

Original Research Article

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Adoption of Rice Production Technology

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ABSTRACT

The present study is empirical information into the Extent of adoption of farm women in rice production technology. The total number of 6 villages was selected at randomly in 2 blocks of Korba District of Chhattisgarh. In each village, about 10 respondents were selected by random method. Results of the study revealed that the overall level adoption about rice production technology in which more (54.16%) belongs to medium level of adoption, while extent of adoption about 40.54 per cent and only 59.46 per cent adoption gap.

Introduction

Rice is the most important and extensively grown food crop in India and it is the staple food for more than half of the world population. The scope for expanding rice production lies in enhancing productivity. Several studies have indicated that the adoption of recommended rice technology gives high yields and income to the farmers. The yield level of rice which is comparatively low at present need to be increased substantially. Higher rice production can be achieved by adoption of all the recommended technologies by large number of farmers. Rice provides 31 per cent of total calorie intake in India (Gathorne Hardy *et al.*, 2016). Therefore, rice security—ensuring enough rice for everyone—is equivalent to food security in India. However, rice cultivation in India in recent times

suffers from several interrelated problems such as stagnation in productivity and concomitant environmental problems due to salinization and waterlogging of fields. Since virtually all suitable land is already under cultivation, raising productivity seems to be the only way of ensuring food security. Additionally, rice has a large physical and environmental foot print and in India alone around 44 hectares of rice is being cultivated (Gathorne-Hardy *et al.*, 2016).

Materials and Methods

The Area of the study- Korba district is having 5 blocks viz. Kartla, Katghora, Korba, Pali and Podiuproda out of which two blocks were selected randomly for the study. The study was conducted in Katghora and Pali block. Six villages were selected

randomly from each selected block. Thus the total 12 villages (6×2=12) were selected for the study. From each selected village, 10 farm women were selected randomly as respondents. In this way total 120 farm women (12×10=120) were selected as respondents for the study. The data was collected personally through pre-tested structured interview schedule. Collected data was tabulated and analyzed by using appropriate statistical tools.

Analytical Techniques

A set of 10 farm practices of rice production technology was used to get the response of respondents were recorded on three point continuum scale i.e. high, medium, and low with score of 2, 1, and 0, respectively. The maximum score of an individual could score 20. The raw adoption score was converted into adoption index. This variable is measured with the help of procedure followed by Sharma (2015).

Adoption index was worked out by using the following formula:

$$A.I. = \frac{O}{S} \times 100$$

Where,

AI = Adoption index of respondents

O = Total obtained score by respondents

S = Total obtainable score

On the basis of adoption index, respondents were categorized as follows:

Results and Discussion

Extent of adoption about rice production technologies

The adoption of the respondents regarding rice production technology is presented in Table 16 the

data reveals that the respondents had high level of adoption regarding selected practices of rice production technology i.e. (41.66%) harvesting, (31.66%) field preparation, (28.33%) storage, (24.16%) threshing, (20.00%) seed rate and sowing method, (15.83%) seed treatment, (12.00%) weed control, (11.67%) insect and disease control, (8.34%) improved variety, (5.83%) use of balanced fertilizer.

Whereas the respondents had medium level of adoption is regarding rice production technology, 50.00percent respondents were having adoption of use of improved variety & threshing and winnowing, 45.84percent adoption of seed rate and sowing method, 43.34percent adoption of seed treatment. 41.66percent, 40.83percent, 40.00percent respondent were found under the category of medium level of adoption regarding weed control, storage and field preparation, while few of them 37.50percent, 33.34percent and 33.33percent were having medium level of adoption regarding insect and disease control, use of balance fertilizer and harvesting respectively.

While in case of low level of adoption in rice production technologies 60.83percent, 48.34percent and 41.67percent respondents were found under the low level of adoption category regarding use of balance fertilizer & insect and disease control, weed control, use of improved variety respectively. Similarly low level of adoption was posed regarding (40.83%) seed treatment, (34.16%) seed rate and sowing method, (30.83%) storage practices, (28.34%) field preparation by the respondent. Only, 25.83percent and 25.00percent respondent had low level of adoption in threshing and winnowing & harvesting respectively.

Data in Table 18 represent the overall level adoption about rice production technology in which more (54.16%) belonged to medium level of adoption, while 25.83 per cent belonged low and only 20.00 per cent are belonged to high level of adoption. The extent of adoption regarding rice production technologies is presented in Table 19 and Fig 7.

Table.1

Sl.No.	Categories	Score
1	Low (less than 3 score)	(< Mean – S.D.)
2	Medium (3-13 score)	(in between Mean $\pm$ S.D.)
3	High (more than 13 score)	(> Mean + S.D.)

Table.2 Distribution of the respondents according to their level of adoption about rice production technology (n =120)

Sl.No.	Farm practice	Level of Adoption		
		High (f) (%)	Medium (f) (%)	Low (f) (%)
1.	Field preparation	38 (31.66)	48 (40.00)	34 (28.34)
2.	Use of improved Variety	10 (8.34)	60 (50.00)	50 (41.67)
3.	Seed treatment	19 (15.83)	52 (43.34)	49 (40.83)
4.	Seed rate and sowing method	24 (20.00)	55 (45.84)	41 (34.16)
5.	Use of balanced Fertilizer	7 (5.83)	40 (33.34)	73 (60.83)
6.	Weed control	12 (10.00)	50 (41.66)	58 (48.34)
7.	Insect and disease Control	14 (11.67)	45 (37.50)	61 (50.83)
8.	Harvesting	50 (41.66)	40 (33.33)	30 (25.00)
9.	Threshing and Winnowing	29 (24.16)	60 (50.00)	31 (25.83)
10.	Storage practices	34 (28.33)	49 (40.83)	37 (30.83)

Table.3 Distribution of respondents according to their overall adoption of rice production technology (n=120)

Sl. No.	Level of adoption	Frequency	Percentage
1.	Low adoption (< 3score)	31	25.83
2.	Medium adoption (3-13 score)	65	54.16
3.	High adoption (>13 score)	24	20.00
		Mean = 8.10	S.D. = 5.45

Table.4 Extent of adoption of rice production technology
(n =120)

Sl. No.	Farm practice	Total obtainable Score	Total Obtained Score	Extent of Adoption	Adoption gap (%)
1.	Field preparation	240	124	51.66	48.34
2.	Use of improved Variety	240	80	33.33	66.67
3.	Seed treatment	240	90	37.50	62.50
4.	Seed rate and sowing method	240	103	42.91	57.09
5.	Use of balanced Fertilizer	240	54	22.50	77.50
6.	Weed control	240	74	30.83	69.17
7.	Insect and disease control	240	73	30.41	69.59
8.	Harvesting	240	140	58.33	41.67
9.	Threshing and winnowing	240	118	49.16	50.84
10.	Storage	240	117	48.75	51.25
	Overall average	2160	973	40.54	59.46

The data reveals that the 58.33percent extents of adoption in harvesting practices, (51.66%) in field preparation, (49.16%) in threshing were found among the respondent. In case of storage practices, seed rate and sowing method, seed treatment, use of improved variety, weed control, insect and disease control the extent of adoption, were observed as 48.75 percent, 42.91 percent, 37.50 percent, 33.33 percent, 30.83 percent, 30.41percent, respectively. Only (22.50%) was found among the respondent incase of use of balanced fertilizer respectively. The overall extent of adoption 40.54 percent and gap of adoption 59.46 percent were found among the respondent. Similar findings reported by S.M. Sharma, (2015) who that majority of participants (43.33%) had medium followed by high level of adoption of demonstrated technologies while for majority non participants farmers (80.00%) had low level followed by medium level of adoption (18.33%).

The overall level adoption about rice production technology in which more (54.16%) belongs to

medium level of adoption, while extent of adoption about 40.54 per cent and only 59.46 per cent adoption gap.

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