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A comparative study of constraints in the cultivation and marketing of paddy production in irrigated, semi-irrigated and rainfed farming area of Chhattisgarh, India

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Abstract

The Present Study deals with a comparative study of the cost and return of paddy production in irrigated, semi-irrigated and rainfed farming area of Chhattisgarh. The irrigated, semi-irrigated and rainfed farming area of Chhattisgarh is purposely selected for this study because this area has different levels of the cost of production and returns of paddy in the Chhattisgarh state. The primary data were collected for the year 2019-2020. Primary data were collected from the sample respondents by conducting personal interview and pretested schedule. 300 farmers were selected randomly from three different farming area of Chhattisgarh, 100-100 farmers were irrigated, semi-irrigated and rainfed farming area. The major constraint in the production and marketing of paddy were Lack of labor in productive period (72.22), Higher charges of Laborers (64.20), High cost of inputs like seeds, fertilizers, chemicals (53.35), Non-availability of irrigation facilities (51.66), Non-availability of seeds, Fertilizers and chemicals at the proper time (50.09), lack of market facilities and low price (49.54), Lack of knowledge of improved varieties (42.09), Lack of money to purchase agricultural inputs (39.40), Lack of knowledge about insects and diseases and their control measures (39.82) and complex procedure of credit of agricultural loans (32.72).

Keywords: Irrigated, semi-irrigated, constraint, production, marketing

Introduction

Agriculture is the backbone of Indian economy, a way of life then business. Indian agriculture has registered a 4.1 percent of average growth rate during eleventh five year plan. 2013-14 in the Substantial progress in coverage and productions are recorded. The 126.2 million ha and 28 million ha oilseeds coverage under food grains has reached. Chhattisgarh state may broadly be classified as mono cropped rainfed area comprising 76 percent of cultivable land and the area under irrigation from all sources fall below 30 percent. Rice is the most predominating crop and occupies about 80 percent of cultivable land and the average productivity is 1.14 tonnes per hectare. The rural population is mainly dependent on rice. The average per person consumption of rice is about 120-130 kg per year.

The productivity of rice is low because of many factors of which irrigation is most important. Rice is mainly grown in kharif season. This crop is also grown in those areas where assured irrigation is available in summer season.

Keeping in view the above discussion and importance of the paddy cultivation, the present study was an attempt to study the economics of cost and return of paddy production in the study area.

Materials and Methods

The present study pertains to irrigated, semi-irrigated and rainfed farming area of Chhattisgarh. The purposely selected of Dhamtari district was in the irrigated area, Raipur district in the semi-irrigated area and bastar district was rainfed farming area for this study. The primary data were collected for the year 2019-2020. Primary data were collected from the sample respondents by conducting personal interview and pretested schedule. 300 farmers were selected randomly from three different farming area of Chhattisgarh, 100-100 farmers was irrigated, semi-irrigated and rainfed farming area.

For collecting relevant data, a pre-tested structured schedule was used. The data collected from the respondents includes general information, size of holdings, intercropping, inputs used, cost

of cultivation and opinions on various production and marketing constraints faced by paddy growers. At their homes and in some cases at a common place in the village, the respondents were interviewed. The purpose of the study was also explained to the respondents. Garrett's ranking technique was used to estimate the constraints encountered in the production and marketing of paddy.

Garrett's ranking technique

Garrett's ranking technique is a tool which is commonly used for the variable that makes use of mean scores expressed in ranks. It offers the change of orders of constraints and benefits into numerical ratings. The primary advantage of this technique over simple frequency distribution is that, from the point of view of respondents, the constraints are structured based on their intensity. Therefore, the same number of respondents may have been ranked differently on two or more constraints. Garrett's formula for converting ranks into percentage is:

$$\text{Percentage position} = 100 * (R_{ij}-0.5)/N_j$$

Where,

R_{ij} = Rank given for ith constraint by jth individual.

N_j = Number of constraint ranked by jth individual.

The percentage position of each rank will be converted into scores referring to the table given by Garrett and Woodworth (1969).

The scores of individual respondents will be added together for each factor and divided by the total number of respondents

for whom scores will be added. These mean scores for all the constraints will be arranged in descending order; the constraints will be accordingly ranked.

Results and Discussion

The paddy production and marketing constraints being faced by the irrigated, semi-irrigated and rainfed farming area sampled farmers were ranked using Garrett's ranking technique and the results are given in table and fig. 1.

The overall major constraints were Lack of labor in productive period (72.22) followed by Higher charges of Laborers (64.20) average score in Garrett's ranking, identified. The other constraints were High cost of inputs like seeds, fertilizers, chemicals (53.35), Non-availability of irrigation facilities (51.66), Non-availability of seeds, Fertilizers and chemicals at the proper time (50.09), lack of market facilities and low price (49.54), Lack of knowledge of improved varieties (42.09), Lack of money to purchase agricultural inputs (39.40), Lack of knowledge about insects and diseases and their control measures (39.82) and complex procedure of credit of agricultural loans (32.72). This problem can be solved to Engagement of young work force in small petty works having primary or middle education need to be discourage with an option of better occupation facility with higher education. Farmers need to be educated technically for adopting recent varieties and improvement cultural practices. More female members have been observed employed on-farm which might be less paying than males for the same nature of employment. This gap needs to be minimized.

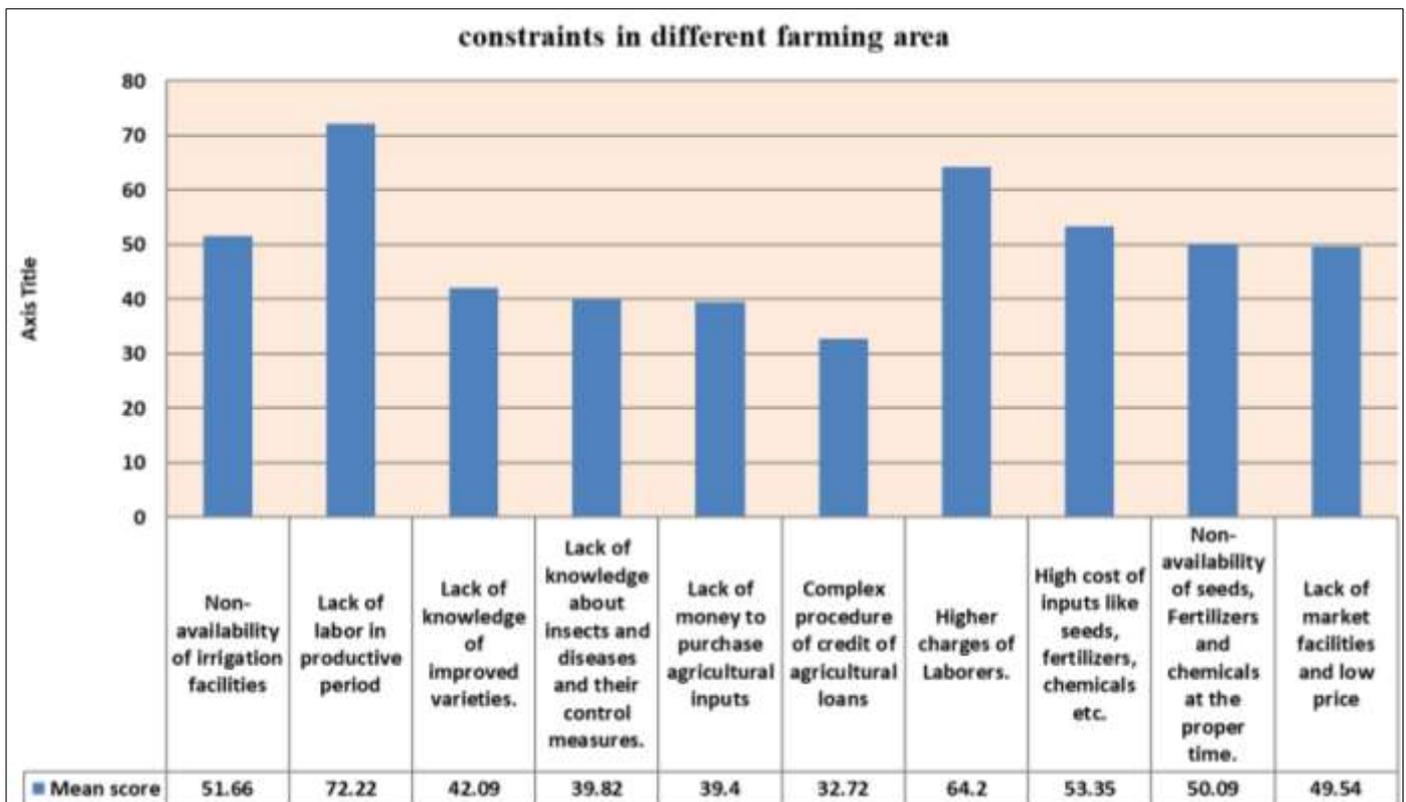


Table 1: Garrett scores for crop production and marketing constraints in different farming area

	Particular	irrigated		Semi-irrigated		rainfed		Overall	
		Mean score	Garret ranking	Mean score	Garret ranking	Mean score	Garret ranking	Mean score	Garret ranking
1	Non-availability of irrigation facilities	31.79	X	39.54	VI	83.65	I	51.66	IV
2	Lack of labor in productive period	70.5	I	69.14	I	77.02	II	72.22	I
3	Lack of knowledge of improved varieties.	40.37	VI	35.49	VIII	50.40	V	42.09	VII
4	Lack of knowledge about insects and diseases and their control measures.	36.83	VIII	36.4	IX	46.23	VIII	39.82	VIII
5	Lack of money to purchase agricultural inputs	37.37	VII	36.74	VII	44.09	IX	39.40	IX
6	Complex procedure of credit of agricultural loans	35.49	IX	28.76	X	33.92	X	32.72	X
7	Higher charges of Laborers.	65.42	II	65.16	II	62.02	III	64.20	II
8	High cost of inputs like seeds, fertilizers, chemicals etc.	54.14	III	55.23	III	50.69	VI	53.35	III
9	Non-availability of seeds, Fertilizers and chemicals at the proper time.	52.06	IV	50.98	IV	47.24	VII	50.09	V
10	Lack of market facilities and low price	50.72	V	49	V	48.90	VI	49.54	VI

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