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Shanu Sharma
Student M.Sc (Agricultural
Economics), Department of
Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology &
Sciences Allahabad,
Uttar Pradesh, India

Zayant Zechariah
Professor, Department of
Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology &
Sciences Allahabad,
Uttar Pradesh, India

Correspondence
Shanu Sharma
Student M.Sc (Agricultural
Economics), Department of
Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology &
Sciences Allahabad,
Uttar Pradesh, India

An economic analysis of production of chickpea in Bilaspur district Chhattisgarh

Shanu Sharma and Zayant Zechariah

Abstract

This study seeks to examine (i) the growth rate in area, production and productivity of Chickpea in Bilaspur district and Chhattisgarh State, (ii) costs and returns of Chickpea, (iii) disposal pattern of Chickpea in the study area and (iv) the major constraints in production and marketing of spices and suggest suitable measures to overcome them. The study was conducted in Bilaspur district of Chhattisgarh state. Total 120 farmers were considered for the study, which comprised of small (58), medium (42) and large (30). The Primary data were collected from the sample farmers through personal interview method. The data were pertaining for agricultural. The study envisaged that family size of sample farmers was 5.8 members. The average farm size was found to be 2.21 hectares. Overall cropping intensity was observed to be 184 percent. The average cost of cultivation of Chickpea was Rs/ha. 215840.8 and estimated gross return was Rs/ha 91000.00 The cost per quintal production of Chickpea was noticed to be Rs 3500 The average yield of Chickpea was q 26.00 q/ha. The benefit cost ratio of Chickpea was registered to 1:3.01. There were two marketing channels for marketing of spices, viz., Channel-I: Producer – Consumer Channel-II: Producer – Village Merchant /Retailer – Consumer. Channel-III: Producer – Commission Agents/Wholesaler – Retailer – Consumer Among the sample Chickpea growers more than ninety five percent marketable surpluses were observed in Chickpea.

Keywords: Cost and returns, profitability of chickpea

Introduction

Agriculture continues to be the backbone of Indian economy, which has a significant history. The share of agriculture and allied sectors in India's GDP has declined to 13.7 per cent in 2012-13 due to shift from traditional agrarian economy to industry and service sectors. Despite a decline in the sector's contribution to GDP, the production of food grains has increased from 230.8 million tonnes in 2007-08 to

255.4 million tonnes in 2012-13. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. Still, agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India. The source of livelihood of about 70 per cent of population is still agriculture.

Pulse production has been stagnated between 11 to 15 million tonnes in the last decade, while the requirement of pulses is estimated to increase to about 20 million tonnes by 2015. As a result of shortfall in production, India has become regular importer of pulses in recent years. There were large differences in both consumption and production of pulse crops to meet the growing domestic demand and to reduce imports and exploit export opportunities. There should be greater emphasis on the adoption of improved package of practices against the existing traditional production technology so that the desired yield may be realized.

Objectives of the Study

To find out cost of production of chickpea and profitability per hectare in different farm size group.

Materials and Methods

Bilaspur district was the Chickpea growing district in Bilaspur, district alone contributes an area of (27.224/MH) of Chickpea with the production of 33.500 (MT) (2011-12). District was specialized in the cultivation of Chickpea of commercial scale and it was a Chickpea growing Bilaspur district was selected purposively for the study. For the first stage Bilaspur district contains 7 blocks were selected viz namely Bilaspur, Bilha, Kota, Lormi, Marwahi, Masturi, Mungeli. Among all these blocks, Lormi tehsil (616 ha) for Chickpea selected due to highest in area and production under Chickpea crop cultivation. A complete list of all villages was obtained from Lormi block office, Therefore; the villages was arranged in ascending order according to area under Sunflower cultivation. pusaur. block consists of 254 villages. Altogether 7 villages were selected randomly for the present study.

Results and Discussion

Table 1: Resource use and Cost of Cultivation of Chickpea crop per hectare in different Size of Farms Group, Number of Respondents = 120 S M L= 58+ 42+ 20 =120 (Value in Rupees)

Sl. No	Particulars of Farm Operations	Size of Farms Groups			Sample Average
		Small	Medium	Large	
1	Hired Human Labour Charges	9200.00 (3.86)	9560.00 (4.20)	9920.00 (4.51)	9560.00 (4.08)
2	Bullock Labour Charges	3750.00 (1.84)	3600.00 (1.74)	3350.00 (1.61)	3566.66 (1.77)
3	Machinery Labour Charges	4800.00 (1.72)	4300.00 (2.80)	4200.00 (2.15)	4433.33 (1.91)
4	Cost of Seedlings	78500.00 (41.71)	76000.00 (42.17)	73000.00 (41.93)	75833.33 (41.90)
5	Cost of Farm Yard Manure	27000.00 (7.15)	25500.00 (7.19)	24800.00 (7.16)	25766.33 (7.17)
6	Cost of chemical Fertilizers	17000.00 (6.61)	16100.00 (6.50)	15650.00 (6.47)	16250.00 (6.58)
7	Cost of Irrigation charges	21000.00 (9.53)	19000.00 (8.92)	18000.00 (9.20)	19333.33 (9.27)
8	Cost of Plant Protection charges	9900.00 (3.81)	8800.00 (3.82)	7700.00 (3.83)	8800.00 (3.82)
9	Miscellaneous charges	2900.00 (1.19)	2800.00 (1.09)	2700.00 (1.07)	2800.00 (1.14)
10	Interest on Working Capital @ 8%	13924.00 (6.20)	13252.8 (6.22)	12745.6 (6.23)	12307.47 (6.21)
11	Deprecation on Fixed Resources	7000.00 (2.38)	6600.00 (2.38)	5700.00 (2.30)	6433.33 (2.37)
12	Land Revenue Paid to Government	200.00 (0.10)	200.00 (0.10)	200.00 (0.10)	200.00 (0.10)
13	Interest on Fixed Capital @ 10%	1720.00 (0.82)	1700.00 (0.84)	1670.00 (0.85)	1696.67 (0.83)
14	Rental Value of Own Land	12000.00 (5.72)	12000.00 (5.95)	12000.00 (6.14)	12000.00 (5.87)
15	Imputed value of Family Labour charges	17300.00 (7.29)	15680.00 (6.79)	14600.00 (6.44)	15860.00 (6.98)
16	Total Cost of Cultivation	226194.0 (100.00)	215092.8 (100.00)	206235.6 (100.00)	215840.8 (100.00)

The Table 1: Revealed that among different size of farm groups, total cost incurred by the small size farms were high (Rs.22694/ha) as compared to medium and large size farms (Rs.215092/ha and Rs.206235/ha). Sample average for total cost was Rs.215840/ha in different size of farms group. The cost of human labour, fertilizers, and machinery 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. The distribution of pattern of operational cost under various inputs revealed that cost of human labour was the highest in the large size farms (Rs.9920/ha), compared to medium size farms (Rs.9560/ha) and lowest on small size farms (Rs.9200/ha) respectively. The cost of rental value of own land was Rs.12000/ha in different size of farms group. Sample average for rental value of own land was Rs 12000/ha

Table 2: Costs and Returns in Chickpea crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L=58+ 42+ 20 =120 (Value in Rupees / qtl)

Sl. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Total Cost of cultivation	226194	215092	206235	215840.8
2	Yield in tones per hectare	28	26	24	26
3	Gross Returns per hectare in rupees	98000	91000	84000	91000.00
4	Net Returns per hectare	128194	124092	122235	124840.3
5	Cost of Production per quintal	8078.35	8272.76	8593.12	8314.74
6	Price Per quintal	3500.00	3500.00	3500.00	3500.00
7	Input-Output ratio	1:2.90	1:3.06	1:3.21	1:3.01

Table 2. Reveals that Costs and Returns in chickpea 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. 226194/ha) as compared to medium (Rs. 215092/ha) and large farms (Rs. 206235/ha). Sample average for total cost of cultivation was Rs. 215840.80/ha in different size of farms group. The gross

returns obtained per hectare by small size farms were high (Rs. 98000/ha) as compare to medium and large size farms (Rs.91000/ha and Rs.84000/ha) respectively. The net returns per hectare obtained by small size farms were high (Rs. 128194/ha) as compared to medium and large size farms (Rs. 124092/ha and Rs.122235/ha) respectively. The average yield of chickpea in different size of farms group was Rs.26/ha. The

yield was highest in case of large size farms 24 qtl/ha as compared to medium (26 qtl/ha) and small size farms (28

qtl/ha) respectively. Average cost of production per qtl was Rs. 8314.74/qtl. Gross Price per quintal was Rs.3500/qtl.

Table 3: Cost Concepts in Chickpea crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L=58+ 42+ 20 =120 (Value in Rupees)

Sl. No	Cost Concepts	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Cost A ₁	195174.00	185712.00	177965.00	186283.70
2	Cost A ₂	195174.00	185712.00	177965.00	186283.70
3	Cost B	208894.00	199412.00	199382.00	202562.70
4	Cost C	226194.00	215092.00	206235.00	215840.30

Table 3. Reveals that Cost Concepts on different size of farms group per hectare. Cost A₁ was highest in small size farms (Rs.195174/ha) followed by medium size farms (Rs.185712/ha) and lowest in large size farms (Rs.177965/ha) respectively. Cost A₂ in small, medium and large size of farms groups was Rs.195174/ha, Rs.185712/ha and Rs.177965/ha respectively. Cost B was highest in small size

farms (Rs.208894/ha) as compared to medium size farms (Rs.199412/ha) and lowest in large size of farms (Rs.199382/ha) respectively. Cost C was highest in small size farms (Rs.226194/ha) and lowest in large size farms (Rs.206235/ha). Sample average for Cost A₂, Cost B and Cost C was Rs.186283/ha, Rs.202562/ha and Rs.215840/ha in different size of farms group.

Table 4: Measures of Farm Profitability in Chickpea crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L=58+ 42+ 20 =120 (Value in Rupees)

Sl. No	Particulars	Size of Farms group			Sample Average
		Small	Medium	Large	
1	Gross Returns	98000.00	91000.00	91000.00	93333.33
2	Farm Business Income	97174.00	94712.00	93965.00	95283.67
3	Farm Investment Income	141914.00	137792.00	135905.00	138537.00
4	Net Returns	128194.00	124094.00	122235.00	124841.00
5	Family Labour Income	110894.00	108412.00	115382.00	111562.70

Table 4. Reveals that Measures of Profitability in Chickpea cultivation in different size of farms group. The gross returns obtained per hectare by large size farms were high (Rs. 633600/ha) as compare to medium and small size farms (Rs.617600/ha and Rs.608000 /ha) respectively. This makes the sample average for gross returns was 615626/ha in different size of farms group. Farm business income in small, medium and large size of farms group was Rs.427246/ha, Rs.443407.20/ha and Rs.464286.00/ha respectively. Sample average for farm business income was 439075.82/ha in different size of farms group. Farm investment income was highest in large size farms (Rs.449706/ha) as compared to medium size farms (Rs.429727/ha) and lowest in small size farms (Rs.411946/ha) respectively. This makes the sample average for Farm investment income was Rs.424462.75/ha in different size of farms group. The net returns per hectare obtained by large size farms were high (Rs.438016/ha) as compared to medium and small size farms (Rs.416027.20/ha and Rs.398226/ha) respectively. Sample average of net returns was 411088.15/ha in different size of farms group. Sample average of Family labour income was Rs. 425371.15/ha in different size of farms group.

Conclusions

The study shows that the production and marketing of Chickpea in Bilaspur district. The main objective of the study is to analyze, socio economic characteristic of sample respondents, economics of Chickpea production, price spread and constraints in production and marketing of Chickpea. 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 Chickpea production is more profitable in large farms as compared to medium size farms and small size farms.

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