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An economic analysis of production and marketing of major crops in Khairagarh-Rajnandgaon District of Chhattisgarh

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Abstract

Khairagarh block selected purposively for study purpose because it covers the maximum area, production and productivity than that of other blocks. Total 150 farmers were selected from each selected villages a sampled of 10% respondents were selected by using probability proportional to size techniques subject to conditional at least 10% respondents were included in sample from each categories of farm size-Marginal farmer (below 1 hectare), Small farmer (1-2 hectare), Medium farmer (2-4 hectare) and Large farmer (above 4 hectare). The primary data was collected from the farmers through personal interview method with the help of well-prepared schedule and questionnaire for the production and marketing of three major selected crops in the study area. In the study area highest percentage (50.00 percent) of farmers belonged to scheduled class (ST) of the total sampled households with a literacy rate of 73.32 percent. Agriculture was the main stream of occupation in the sampled households with 59.64 percent, overall total cultivated area were 2.01 hectare per farm and overall cropping intensity 120.5 per cent at sampled households. The most important constraints in paddy cultivation faced by the farmers were Inadequate of irrigation water facilities followed by unavailability of hired human labour at peak season of agricultural operations in regards to main constraints faced by chickpea growers was the problem of animal grazing which was reported by 92.35 per cent of selected farmers and main constraint in soybean production was problem of labour for weed management that were reported by 85.32 percent of selected farmers.

Keywords: kharif crop paddy, constraint, cost of cultivation

Introduction

It is observed that due to increase in population in India, population exerting pressure on agriculture. To overcome this problem there is a need of high growth rates of agricultural production. The growth rate of agricultural production is commonly seen by the performance of food grains and non-food grains production. Food grains are crucial because of it plays vital role by supplying basic food items and it is the important part where green revolution was successfully implemented. During the time of independence, agriculture was predominant because of the need of food grains. Lots of government initiatives and initiation for adoption of new technologies were undertaken to obtain self-reliance of our country, in agriculture sector which changed the scenario of Indian agriculture from food storage to self-reliance.

Rice (*Oryza sativa* L.) Rice is the most important food crop in the state. It occupies around 6.6 percent of the total cropped area. However, the area under it has been falling at an alarming rate ever since the 1980s from around 8 lakh ha to 1.96 lakh ha in 2015-16 and further to 1.71 lakh ha in 2016-17. The production has also declined from 12.9 lakh MT in 1980s to 5.49 lakh MT in 2015-16 and 4.37 lakh MT in 2016-17.

In Chhattisgarh, Rice involves normal of 3.6 million ha. With the profitability of the state running between 1.25 to 1.5 t/ha relying on the precipitation. The state has jumped into three agro climatic zones; Chhattisgarh plains, Baster plateau and Northern hills and it covers 20.52, 28.62 and 20.86% zone individually. The Atmosphere of Chhattisgarh is dry sub- sticky. About 80% of yearly normal precipitation happens from June to September because of southwest storm.

Materials and Methods

In Chhattisgarh state having 27 district out of them Rajnandgaon district was selected purposively to avoid the operational inconvenience of the investigator. Out of 9 blocks of Rajnandgaon district, namely Chhuikhadan, Khairagarh, Rajnandgaon, Dongargarh, Chhuriya, Ambargarh-Chowki, Mohla and Manpur one block khairagarh selected purposively because it covers maximum area, production and productivity than that of other block. The study is

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based on both primary and secondary data. The primary data was collected through well prepwred scheduled and questionnaire from the selected respondents and secondary data was collected from District administrative office Rajnandgaon, Annual agriculture statistics and other government and non-government agencies. There are 115 villages in Khairagarh block, out of these six villages (about 5% of total villages) namely Itar, Baigatola, Barbaspur, Changurda, Dumardih and Khairbana were selected purposively for study purpose because Majorities of farmers

in selected villages growing paddy crop. In each selected villages a sample of 10% respondent were selected by using probability proportional to size techniques subject to conditional at least 10% respondents were included in sample from each categories of farm size-marginal farmer(below 1 hectare),small farmer(1-2 hectare), medium farmer (2-4 hectare) and large farmer(above 4 hectare). After analysis of secondary data we found that Rice crop covers maximum area, production and productivity, thus we selected that as a major crops and work done about that.

Table 1: Major crops grown in Rajnandgaon district of Chhattisgarh

(A: Area in Thousand Hectare, and Production in Metric Tonne)												
Crops	2016			2017			2018			Average		
	Area	Production	Productivity	Area	Production	Productivity	Area	Production	Productivity	Area	Production	Productivity
Paddy	286.609	673.531	2350	285.41	222.337	779	283	686.841	2427	285.0073333	527.5696667	1852
Wheat	20.786	27.749	1335	4314	7381	7381				1444.9286667	2469.583	2905.333333
Jowar	0.038	0.02	530	0.042	0.023	545	0.045	0.025	550	0.0416667	0.022666667	541.6666667
Maize	3.45	8.647	2510	3.542	12.558	3638	4	14.56	36.4	3.6640000	11.92166667	2061.466667
Kodo	3.945	2.584	655	4.126	2.599	630	4.2	2.94	700	4.0903333	2.707666667	661.6666667
Chickpea	72.152	84.418	1170	56.491	57.056	1010				42.8810000	47.158	726.6666667
Arhar	16.48	19.313	11.72	15.896	7.725	486	16.5	19.388	1175	16.2920000	15.47533333	557.5733333
Moong	1.68	1.017	605	1.443	0.88	610	1.5	0.915	610	1.5410000	0.937333333	608.3333333
Soybean	28.972	27.523	950	28.698	15.784	550	30	32.82	1094	29.2233333	25.37566667	864.6666667
Groundnut	0.03	0.041	1370	0	0	0	0	0	0	0.0100000	0.013666667	456.6666667
Sunflower	0	0	0	0	0	0	0	0	0	0.0000000	0	0

To work out the cost of cultivation, standard method of cost of cultivation has adopted. Standard method of marketing analysis was performed to estimate marketable and marketed surplus, cost of marketing, marketing pattern etc. The constraints of production and marketing of major crops and suggestions to improve the same was worked out on the basis of primary data analysis. Suitable analytical tools and techniques were applied to process the data pertaining to the fulfillment of objectives of the study, including tabular analysis, arithmetic, statistical techniques etc.

Growth rate

Annual Compound growth rates in area, production and productivity of paddy, chickpea and soybean will be done in the study area and for Chhattisgarh state by fitting an exponential function of the following form, with the help of CGR identity pattern of crops in selected area".

$$Y = \alpha \beta^t$$

$$\log Y = \log \alpha + t \log \beta$$

Where,

Y= Area/ production /productivity of groundnut crop

α = Constant

β = Regression coefficient

t = time in year

Compound growth rate (%) = (Antilog β -1)100

Result and Discussion

Constraints in production and marketing of Paddy crop in selected area is presented in the table 4.28 it was observed that Inadequate of irrigation water was the first constraint at peak season of agricultural that reported by 72.76 per cent cultivators followed by unavailability of human labour and its reported by 63.98 percent of farmers and third constraint reported by farmers were Transportation problem of their produce (59.01 per cent) and Inadequate knowledge of package and practices (54.65 per cent) also the farmers reported for Inadequate storage facility which was 52.68. Also the farmers of the study area did not satisfy with the minimum support price fixed by the government of India. Now the MSP has been calculated by cost A2+FL (Family labour) but farmers of selected area is demanded to calculate it by cost C3. The study area is a major growing belt of paddy in Chhattisgarh state, so there is not much problem in production aspect despite of irrigation and labor issue which is the present problem in all over India. Construction of new storage structure and creation of awareness about improved method of plant protection measures can also ease the problems of paddy production and marketing of the study area.

Table 2: Constraints in production and marketing of paddy reported by respondents in study area

Problems/Constraints	Category of farmers			
	Marginal	Small	Medium	Large
Inadequate of irrigation water facilities	58(88.46)	42(93.33)	28(55.23)	13(92.11)
Inadequate knowledge of package and practices	34(38.46)	19(45.66)	14(65.33)	6.00(63.25)
Inadequate storage facility	22(65.38)	16(85.32)	14(82.56)	7.00(68.89)
Transportation problem of their produce	18(76.92)	12(62.59)	9.00(16.13)	10(81.00)
Unviability human labour	60(100)	45(100)	30(100)	15(100)

Note: Figure in parenthesis was percentage

Table 3: Hennery Garret's ranking for constraints in paddy production

SI. No.	Problem/Constraint	Garret mean square	Ranking
1	Inadequate of irrigation water facilities	72.76	I
2	Unavailability human labour	63.98	II
3	Transportation problem of their produce	59.01	III
4	Inadequate knowledge of package and practices	54.65	IV
5	Inadequate storage facility	52.68	V

Conclusions and suggestions

Conclusion

The overall per thousand male to female ratio was found to be 1000:948.15 in the sample farmers of the study area and about 58.30 per cent of total population belonged to 15-60 years age group. The overall literacy percentage was registered (73.32 per cent) among sampled households, The percentage of other backward class (OBC) category in the total sampled population was the highest (14 per cent) followed by general (8 per cent), schedule tribes (50 per cent) and schedule caste (28 per cent) respectively, the per farm cultivated area at different land holding farmer is 0.59 hectare for marginal, 1.62 hectare for small, 3.22 for medium and 6.48 for large farmers. The overall irrigated area in the study area was found to be 45.53 per cent.

The highest cropping intensity was found to be 123 per cent in large category farmer but the overall cropping intensity was slightly low at 120.5 per cent at sampled households. The secondary data of last ten years in paddy production of Khairagarh-Rajnandgaon district showed significant and negative with a growth rate of -7.75 per cent in areas, production was also negatively growth rate of -7.75 per cent but productivity shows positively significant growth rate of 1.87 percent.

Suggestions

1. The major share of expenditure incurred by the cultivators for cultivation of major selected crops was on human labour. This share should be minimized by the use of mechanization and improved technology which are less time consuming and cost effective.
2. There is an urgent need to create and strengthen irrigation water facilities in the region by way of tanks, ponds, wells and tube wells besides adopting watershed approach using rain water harvesting techniques in order to enhance cropping intensity in the study area.
3. Farmers are not satisfied with existing MSP of paddy crop in the district if it should be provided as per C2 cost than it would be remunerative crop. The existing 15 quintal per acre procurement limit of paddy crop should be increased.
4. The timely availability of fertilizer in the society and provide it to the producers in appropriate quantity will improve the per hectare use of fertilizer in the crop which can give better performance of the crop

References

1. Agrawal Sunil, Amin Quereshi, Amit jangre. Demonstration and predominant analysis of rice crop using CRI, Plant Archives 2017;17(6):656-248.
2. Anonymous. Agricultural statistical information, Government of India. ICAR, IISR 2017.
3. Baksh Vijay, Amit wadaiy. Growth rate of wheat in Bangladesh in term of area, production and productivity, International Journal of Economic Analysis 2005;6(3):112-223.

4. Kushrestha Urmila, Vijay Mathur. Growth rate of production of wheat in rajasthan state, Artha Journal of Social Science 2004;11(3):22-16.
5. Niaz Mustaq, Manney Chiruwali, Ashish Raghuvanshi. Growth rate and instability of pegin pea, chickpea and field pea pulses production in Bangladesh, International Journal of Economic Analysis 2008;6(7):229-336.
6. Sharma Shanu, Zayant Zechariah. An economic analysis of production of chickpea in Bilaspur district Chhattisgarh, Journal of Pharmacognosy and Phytochemistry 2018;7(5):889-891.
7. Verma Praveen Kumar, Banafar KNS. Economics analysis of minor millets in Bastar district of Chhattisgarh, African Journal of Agricultural Research 2013-2018;8(39):4928-4931.
8. Singh Rahul, Sarvesh Chandra. Growth trends of area, production and yield of paddy in India, Artha Journal of Social Science 2008;9(3):11-44.
9. Pradhan Piyush, Ajay Verma, Mukesh Pandey, Kanhaiya Lal. A Review on Biasi Cultivation in Chhattisgarh, Acta Scientific Agriculture 2018;2(11):126-130.
10. Kannan Apoorva, Biki sundaram. Compound growth rate of rice crop in major rice growing states in India, Economic Affairs 2011;52(2):116-137.