

## **CONSTRAINTS IN FERTILIZER UTILIZATION BY THE FARMERS OF UDAIPUR DISTRICT OF RAJASTHAN**

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### **ABSTRACT**

*The present study was undertaken with the objective to find out the constraints in purchasing and use of fertilizer as perceived by the farmers. It has been planned to find out institutional, socio-economic, psychological and technical constraints that obstruct the use of chemical fertilizers. The findings of the study concluded that 'unavailability of credit for purchasing fertilizers', 'high cost of fertilizers', 'fertilizers deteriorates the quality of soil' and 'fertilizer creates weed problem' were the most important constraints perceived by the farmers in purchase and use of chemical fertilizers.*

### **INTRODUCTION**

Fertilizer consumption in India during the year 1950-51 to 1990-91 revealed that there was good increase in consumption of fertilizers but this increasing rate has lowered down after the year 1990-91. It is also evident that fertilizer consumption in India is very low as compared to developed countries. Further, the state of Rajasthan is trailing far behind when compared with other states of the country. The utilization behavior of fertilizer among farmers is uneven and some times there is great gulf between conviction of farmers about the fertilizer purchase and its actual use in fields. This leads to think and analyze the reasons for the wide gap between the recommended dose of fertilizers and the actual use by the farmers in the state. With this point in view the present study was undertaken with the specific objective to "find out the constraints in purchasing and use of fertilizer as perceived by the farmers".

### **METHODOLOGY**

The present investigation was conducted in purposively selected Bhinder panchayat samiti of Udaipur district of Rajasthan. Ten villages were selected on the basis of maximum fertilizer consumption from the identified panchayat samiti. For selection of respondents, a list of farmers was prepared from each selected village. From the list, 12 respondents (i.e. four each from small, medium and large farmers' category) were randomly selected for the present study. Thus, in all 120 respondents were included in the sample of the study. Data were collected by personal interview at the home or farm of the respondent in local dialect. Respondents were asked to respond on each aspect on a two point continuum. The collected data were then analyzed, tabulated and interpreted in light of the objective of the study.

### **RESULTS AND DISCUSSION**

An attempt has been made to identify the institutional, socio-economic, psychological

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**Table 1: Institutional constraints in purchasing and utilization of fertilizers as perceived by different categories of farmers**

Institutional constraints	Small farmers			Medium farmers			Large farmers			Over all Rank
	N=40			N=40			N=40			
	F	P.C.	Rank	F	P.C.	Rank	F	P.C.	Rank	
Unavailability of fertilizer in time	7	17.50	I	7	17.50	I	3	7.50	IV	I
Unavailability of fertilizer at nearby market	6	15.00	II	5	12.50	III	4	10.00	III	II
Lack of guidance for the use of fertilizer	4	10.00	III	6	15.00	II	5	12.50	II	II
Lack of assured irrigation	3	7.50	IV	4	10.00	IV	6	15.00	I	III

F = Frequency

P.C. = Percentage

and technical constraints, which prevent the farmers from purchasing and utilization of chemical fertilizers. The results regarding constraints faced by the farmers are presented hereunder:

#### **INSTITUTIONAL CONSTRAINTS**

The data in Table 1 reveals that of the four institutional constraints, "unavailability of fertilizer in time" was realized as the most important constraint by the small farmers as well as the medium farmers (17.50%). The "lack of assured irrigation" (15.00%) was considered to be the most important institutional constraint by the large farmers.

While considering the all over picture of constraints, it appears that "unavailability of fertilizer in time" followed by "unavailability of fertilizer at near by market" and "lack of guidance for the use of fertilizer" were the major institutional constraints in use of balance fertilizers by the farmers. The findings are in the line with the findings of Verma and Kumar (1991).

#### **SOCIO-ECONOMIC CONSTRAINTS**

The "unavailability of credit for fertilizer at a time" was perceived (Table 2) as most important constraint by the small farmers (27.50%) and the large farmers (15.00%).

**Table 2: Socio-economic constraints in purchasing and utilization of fertilizers as perceived by different categories of farmers**

Socio-economic constraints	Small farmers			Medium farmers			Large farmers			Over all Rank
	N=40			N=40			N=40			
	F	P.C.	Rank	F	P.C.	Rank	F	P.C.	Rank	
High cost of fertilizer	10	25.00	II	8	20.00	I	4	10.00	III	II
Unavailability of credit for fertilizer at a time	11	27.50	I	7	17.50	II	6	15.00	I	I
Use of fertilizer in recommended dose is not profitable	4	10.00	III	5	12.50	III	5	12.50	II	III

F = Frequency

P.C.= Percentage

**Table 3: Psychological constraints in purchasing and utilization of fertilizers as perceived by different categories of farmers**

Psychological constraints	Small farmers			Medium farmers			Large farmers			Over all Rank
	N=40			N=40			N=40			
	F	P.C.	Rank	F	P.C.	Rank	F	P.C.	Rank	
Fertilizer deteriorates the quality of soil	9	22.50	II	6	15.00	I	5	12.50	I	I
Crop becomes susceptible to disease	6	18.00	IV	4	10.00	III	4	10.00	II	III
Crop becomes susceptible to insect pests	7	17.50	III	3	7.50	IV	3	7.50	III	IV
Fertilizer creates weed problem	10	25.00	I	5	12.50	II	2	5.00	IV	II
Fertilizer deteriorates quality of grain produce	5	12.50	V	2	5.00	V	2	5.00	IV	V

F = Frequency

P.C. = Percentage

The "high cost of fertilizer" was ranked first by the medium farmers (20.00%).

While considering the over all picture of socio-economic constraints, "unavailability of credit for fertilizer at a time" followed by "high cost of fertilizers" were the major constraints hindering the use of balance fertilizer by the farmers. The findings are in line with the findings of Waghmare and Pandit (1982) and Sundaraman (1986).

#### PSYCHOLOGICAL CONSTRAINTS

Data in Table 3 show that in view of small farmers, "fertilizer creates weed problem" (25.00%) was a key psychological constraint. Contrarily, the "fertilizer

deteriorates the quality of soil" was considered as an important psychological constraint by medium (15.00%) as well as large farmers (12.50%).

At the same time, considering the over all picture of psychological constraints, it appears that "fertilizer deteriorates the quality of soil" followed by "fertilizer creates weed problem" were the major psychological constraints for the use of balanced fertilizer by all of the farmers.

#### TECHNICAL CONSTRAINTS

It could be realize from Table 4 that 15.00 per cent small farmers were not using the

**Table 4: Technical constraints in purchasing and utilization of fertilizers as perceived by different categories of farmers**

Technical constraints	Small farmers			Medium farmers			Large farmers			Over all Rank
	N=40			N=40			N=40			
	F	P.C.	Rank	F	P.C.	Rank	F	P.C.	Rank	
Fertilizer not needed due to high soil fertility	4	10.00	III	2	5.00	IV	2	5.00	IV	IV
Problematic soil	3	7.50	IV	3	7.50	III	3	7.50	III	III
Fertilizer is washed away due to run off water	6	15.00	I	4	10.00	II	4	10.00	II	II
Fertilizer is leached down with irrigation water	5	12.50	II	5	12.50	I	5	12.50	I	I

F = Frequency

P.C. = Percentage

recommended dose of fertilizers due to the fear that it may be washed away due to run off water. Though, it may be noted that "fertilizer is leached down with irrigation water" was perceived to be the most important technical constraint in use of fertilizer by medium farmers as well as large farmers (12.50%).

Looking to the all over picture of technical constraints, it appears that "fertilizer is leached down with irrigation water" followed by "fertilizer is washed away due to runoff water" were the major technical constraints which affect the proper utilization of fertilizers by the farmers.

### **CONCLUSION**

From the above findings it could be concluded that "unavailability of credit for purchasing fertilizers", "high cost of fertilizers", "fertilizers deteriorates the quality of soil" and "fertilizer creates weed problem" were the most important constraints perceived by the farmers in purchase and use of chemical fertilizers. On the basis of results it could be

suggested that to increase the fertilizer consumption availability of adequate credit facilities be ensured. Efforts should be made to educate farmers regarding the importance of balanced use of fertilizer in maintaining the soil fertility. The government should take necessary action to strengthen and re-organize the village cooperative societies so that farmers may receive inputs and credit. This will lead to better adoption of fertilizer with improved agricultural production technology in the study area.

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