapeseed-mustard sold their produce to the village traders at the rate of Rs. 2560.00 to 2726.67 per quintal just after harvesting the crop as they found it convenient in comparison to wholesalers. Farmers, with large quantity of rapeseed-mustard, sold their produce to the wholesalers who come from nearby market. The average price received from wholesalers was observed as Rs. 2780.00 per quintal at small, Rs. 2792.73 per quintal at medium and Rs. 2838.89 per quintal at large farm, respectively.

7. Constraints in production of rapeseed-mustard

The constraints in rapeseed-mustard production are presented in table 7. There is gap about the latest technical knowledge of rapeseed-mustard among the growers in the study area. Majority of the rapeseed-mustard growers (77.00 per cent) faced this particular constraint. In view of this, effective and strengthened extension efforts are very much needed in the study area, as it is a tribal and backward region for rapeseed-mustard production technology. All the rapeseed-mustard farmers were of the view that there was lack of improved and high yielding varieties in the region. Even if it were there, it were not available to them. Looking to this, there is a need to develop improved and high yielding varieties of rapeseed-mustard. Lack of recommended package and practices, particularly, doses of fertilizer, insecticides and pesticides were perceived by 84.00 per cent of rapeseed-mustard farmers. Timely advice in this direction may improve the production of rapeseed-mustard in the study area in particular. Major constraints pertaining to cultivation of rapeseed-mustard under study were lack of resources (71.00per cent), generally faced by small category farmers. Due to this reason, these farmers were not able to invest for better production technology. There is a need for creation of rapeseed-mustard grower's co-operative societies which can cater to the needs of the farmers related to rapeseed-mustard production. About 91 per cent rapeseed-mustard farmers reported that they were

Table 7 : Constraints in production of major oilseeds.

n = 52

(In per cent)

S. no.	Constraints	Per cent of respondents	
		Yes	No
1.	Are you aware about the latest technical knowledge of the crop?	23.00	77.00
2.	Lack of improved and high yielding varieties of oilseeds	89.00	11.00
3.	Lack of recommended package of practices of the oilseeds in the study area	84.00	16.00
4.	Lack of resources i.e. equipment etc.	71.00	29.00
5.	Do you know the recommended dose of different chemical fertilizers for oilseeds?	9.00	91.00
6.	Are there sufficient soil testing facilities in your area?	3.00	97.00
7.	Have you sufficient irrigation water facilities?	11.00	89.00
8.	Have you problem of availability of labour during the crop season?	31.00	69.00
9.	Have you sufficient fund to purchase different inputs for crop cultivation	9.00	91.00
10.	Have you received the funds for oilseed production from financial institution?	0.00	100.00
11.	Do you face any problem in financing from the financial institution	100.00	0.00
12.	Are you aware about the crop insurance scheme?	41.00	59.00
13.	So you have any problem to get machines on hire basis for oilseeds production?	86.00	14.00

Table 8 : Constraints in marketing of major oilseeds at sample households.

n = 52

S. no.	Constraints	Per cent of respondents	
		Yes	No
1.	Are you satisfied with the price received	0.00	100.00
2.	Low demand of final product	68.00	32.00
3.	Low price paid to farmer's due to high marketing margin	100.00	0.00
4.	Lack of transportation facilities and road from village to market	82.00	18.00
5.	Problem of small quantity	81.00	19.00
6.	Weather you visit regulated market regularly	9.00	91.00
7.	Lack of sufficient number of processing unit	96.00	4.00
8.	Lack of storage facilities in growing area	69.00	31.00
9.	Will the support price affect the production of crop	68.00	32.00
10.	Weather the market news was some special important in major oilseed crops production and marketing.	88.00	12.00

not aware about the name and quantity of applications needed for insecticides and pesticides. In such conditions, they were completely dependent on the shopkeepers who sold the insecticides/pesticides. They further perceived that soil-testing facilities should be created by the Department of Agriculture at least at the block level in order to test the soil fertility of land. About 97 per cent farmers faced this problem. Establishment of soil testing facilities may prove very useful in improving the productivity of rapeseed-mustard in the study area on one side and in reducing the per hectare cost of cultivation on the other. A large number of oilseed growers perceived that the lack of irrigation facilities (89.00 per cent) was

one of the major constraints in rapeseed-mustard cultivation in the study area. According, capital investment on enhancing irrigation should receive priority in the region. The scarcity of labour is another problem as 31 per cent of rapeseed-mustard farmers perceived it. This problem becomes more acute at the time of sowing and harvesting stage of the crop. Consequently, the farmers had to pay higher wages in order to complete the work on time. Lack of financing at reasonable rate of interest is also a constraint in the study area as about 100.00 per cent rapeseed-mustard producers were facing this problem. This problem can be overcome by financial institutions by providing the loan to the farmers at their

doorsteps. They were of an opinion that it was inconvenient and time taking procedure to get the money from financial institutions. Consequently, they were forced to take required money from money lenders of village at higher rate of interest in order to fulfill their financial requirement.

8. Constraints in marketing of rapeseed-mustard

Marketing constraints are presented in table 8. Lack of implementation of support price in the villages is the major problem faced by rapeseed-mustard producers. Almost all farmers confirmed that no intermediary was prepared to give the support price if produce was sold by farmers in the villages. More than 81.00 per cent rapeseed-mustard producers perceived that transportation of small quantity of produce was not an economical option if they sold their small produce in the market. About 93 per cent farmers felt that lack of awareness about the market information was also a problem. It may be suggested that the news about the prices and other aspects of rapeseed-mustard in the daily newspapers, television and radio should be disseminated in the study area. Most of the rapeseed-mustard growers were of the opinion that the crop of rapeseed-mustard is less profitable due to these marketing problems as compared to maize and paddy production in the same type of land situation, in the study area.

Conclusion

The quantity of rapeseed-mustard sold per farm was very less which was mainly due to low productivity. Therefore, urgent attention must be paid towards enhancing the productivity of rapeseed-mustard by improved and high yielding varieties, technology, irrigation, marketing, policy and price support and effective extension. Direct marketing without agents/ middlemen will help in better marketing of oilseeds and increase profit of the producers and also encourage the farmers for retail sale of their produce. Prices of rapeseed-mustard are not consistent. It varies from year to year which discourage farmers to cultivate rapeseed-mustard. Government should take necessary steps for pricing and implementation of minimum support price in rapeseed-mustard and major oilseeds. Establishment of small scale

processing units in the rapeseed-mustard producing areas will not only increase the employment but will also improve the economic condition of farmers through value addition in the raw product.

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