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Perceived Constraints in the Accessibility of Production, Marketing and Processing of Paddy in Mahasamund District of Chhattisgarh

Sumit Kumar Sori[1], A.K.Gauraha[2] and Sushila[3]

[1]Department of EES, PSB, Visva Bharati, Sriniketan, India
[2]Department of Agril Economics, Indira Gandhi Krishi Vishwa Vidyalaya, Raipur, Chhattisgarh, India
[3]Department of Agriculture Economics, Banaras Hindu University, Varanasi, India

Email: sori.sumit@gmail.com

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Abstract

Chhattisgarh is one of the leading Paddy producing state in India contributing 3.6 m ha area and 6.16 mt (2010-11) production. Chhattisgarh state has achieved "Krishi Karman" award from Government of India for the abundant paddy production in year 2010-11. Despite such an achievement, Paddy Growers, Traders and Processors in various districts of the state are not free from the constraints in production, marketing and processing of it. Present study was undertaken in Mahasamund district of Chhattisgarh state during the year 2010. The objective of the study was to rank the identified constraints in production, marketing and processing of the paddy. Data were collected from the selected farmers, trader and processors through personnel interview by using pre structured survey schedule. Results of the study revealed that the heavy infestation of insect pests, problem of high weed occurrence and high labour cost were major constraints in paddy production perceived by the farmers. In marketing of paddy lack of transportation and road facility, lack of regulated market and unremunerative price were observed as severe problems while processing problems perceived by processors of study area as a severe constraints are related to electricity problem and efficiency problem of processing unit.

Keywords: Paddy, constraints, production, marketing, processing, garret ranking technique

Chhattisgarh popularly known as "Rice bowl of India" occupies an area around 3.60 m ha with the production of 6.16 mt of paddy (Urkurkar *et.al.,* 2007) and was awarded Krishi Karman Award during 2010-11(Anonymous, 2011). Average productivity of paddy in state is still lower than the national productivity with wide variation in the productivity among different districts (Diwakar, 2009 and Pandey *et.al.*, 2010). His study during 10^{th} plan reveals that no district had high and medium productivity as yield was not more than the 2000 kg ha^{-1}. Only one district had medium-low productivity (1674 kg ha^{-1}) covering 3.7% of the total rice Area and producing about 5.60 % of total rice production of the state. Total 9 districts in the state have low productivity (1192 kg ha^{-1}), which account for 51.7 % of the total rice area in the state and about 55.8 % of total rice production in the state.

Similarly 6 districts viz., Raipur, Jashpur, durg, Mahasamund, Raigarh, Kawardha in the state were falling under very-low productivity districts (959 kg ha^{-1}) contributing 44.6 % of total rice area and 38.6 % of total production in the state (Diwakar, 2009). The overall picture reveals that the agriculture in Chhattisgarh is relatively underdeveloped as compared to most of the Indian states.

Rice cultivation is major agricultural activity of the farming community of Mahasamund district sharing 5.61 and 7.82 per cent of total area and production of the rice grown in the state respectively (Anonymous, 2010). More than 80 percent of working population of the district is engaged in agriculture. About 78 per cent of the farmers are small and marginal in the district and they are poor in resources and therefore, they cannot afford to adopt modern rice technology. Marketing as well as processing are other most important aspects in the development of the agrarian economy of the state, but market for rice in this district is not properly organized and very little attention has been given to its marketing aspect (Gauraha *et.al.* 2002). Similarly there are greater variations of processing cost and marketing system existing in different districts of Chhattisgarh. With this background information, it was thought worthwhile to identify with their intensity the major constraints encountered in production by farmers, marketing by farmers and traders and processing by the processors for paddy in Mahasamund district of Chhattisgarh.

Materials and Methods

Sampling Technique and Data Collection

To study the constraints in paddy production, three stages random sampling technique was used to select the blocks, villages and paddy growers. At first stage, out of the total 5 developmental blocks in this district, Mahasamund block was selected randomly. Mahasamund block consists of 80 villages. At second stage, 10 per cent of total villages i.e. 8 villages *viz*. Tendudih, Bendridih, Persadih, Khairchatti, Pirda, Kuwajhar, Gudrudih, Malidih were selected randomly from selected block. At third stage, list of all the farmers were prepared from the selected villages with their net cultivated area. Thereafter, paddy growers were classified into four farm size group, i.e. Marginal (Less than 1 ha), Small (1 to 2 ha), Medium (2 to 4 ha) and large (Above 4 ha). Total no. of farmers in selected 8 villages are 1234, consisting 594 marginal farmers, 318 small farmers, 163 medium farmers and 159 large farmers. 10 per cent farmers from each category i.e. 59 marginal, 32 small, 16 medium and 16 large size paddy growers were selected randomly making the sample size of 123. To Study the constraints in marketing of paddy, the all local traders 25 in numbers (who were available during study time) were selected. In addition to growers and traders, 81 processors (who were available during study time) were selected and they were asked to narrate and rank the constraints in rice processing. The primary data were collected through personnel interview using a pre-tested schedule and questionnaires.

Analytical Framework

To find out the constraints in production, marketing and processing of paddy by the farmers, traders and processors, the Garret ranking technique was used (Garret and Woodworth, 1969; Kathiravan *et al*. 1999; Kumar and Kumar, 2008, Sedaghat, 2011 and Sushila *et al.* 2012). The constraints were prioritized by using Garrett's ranking technique in the following manner:

$$\text{Percentage position} = \frac{100\ (Rij - 0.5)}{Nj}$$

Where,

Rij = Rank given for the i^{th} item by the j^{th}, respondent and

Nj = Number of items ranked by the j^{th}, respondent

The percentage position of each rank was converted into scores using Garret table. For each constraint, scores of individual respondents were added together and divided by total number of respondents for whom scores were added. Then, mean score for each constraint was ranked by arranging them in the descending order.

This procedure can be illustrated as there are 123 respondent (producer) and 11 production constraints in study area. For categorization all this constraints according to producer perception, these 11 constraints are ranked by each respondents. Suppose 1^{st} respondent ranked all 11 constraints as 1,2,3,4,5,6,7,8,9,10,11 and percent position of this raw ranking according to above formula will be 4.55, 13.64, 22.73, 31.82, 40.91, 50.00, 59.09, 68.18, 77.27, 86.36, 95.46. Further this percent position are converted in garret score by using 100 point garret table (Table no. 1) i.e 82, 71, 64, 59, 64, 50, 45, 40,35, 28, 17 respectively. Similar procedure is followed for all respondent to calculate garret score and finally average score for each constraints was calculated by summing the garret score of all respondent and dividing it by the total number of respondent (123). Now final score for all constraint are arranged in decreasing order presenting the higher score as severe constraints.

Table 1: Garret Table, for converting order of merit into units of measure or scores.

% (percent position)	Score	% (percent position)	Score	% (percent position)	Score
.09	99	22.32	65	83.31	31
20	98	23.88	64	84.56	30
.32	97	25.48	63	85.75	29
.45	96	27.15	62	86.86	28
.61	95	28.86	61	87.96	27
.78	94	30.61	60	88.97	26
.97	93	32.42	59	89.94	25
1.18	92	34.25	58	90.83	24
1.42	91	36.15	57	91.67	23
1.68	90	38.06	56	92.45	22
1.96	89	40.01	55	93.19	21
2.28	88	41.97	54	93.86	20
2.63	87	43.97	53	94.49	19
3.01	86	45.97	52	95.08	18
3.43	85	47.98	51	95.62	17
3.89	84	50.00	50	96.11	16
4.38	83	52.02	49	96.57	15
4.92	82	54.03	48	96.99	14
5.51	81	56.03	47	97.37	13

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% (percent position)	Score	% (percent position)	Score	% (percent position)	Score
6.14	80	58.03	46	97.72	12
6.81	79	59.99	45	98.04	11
7.55	78	61.94	44	98.32	10
8.33	77	63.85	43	98.58	9
9.17	76	65.75	42	98.82	8
10.06	75	67.48	41	99.03	7
11.03	74	69.39	40	99.22	6
12.04	73	71.14	39	99.39	5
13.11	72	72.85	38	99.55	4
14.25	71	74.52	37	99.68	3
15.44	70	76.12	36	99.80	2
16.69	69	77.68	35	99.91	1
18.01	68	79.17	34	100.00	0
19.39	67	80.61	33		
20.93	66	81.99	32		

Source: Garret (1996) The scaling mental test and other psychological data, Statistics in Psychology and Education. Pp 357-389.

Results and Discussion

Constraints in Production of Paddy

The Table 2 revealed that there were eleven major problems in paddy production confronted by sampled paddy growers. Among these problems, heavy infestation of insect pests was observed as most severe problem with 87.35 average score in Garret ranking, followed by problem of high weed occurrence and high labour cost with average score of 86.33 and 85.31 respectively. Less severe problems observed among sampled paddy growers were Traditional method of farming, unavailability of quality seed and irrigation problem with average score of 81.98, 81.92 and 81.20 respectively. Observations indicate that study area has good irrigation facility.

Table 2: Production Constraints confronted by Farmers

Si. No	Particulars	Sum of scores	Average of scores	Rank
1.	Small size of holdings	10362	83.56	V
2.	Irrigation Problems	10069	81.20	XI
3.	low return	10233	82.52	VIII
4.	High labour Cost	10579	85.31	III
5.	Problem of High weed occurrence	10705	86.33	II
6.	Heavy infestation of Insect Pest	10832	87.35	I
7.	Unavailability of Labour	10526	84.89	IV
8.	Unavailability of Quality seed	10158	81.92	X
9.	Traditional method of farming	10166	81.98	IX
10.	Lack of credit facility	10343	83.41	VI
11.	Sufficient capital unavailability	10306	83.11	VII

Marketing constraints confronted by Farmers and Traders

Marketing constraints confronted by farmers in study area are enlisted in table 3. Lack of transportation and road were observed most severe problem in marketing of paddy with average score of 90.30. It was followed by lack of regulated market and unremunerative price with average score of 88.19 and 87.14 respectively. Problem of too much bargaining regarding price of produce was observed the least severe among farmers may be due to its non-perishable nature and also due to the facility of procurement of paddy in fixed price i.e. MSP in *kharif* season, by Govt. agency. However, in *rabi*, it is marketed by different channels. Table 4 reveals that the fluctuation in market price of paddy was severe constraint among the traders with average score of 85.60 while lack of market intelligence was least severe problem with average score of 80.44.

Table 3: Marketing Constraints confronted by Farmers

S. No.	Particulars	Sum of scores	Average of scores	Rank
1.	Lack of proper market facility	10569	85.23	VI
2.	Lack of transportation and road facility	11197	90.30	I
3.	Lack of regulated market	10936	88.19	II
4.	Lack of market intelligence	10606	85.53	V
5.	Un remunerative price	10805	87.14	III
6.	Malpractices in sale of product	10774	86.88	IV
7.	Too much bargaining regarding price of produce	10499	84.67	VII

Table 4: Marketing Constraints confronted by Traders

S. No.	Particulars	Sum of scores	Average of scores	Rank
1.	Lack of quality produce like moisture per cent and mixture of other variety	2031	81.24	IV
2.	Lack of transportation and road facility	2032	81.28	III
3.	Fluctuation in market price	2140	85.60	I
4.	Lack of market intelligence	2011	80.44	V
5.	High transportation charge	2100	84.00	II

Processing constraints confronted by processors

Among six major problems related to processing of paddy, electricity problem was ranked first by sampled paddy processors with average score of 90.21 while efficiency problem of processing units was ranked second. Transportation and administrative problems were observed less severe by the processors of Mahasamund block with average score of 87.02 and 85.68 respectively (Table 5)

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Table 5: Processing Constraints confronted by Processors

S. No.	Particulars	Sum of scores	Average of scores	Rank
1.	Electricity Problems	11186	90.21	I
2.	Efficiency problems	11038	89.02	II
3.	Skilled labour Problems	10962	88.40	III
4.	Storage Problems	10730	86.53	V
5.	Transportation Problems	10962	87.02	IV
6.	Administrative Problems	10624	85.68	VI

Conclusion

Despite to one of the leading Paddy producing state in India and major source of livelihood to rural people, production, marketing and processing of paddy in some district of Chhattisgarh is subject to various constraints. Results of the study concluded that the Heavy infestation of Insect Pest, Problem of High weed occurrence and High labour Cost were major constraints in paddy production perceived by the farmers but in marketing of paddy Lack of transportation and road facility, Lack of regulated market and Un remunerative price were observed severe problems by farmers while Fluctuation in market price, High transportation charge and Lack of transportation and road facility were observed severe problem by traders. Similarly processing problems perceived by processors of study area as a severe constraint were related to Electricity problem, Efficiency problem of processing unit and Skilled labour problem.

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