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Cost and return of Redgram in Kalaburagi district of Karnataka an economic analysis

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Abstract
The study was conducted in the year 2016 – 2017 to study the "Cost and Return of Redgram in Kalaburagi district of Karnataka" with a sample of 120 respondents The results indicated that the number of respondents who had Graduation education were more in Small size farms followed by large and medium. And it was also observed that the number of illiterates were more in small size farms followed by medium and large size of farms. The average area per hectare holding in small size farms was 0.72 ha, medium size was 1.68 ha and in large size farms were 3.50 ha. Total cost of cultivation of Redgram for small, medium and large size farms were (Rs.39792.2/ha, Rs.38504/ha and Rs.37003.8/ha) respectively. The Gross Returns obtained per hectare by Large size farms were high (Rs. 86025/ha) as compare to medium and large size farms (Rs.83250/ha and Rs.80475 /ha) respectively. And the Net returns per hectare were highest in Large size farms (Rs. 49021.20/ha) as compare to the medium and large size farms (Rs.44746/ha and 40682.8/ha) respectively. Input-output ratio per hectare was highest in Large size farms (1:2.32) compare to medium and small size farms (1:2.16 and 1:2.02).

Key words: Cost and Returns, Redgram**.**

Introduction
The main food grains which play an important role in Indian economy are cereals, oil seeds and pulses. In India, cereals are used as direct source of food by human beings. Hence, cereals occupy largest area in Indian situation. The important pulse crops in India are Bengal gram, red gram, green gram and black gram in which 60 per cent of pulse area is in *Rabi* and 40 per cent of *kharif* season.

Similarly, pulses are next only to cereals for the protein requirement of the people. Pulses are almost and essential component of Indian diet as *Dal*, *Roti* or *Bhat* which denotes complete and satisfying food. Vegetarian by choice depends mainly on pulse grains for protein requirement. As the average diet of the Indian population is much deficient in protein content, more protein can be supplied by more use of pulses and hence there is need of multiple increases in production of pulses.

On account of balanced amino acid, consumption of cereals and pulses blend which matches the milk protein, the importance of pulses in vegetarian diet can be over emphasized. The importance of pulses is more as they are cheaper than meat and also are referred as "poor men's meat". In developing countries like India, pulses play an equally important role in irrigated and rainfed area by improving physical, chemical and biological properties of soil and functions as "mini nitrogen factory". It is also considered as excellent crop for natural resource management, environmental security, crop diversification and consequently for visible agriculture.

Pulses play an important role in Indian agricultural economy as they are rich sources of proteins and constitute 10 to 15 per cent of India's food grain diet. Major portion of Indian population belongs to vegetarian group and every person on an average is required to consume 70 to 80 gm of pulses per day in order to maintain good health and physique, according to the recommendations of Indian Council of Medical Research.

Pigeon pea or Tur or Arhar (*Cajanus cajan* (L) Millsp) belongs to family Fabaceae and is a protein rich staple food and consumed in the form of split pulse as Dal, but also consumed as vegetable in many countries. Pigeon pea is of dietary importance with seed protein content of about 21 per cent, which is highest in the case of legumes. It is originated in Asia and being cultivated from 3000 years. It is a perennial shrub and a short annual crop in India and as a perennial in many other countries, where pods are harvested at regular interval. The crop has deep root system and cultivated in wide range of soils from black clay to sandy soil, but very sensitive to waterlogged conditions. Being a drought resistant crop, it is suitable for dry land farming. The main producing regions are Indian subcontinent, Eastern Africa and Central

America. It ranks second important pulse crop next to Bengal gram. It finds important place in farming systems adopted by small holding peasants in large number of developing countries.

Objective

To find out the Costs and Returns per hectare of Redgram crop in different size of farms groups.

Materials and Methods

Redgram cultivation is practiced throughout the district. However, the large scale cultivation of Redgram is concentrated mainly in Kalaburagi taluk extending on an area of 62468 hectares. Hence, Kalaburagi taluk was specifically selected for the study. The information on area under Redgram crop and number of Redgram growers from the selected villages was obtained from the respective village accountants (Talati). A proportionate sample of ten per cent of the population from each village was selected randomly. Thus, the total size of the sample selected for the study was 120. For analyzing the data collected during the study, tabular analysis and financial analysis were employed. The technique of tabular analysis was employed for estimating the cost of cultivation, yield and return structure of Redgram.

Results and Discussion

The Table 1 revealed that among different size of farms, total cost incurred by the small size farms were high (Rs.39792.2/ha) as compared to medium and large size farms (Rs.38504/ha and Rs.37003.8/ha). Sample average for total cost was Rs.38685.40/ha in different size of farms group.

The cost of human labour, fertilizers, seeds and bullock labour were the items of cost with major share in the variable costs, because most of the operations like harvesting, and weeding were human labour intensive operations and the other operations like land preparation and Interculture were bullock labour intensive. The distribution of pattern of operational cost under various inputs revealed that cost of human labour was the highest in the small size farms (Rs.3750/ha), compared to medium size farms (Rs.3300/ha) and lowest on large size farms (Rs.3000/ha). Whereas, bullock labour cost was the highest in case of small size farms (Rs. 1800/ha) as compared to medium (Rs. 1500/ha) and large farms (Rs. 1200/ha).

Machinery labour cost was Rs. 2583.75/ha in different size of farms group. The cost of seeds was the highest on small size farms (Rs.1220/ha) as compared to medium (Rs. 1150/ha) and lowest in large size farms (Rs. 1120/ha) respectively. As Redgram would respond well with chemical fertilizer so the cost of farm yard manure used was ranged from Rs. 1600 (small size farms) to 1650(large size farms). Whereas, the expenditure on fertilizers was the highest (Rs.2850/ha) for small size farms as compared to medium size farms (Rs.2750/ha) and large size farms (Rs.2710/ha) respectively. It was also noticed that the highest expenditure on pesticide was seen on small size farms (Rs.1800/ha) as compared to medium and large size farms respectively. Sample average for depreciation on fixed resources was Rs.2318.33, interest on working capital Rs.928.57, interest on fixed capital was Rs.1654.8. Land revenue paid to government was Rs.230 in different size of farms group. The cost of rental value of own land was Rs.14000/ha in different size of farms group. Sample average for rental value of own land was Rs 14000/ha.

Table 1: Cost of Cultivation of Redgram crop per hectare in different size of farm groups.

Sl. No	Particulars of Farm Operations	Size of Farms Groups			Sample Average
		Small	Medium	Large	
1	Hired Human Labour Charges	3750 (9.42)	3300 (8.57)	3000 (8.11)	3421.25 (8.83)
2	Bullock Labour Charges	1800 (4.52)	1500 (3.90)	1200 (3.24)	1555 (4.00)
3	Machinery Labour Charges	2700 (6.76)	2700 (7.01)	2250 (6.08)	2583.75 (6.67)
4	Cost of Seeds	1220 (3.07)	1150 (2.99)	1120 (3.03)	1173.17 (3.03)
5	Cost of Farm Yard Manure	1650 (4.15)	1620 (4.21)	1600 (4.32)	1628.08 (4.21)
6	Cost of chemical Fertilizers	2850 (7.16)	2750 (7.14)	2710 (7.32)	2783.83 (7.20)
7	Cost of Irrigation charges	-	-	-	
8	Cost of Plant Protection charges	1800 (4.52)	1780 (4.62)	1750 (4.73)	1781.08 (4.61)
9	Miscellaneous charges	550 (1.38)	550 (1.43)	550 (1.49)	550 (1.42)
10	Interest on Working Capital @ 06%	979.2 (2.46)	921 (2.39)	850.8 (2.30)	928.57 (2.40)
11	Deprecation on Fixed Resources	2400 (6.03)	2300 (5.97)	2200 (5.95)	2318.33 (5.99)
12	Land Revenue Paid to Government	230 (0.58)	230 (0.60)	230 (0.62)	230 (0.60)
13	Interest on Fixed Capital @ 10%	1663 (4.20)	1653 (4.29)	1643 (4.44)	1654.8 (4.28)
14	Rental Value of Own Land	14000 (35.18)	14000 (36.36)	14000 (37.83)	14000 (36.22)
15	Imputed value of Family Labour charges	4200 (11.00)	4050 (10.52)	3900 (10.54)	4077.50 (10.54)
16	Total Cost of Cultivation	39792.2 (100.00)	38504 (100.00)	37003.8 (100.00)	38685.40 (100.00)

Note: Figure in parenthesis indicate per cent to the total.

Table 2: Average Costs and Returns in Redgram crop per hectare in different Size of Farms Group.

Sl. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Total Cost of cultivation	39792.2	38504	37003.8	38685
2	Yield in quintals per hectare	14.5	15	15.5	14.90
3	Gross Returns per hectare in rupees	80475	83250	86025	82741.25
4	Net Returns per hectare	40682.8	44746	49021.20	44055.85
5	Cost of Production per quintal	2744.29	2566.93	2387.34	2598.87
6	Input- output ratio	1:2.02	1:2.16	1:2.32	1:2.14
7	Price Per quintal	5550	5550	5550	5550

Table 2 reveals that Costs and Returns in Redgram cultivation in different size of farms group. Among different size of farms groups, the total cost of cultivation incurred by the small farms were high (Rs. 39792.2/ha) as compared to medium (Rs.38504/ha) and large farms (Rs.37003.8/ha). Sample average for total cost of cultivation was Rs.38685/ha in different size of farms group. The gross returns obtained per hectare by large size farms were high (Rs. 86025/ha) as compare to medium and small size farms (Rs.83250/ha and Rs.80475 /ha) respectively. The net returns per hectare

obtained by large size farms were high (Rs.49021.20/ha) as compared to medium and small size farms (Rs.44746/ha and Rs.40682.8/ha) respectively.

The average yield of Redgram in different size of farms group was Rs.14.90/ha. The yield was highest in case of large size farms 15.5 quintals/ha as compared to medium (15quintals/ha) and small size farms (14.5quintals/ha) respectively. Average cost of production per quintal was Rs. 2598.8. Gross Price per quintal was Rs.5550/quintal.

Table 3: Cost Concepts in Redgram crop per hectare in different Size of Farms Group

Sl. No	Cost Concepts	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Cost A_1	19929.2	18801	17460.8	18953.07
2	Cost A_2	19929.2	18801	17460.8	18953.07
3	Cost B	35592.2	34454	33103.8	34607.90
4	Cost C	39792.2	38504	37003.8	38685.40

Table 3 reveals that Cost Concepts on different size of farms group per hectare. Cost A_1 was highest in small size farms (Rs.19929.2/ha) followed by medium size farms (Rs.18801 /ha) and lowest in large size farms (Rs.17460.8 /ha) respectively. Cost A_2 in small, medium and large size of farms groups was Rs.19929.2/ha, Rs.18801 /ha and Rs.17460.8/ha respectively. Cost B was highest in small size farms (Rs.35592.2/ha) as compared to medium size farms (Rs.34454 /ha) and lowest in large size of farms (Rs.33103.8 /ha) respectively. Cost C was highest in small size farms (Rs.39792.2 /ha) and lowest in large size farms (Rs.37003.8/ha). Sample average for Cost A_2, Cost B and Cost C was Rs.18953.07 /ha, Rs.34607.90 /ha and Rs.38685.40 /ha in different size of farms group.

Table 4: Measures of Farm Profitability in Redgram crop per hectare in different Size of Farms Group

Sl. No	Particulars	Size of Farms group			Sample Average
		Small	Medium	Large	
1	Gross Returns	80475	83250	86025	82741.25
2	Farm Business Income	60545.8	64449	68564.2	63788.18
3	Farm Investment Income	56345.8	60399.0	64664.20	59710.68
4	Net Returns	40682.8	44746.0	49021.2	44055.85
5	Family Labour Income	4200	4050	3900	4077.5

Table 4 that Measures of Profitability in Redgram cultivation in different size of farms group. The gross returns obtained per hectare by large size farms were high (Rs. 86025/ha) as compare to medium and small size farms (Rs.83250/ha and Rs.80475/ha) respectively. This makes the sample average for gross returns was Rs. 82741.25/ha in different size of farms group. Farm business income in small, medium and large size of farms group was Rs.60545.8/ha, Rs.64449/ha and Rs.68564.2/ha respectively. Sample average for farm business income was Rs.63788.18/ha in different size of farms group. Farm investment income was highest in large size farms (Rs.64664.20/ha) as compared to medium size farms (Rs.60399/ha) and lowest in small size farms (Rs.56345.8/ha) respectively. This makes the sample average for Farm investment income was Rs.59710.68/ha in different size of farms group. The net returns per hectare obtained by large size farms were high (Rs.49021.2/ha) as compared to medium and small size farms (Rs.44746/ha and Rs.40682.8/ha) respectively. Sample average of net returns was Rs. 44055.85/ha in different size of farms group. Sample average of Family labour income was Rs. 4077.5/ha in different size of farms group.

Conclusion

The study shows that the production and of Redgram in Kalaburagi district, The main objective is to study the Costs and Returns The results revealing that the socio economic status of the respondents found to be moderate with primary education, well economic back ground and greater access to all the assets. Economics of Redgram production is more profitable in large farms as compared to medium size farms and small size farms, The list of results obtained in this research study concludes that the investment on manures and fertilizers and plant protection followed by Labour Charges should highly be considered. Factors having higher elasticity of production value would be looked after carefully and increase their input level for securing a higher return. Problems observed during the study should accordingly be handled to minimize their incidence. Proper borrowing facility and marketing information should also be followed which influence the return of this crop.

Reference

1. Asmatoddin M, Jawale SV, Perke DS. Economic analysis of pulses on medium farms in Marathwada region of Maharashtra Agriculture update; 2009; 4: ¾:262-265.4.
2. Biradar B. Rajkumar. Economics of redgram based cropping in Bidar district M.Sc (Agri) Thesis *(Unpublished)*, submitted to University of Agricultural Sciences, Dharwad, 2007.
3. Thomber AP, Ghulghule JN, more. Constraints faced by pulse growers in production and marketing and suggestions made by them in Marathwada region of Maharastra. Department of Agri. Economic, Marathwada Agricultural university, Parbhani (M.S.), India. Agriculture. 2009; 4: ½:73-75.
4. Districts at Glance, Kalaburagi, 2016-2017.