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Constraints in procurement and use of various agrochemicals among the farmers of Chhattisgarh state

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Abstract
The present study was conducted to find out utilization pattern of agrochemicals in irrigated rice cultivation by the farmers of Dhamtari district in Chhattisgarh. Among the several constraints, higher percentage of the respondents reported about high cost of agrochemicals, lack of finance, low quality and less effective and lack of technical knowledge. To overcome the above constraints, majority of the respondents suggested for availability of agrochemicals in low price and good quality. Timely need based training on various aspects of agrochemical utilization and management was also suggested by considerable number of respondents.

Keywords: Agrochemicals, constraints, random sampling, interview schedule

Introduction
Chhattisgarh is popularly known as “Rice bowl of India” because maximum area is under rice cultivation during kharif and contribute major share in national rice production. It has geographical area of 13.51 million hectares of which 5.9 million hectares in under cultivation. Rice occupies an area of 3.61 million hectares, with annual production 5.48 million tonnes and productivity of 15.17q per ha (Anonymous 2013b) [1]. The Indian agrochemicals market is highly fragmented in nature with over 800 formulators. The competition is fierce with large number of organised sector players and significant share of spurious pesticides. The market has been witnessing mergers and acquisitions with large players buying out small manufactures. Globally, India is fourth largest producer of crop protection chemicals, after United States, Japan and China. The crop protection companies in India can be categorised into three types – multinational, Indian including public sector companies and small sector units. The market share of large players depends primarily on product portfolio and introduction of new molecules. There are numerous companies which are engaged in production and marketing of agrochemicals in India which include multinational, national and some local companies. All are in efforts to increase their market share in India. These companies produce various types of agrochemicals including fertilizers, insecticides, herbicides, fungicides, seed treatment chemicals etc. Over the years more and more problems associated with the use of various agrochemicals such as harmful side effects on non-target organisms, high cost of agrochemicals, lack of technical knowledge and training. There are many constraints faced by farmers in procurement and use of various agrochemicals. Hence, the present study entitled; “utilization pattern of agrochemicals in irrigated rice cultivation by the farmers of Dhamtari district of Chhattisgarh state” was planned.

Materials and Methods
The study was conducted in Dhamtari district of Chhattisgarh state during 2017-18. The Chhattisgarh state consists of 27 districts, out of which Dhamtari district was selected purposively due to highest per cent of irrigated area. This study was conducted in randomly selected 10 villages of Dhamtari and Kurud block with sample comprised 120 respondents. The data was collected through personal interview using a structured interview schedule. The collected data were analyzed with the help of suitable statistical methods and tools.

Results and Discussion

Table 1: Distribution of respondents according to constraints faced by them in procurement and use of various agrochemicals

Sl. No.	Constraints	frequency	percentage
1.	High cost of agrochemicals	105	87.5
2.	Lack of technical knowledge	72	60.0
3.	Sometimes less effective agrochemicals are sold	84	70.0
4.	Low quality of agrochemicals	41	34.2
5.	Lack of training	57	47.5
6.	Lack of enough finance for input such as herbicide, insecticide, pesticide etc.	93	77.5
7.	Lack of local availability of required agrochemicals	37	30.8

*Data are based on multiple responses.

The constraints as perceived by the farmers in procurement and use of various agrochemicals are given in table 1. The majority (87.5%) of respondents were faced constraint with the high cost of agrochemicals, followed by lack of sufficient finance 77.5per cent, some times less effective agrochemicals are sold (70%), Lack of technical knowledge (60%), lack of training (47%), Some traders sell low quality agrochemicals (34.2%), and poor availability of required agrochemicals in local market were other important constraints as reported by the respondents.

Table 2: Distribution of respondents according to their suggestions

Sl. No.	Suggestions	Frequency	percentage
1.	Timely and need based training on various aspects of agrochemicals should be organised	86	71.7
2.	Quality of agrochemicals should be ensured	91	75.8
3.	Low price/subsidised agrochemicals should be available	105	87.5
4.	Timely availability of latest information related to agrochemicals should be provided by extension agencies	63	52.5
5.	Steps towards quality control of agrochemicals should be taken	49	40.8

The findings related to the suggestions given by the respondents to overcome the constraints in procurement and uses of various agrochemicals are presented in the table 4.44. The data revealed that majority of the respondents (87.5%) suggested that low cost agrochemicals should be available, followed by quality of agrochemicals should be ensured (75.8%). About 72 per cent needed need based training on various aspect of agrochemical at regular interval. Timely availability of latest information related to agrochemicals is required by 52.5per cent respondents and Steps towards quality control of agrochemicals should be taken by the govt is reported by 40.8 per cent of the respondents.

Conclusion

It may be concluded that the majority (87.5%) of respondents were faced constraints with the high cost of agrochemicals, followed by lack of finance 77.5% and less effective agrochemicals sold 70%. To overcome the above constraints, majority of the respondents (87.5%) were suggested for availability of agrochemicals in low price followed by quality of agrochemicals should be ensured (75.8%). Timely, need based training on various aspects of agrochemical utilization and management is also suggested by a considerable member of respondents.

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