



Economic Performance Of Green Gram In Raigarh District Of Chhattisgarh State

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ABSTRACT

The present study was conducted in the Raigarh district of Chhattisgarh. Hundred farmers were selected randomly from five blocks namely Dharamjaigarh, Lailunga, Pusour, Baramkela and Sarangarh. The primary data were collected for the year 2013-14. The major findings of this study revealed that the average size of holding of the sample households was 3.19 hectares. Paddy, pigeon pea, green gram, black gram, lathyrus, groundnut and mustard were the major crops in the study area. Cost of production per quintal of green gram showed decreasing trend with the increase in farm size, where as cost of cultivation increased with the increase in farm size. Per hectare green gram production and input-output ratio increased with the increase in farm size. The two marketing channels were identified for the marketing of green gram: Channel-I: Producer – Village merchant. Channels-II: Producer – consumer. The major constraints pertaining to cultivation of green gram were low adoption of recommended package practices of crops, followed by lack of technical knowledge and lack of financing. Constraints of marketing of green gram were lack of regulated or cooperative market followed by lack of market intelligence and lack of storage facility. Study suggested establishing the regulated or cooperative market in Raigarh district and imparting the technical knowledge and extension support so that farmers can adopt improved technologies with assured irrigation facilities. It is essential to adopt the production system approach by linking the production technology, credit and marketing of major pulses, the study suggested.

Key words: Green Gram, Cost and Return, Marketing Pattern, Constraints, Raigarh.

INTRODUCTION

Pulse crop is important protein source for the majority of the people of India. It contains protein about twice as much as cereals. It also contains amino acid lysine, which is generally deficit in food grains (Elias, 1986). Pulse bran is also used as quality feed for animals. Apart from these, the ability to fix nitrogen and addition of organic matter to the soil are important factors in maintaining soil fertility (Senanayake et al., 1987; Zapata et al., 1987). In the existing cropping systems, pulses fit well due to its short duration, low input, minimum care required and drought tolerant nature. Among the food legumes grown, lathyrus, lentil, chickpea, blackgram, and mungbean are the major and they contribute more than 95% to the total pulses production in the country (Rahman, 1998). *Vignaradiata* (L.) wilczek commonly known as green gram or moong is the widely distributed species among the six Asiatic *Vignas* species. It is one of the predominant source of protein and certain essential amino acids like lysine and tryptophan in vegetarian diets. It possessed certain added features compared to other pulses. It is relatively drought tolerant and well adapted to a range of soils and can thrive even under limited irrigation; moreover, it is suited for crop rotation and crop rotation and crop mixtures (Baldev, 1988; Sadaphal, 1988). Presently, the yield of green gram as other pulses, is well below the optimum level. The average yield of green gram is low not only in India (654 kg/ha) but in entire tropical and sub tropical Asia. In Chhattisgarh it is cultivated in an area of 0.153 million hectare with a production of 0.039 million tonnes. Green gram is majorly cultivated in Mahasamund, Raigarh, Kanker, Dantewada and Raipur districts of Chhattisgarh state. Which together account for about 81.27 per cent area and 81.38 per cent production. Higher productivity of green gram is obtained in Koriya district (500 kg per hectare). The Raigarh district occupies second largest acreage 31100 hectare (12.02 per cent) (25688 hectare in kharif and 5420 hectare in Rabi), and fourth largest in production which is 8920 metric ton (9.64 per cent) (6640 metric ton in Kharif and 2280 metric ton in Rabi) with average productivity of 286.81 kg per hectare. Keeping in view the economic importance of pulses in the study area, the present enquiry related to its production and marketing has been undertaken in Raigarh district of Chhattisgarh. The findings of present enquiry would be of great

significance to the policy makers for enhancing the profitability of Green gram substantially. Green gram under this study constitutes emerging crops in Chhattisgarh and the economic aspects of Green gram production and marketing are not adequately known to narrow down the productivity gap. The present study was undertaken Raigarh district of ten villages of Lailunga, Dharamjaygarh, Baramkela, Sarangarh and Pusour blocks with following objectives.

1. To workout the cost and returns of green gram.
2. To examine the marketing pattern of green gram.
3. To identifying the constraints in production and marketing of green gram and suggest suitable measures to overcome them.

METHODOLOGY

The present study pertains to Raigarh district of Chhattisgarh state. To accomplish the objective of the study five blocks of the district, namely Dharamjaygarh, Lailunga, Pusour, Baramkela and Sarangarh block were purposively selected. Accordingly ten villages were selected randomly from these five blocks for the study. From each of the selected villages, ten number of green gram growers i.e. 100 green gram growers were considered for the study. The primary data were collected from the farmers through personal interview with the help of well prepared schedule and questionnaire. These farmers were classified into different categories based on their land holding i.e. marginal (up to 1.00 ha), small (1.01 ha to 2.00 ha), medium (2.01 ha to 4.00 ha) and large (above 4.00 ha) farmers. The whole information is related to the crop year 2013-2014.

RESULTS AND DISCUSSIONS

Economics of green gram crop

The economics of green gram crop is presented in table 3. It clearly shows that the cost of cultivation per hectare of green gram was higher on big farms as compared to marginal, small and medium farms. However it was only marginally higher than other groups. It was due to the fact that the big farmers incurred somewhat more expenditure on farm inputs like quality seed, fertilizer, plant protection material, hired labour etc. Over all, on an average the cost of cultivation per hectare of green gram was found to Rs. 14490.96 per hectare. The cost of cultivation in case of large farm was higher (Rs.16180.08/ha.) as compared to marginal (Rs.13334.02.), small farms (Rs.13686.22/ha.) and medium farms (Rs. 15464.50/ha.). The marginal farm and small farm had not showed big difference in cost of cultivation due to similar cultivation practices applied for growing green gram.

The cost of cultivation was estimated to be very less which is due to the fact that the green gram growers in sampled farm groups were not followed recommended cultivation practices for growing the crop. It returns less production too; therefore, more extension work is to be needed to improve the knowledge of farmers about recommended cultivation practices of green gram.

Table 3 Economics of green gram crop on different size groups of farms(Rs./ha.)

A	Variable cost	Farm Size				Average
		Marginal	Small	Medium	Large	
1.	Family human labour	6529 (48.96)	4061 (29.67)	3900 (25.22)	500 (3.09)	3905 (26.95)
2.	Hired human labour	823 (6.17)	3576 (26.13)	4725 (30.55)	9000 (55.62)	4225 (29.16)
3.	Total human labour	7352 (55.14)	7637 (55.80)	8625 (55.77)	9500 (58.71)	8130 (56.10)
4.	Bullock labour	1960 (14.70)	1414 (10.33)	1147 (7.42)		1233 (8.51)
5.	Tractor power	196 (1.47)	177 (1.29)	1327 (8.58)	2105 (13.01)	767 (5.30)
6.	Seed cost	1613 (12.10)	1308 (9.56)	1559 (10.08)	1701 (10.51)	1473 (10.16)
7.	Manure and fertilizer	280 (2.10)	1212 (8.86)	842 (5.44)	899 (5.56)	939 (6.48)
8.	Interest on working capital	171.02 (1.28)	176.22 (1.29)	202.50 (1.31)	213.08 (1.32)	188.11 (1.30)
	Total variable cost	11572.02 (86.79)	11924.22 (87.13)	13702.50 (88.61)	14418.08 (98.11)	12728.96 (87.84)
B	Fixed cost					
	Rental value of land	1750	1750	1750	1750	1750

		(13.12)	(12.79)	(11.32)	(10.82)	(12.08)
	Land revenue	12 (0.09)	12 (0.09)	12 (0.08)	12 (0.07)	12 (0.08)
	Total fixed cost	1762 (13.21)	1762 (12.79)	1762 (11.39)	1762 (10.89)	1762 (12.16)
C	Gross cost =(A+B)	13334.02 (100)	13686.22 (100)	15464.50 (100)	16180.08 (100)	14490.96 (100)

Note: Figures in parentheses indicate percent of total input cost.

Table 4 indicates that the average yield per hectare of green gram was 3.31 quintal on the sample farms. The average production of green gram is seeded very less which is due to non commercial cultivation by sampled farmers. The cost of production per quintal of green gram on an average was worked out to Rs. 4406.05. It came to Rs. 4866.43, Rs. 4516.90, Rs. 4179.60 and Rs. 4085.88 for marginal, small, medium and large farm size respectively. The cost of production was very high due to less production as compare to cost of cultivation. Therefore it is needed to increase the production of pulses. It decreased with the increased in the size of farm due to higher yields in return to the cost of cultivation on the large farm. The average value of production per hectare came to Rs. 24871.45. It was Rs.20170, Rs.22813, Rs.27853 and Rs. 29810 on marginal, small, medium and large farm respectively. The higher value of output on large farms was associated with the higher expenditure incurred on farm inputs.

Table 4 Per hectare yield, value of output and cost of production per quintal of green gram

S.N.	Particulars	Farm size				Average
		Marginal	Small	Medium	Large	
1	Input Cost (Rs)	13334.02	13686.22	15464.50	16180.08	14490.96
2	Production (qtl)					
	a. Main product	2.74	3.03	3.7	3.96	3.31
	b. By product	2.74	2.92	3.5	3.9	3.19
3	Value of production					
	a. Main product	20093	22725	27750	29700	24777.59
	b. By product	78	88	103	110	93.99
	Total value of production	20170	22813	27853	29810	24871.45
4	Cost of production (Rs./qtl.)	4866.43	4516.90	4179.60	4085.88	4406.05

Table 5 Cost and return of green gram on the sample farms for different group of farms (Rs./ha.)

S.N.	Particulars	Farm size				Average
		Marginal	Small	Medium	Large	
1	Input Cost (Rs)	13334.02	13686.22	15464.50	16180.08	14490.96
2	Output Value	20170	22813	22567	28096	23027.11
3	Net Income	6835.99	9126.78	7102.50	11915.93	8536.15
4	Family labour income	13364.99	13187.78	11002.50	12415.93	12440.76
5	Farm business income	15286	15114	12955	14379	14378.87
4	Input output ratio	1:1.51	1:1.67	1:1.46	1:1.74	1:1.59

On an average the value of net average family labour income and farm business income per hectare came to Rs. 12440.76 and Rs.14378.87, respectively, on the sample farms of different sizes. Overall on an average the input-output ratio of green gram came to 1:1.38 on the sample farms (table 5)

4 Marketing of green gram.

A study of the pulse marketing system is necessary to understand the complexities involved and to identify bottlenecks with a view of providing efficient services in the transfer of farm produce and input from producer to consumer. Inefficient marketing system minimizes costs and benefits all section of society. Thus, marketing of any product is the ultimate stage of any production system.

A marketing system should be such that the produce should reach to consumer in good state without damage with least cost and within a shortest time after harvest. Marketing of pulses poses more problems as they have a high degree of storage loss, uneven supply and existence of large number of middlemen. An efficient marketing system is an important mean for raising the income level of the farmers.

The main objectives of an efficient marketing system are: (a) to enable the primary producers to reap the best possible benefits; (b) to make available all products of farm origin to consumers at reasonable price

without impairing the quality of the produce; (c) to provide facilities for lifting all produce, the farmers are willing to sell at an incentive price; (d) to reduce the price spread between the primary produce and ultimate consumer. The marketing analysis for major pulses in the study area has been presented below.

4.1 Marketing pattern

In Raigarh district there was no regulated market for pulses, that's why the study for marketing of pulses was conducted at farmer's level. It was that only one market functionary was engaged in marketing of pulses in the study area that was village merchant. In view of this, the pulse growers sold their produce directly to the consumers in the village market. Keeping this in mind it is suggested that regulated market for pulses in the study area needed to be established.

The following two widely used marketing channels for marketing of major pulses were identified.

Channel – I: Producer - Village merchant- consumer

Channel – II: Producer - consumer (village market)

Marketable surplus green gram

Marketable surplus of green gram was observed to be very low for all the sample farms. This less marketable surplus was due to traditional cultivation which led to very less production of major pulses. The major reason for less marketable surplus was that the sample farmers lacked any regulated or cooperative market in the study area to sell their produce. The farmers cultivated pulses mainly for own consumption purpose instead of commercial purpose, which resulted in less marketable surplus for all the major pulses in the study area. The marketable surplus in green gram was 1, 1.2, 1.74 and 2.06 quintal per farm constituting 35.71, 40, 47.03 and 52.02 per cent to their total production

The total quantum of marketable surplus of small size group was found to be less as compared to farms of large size group. It was also observed that the quantum of marketable surplus and its per cent to total production in green gram increased with the increase in the size of holding. The increasing trend of marketable surplus as percentages to total production with the increase in the size of farms for green gram was due to the fact that proportion of retained quantity of major pulses for various purposes on the farms decreased with the increase in production of major pulse crops as the farm size increased.

Table 6 Marketable surplus of green gram at sample farms (qtl./ha.)

S.No	Particulars	Size groups				Average
		Marginal	Small	Medium	Large	
1	Total quantity produced	2.74 (100)	3.03 (100)	3.7 (100)	3.96 (100)	3.31 (100)
2	Quantity retained for the seed	0.3 (10.71)	0.3 (10)	0.35 (9.46)	0.40 (10.10)	0.33 (9.90)
3	Consumption and others	1.5 (53.57)	1.5 (50)	1.61 (43.51)	1.5 (37.87)	1.53 (46.34)
4	Total quantity utilized	1.8 (64.29)	1.8 (60)	1.96 (52.97)	1.90 (47.98)	1.86 (56.24)
	Marketable surplus	1 (35.71)	1.2 (40)	1.74 (47.03)	2.06 (52.02)	1.44 (43.64)

Note: Figures in parentheses indicate percentages to total quantity produced.

Constraints in production and marketing of green gram

Under major constraints pertaining to cultivation of green gram, lack of adoption of recommended package and practices of green gram crop was the most problem as reported by 96 per cent green gram growers, constituting 100, 97.73, 93.55 and 91.67 percent in marginal, small, medium and large farms respectively. In view of this, there is a strong need to strengthen extension services against the green gram growers in study area.

The second most important constraint faced by the green gram growers was problem of lack of resources, like quality seeds, chemicals, and scarcity of land (72 percent), constituting 92.31, 90.91, 61.29 and 8.33 per cent in marginal, small, medium and large farm respectively.

The other most important constraints reported by the green gram growers were lack of irrigation facility (63 per cent), constituting 76.92, 75.00, 61.29 and 8.33 per cent in marginal, small, medium and large farm respectively. The other constraints was lack of technical knowledge (56 per cent), mostly faced by marginal farmers (84.62 per cent), lack of financing (52 per cent) and lack of HYV seeds (42 per cent). The last two were also faced by marginal farmers as 92.31 and 76.92 per cent, respectively.

Looking to the problem faced by the green gram grower in the study area, it is pertinent to address these constraints. Accordingly, need to impart training skills to the pulse grower on production aspect through extension support such as on farm training, demonstration etc. to enhance the adoption of recommended

package and practices for pulse cultivation and technical knowledge. Credit support should be made more accessible and still affordable to the pulse growers in the region, in order to solve the lack of resource problems. Irrigation facilities are to be created and developed in the proper way so that farmers can adopt improved technologies. Quality seeds or HYV seeds should be provided at very low price by Government agencies which will meet out the HYV seed requirement by the pulse growers.

Under major constraints pertaining to marketing of green gram, lack of regulated and cooperative market was the most important problem as reported by 100 per cent green gram growers. The second most important constraints reported by the growers was small marketable surplus (85 per cent), marginal and small farmers reported 100 per cent. Lack of market intelligence (80 per cent), mostly reported by marginal farmers (92.31 per cent) followed by medium and small farmers. Lack of storage facility (65 per cent), mostly reported by large farmers (91.67 per cent) and lack of transportation (52 per cent) were the other prominent constraints reported by the pulse producers in sampled areas. (Table 4.28)

The green gram grower encountered many problems in marketing of green gram. Looking to this, there is a need to establish regulated market in the study area and storage facilities in the storage area. Increased extension effort is required to enhance marketing news, information and intelligence on different aspects of production and marketing of green gram.

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CITATION OF THIS ARTICLE

Anil Divya and Hulas Pathak Economic Performance Of Green Gram In Raigarh District Of Chhattisgarh State. Bull. Env. Pharmacol. Life Sci., Vol 6 Special issue 2, 2017: 37-41