ADOPTION BEHAVIOR OF SUGARCANE GROWERS

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Sugarcane is the most important remunerative crop and contributing rearly 1.9 per cent of the National G.D.P. At present, the total production of sugarcane in the country is 300 million tones and producing 18 million tonnes of sugar. Sugarcane supports a large number of open pan sugar (khandsari) and Jaggery (gur) unit in the un-organised sector with a production of over 10 million tones of jaggery (gur). There is tremendous opportunity for making further progress in relation to increase the production of sugarcane by way of adoption of modern recommended technology in sugarcane cultivation.

The low productivity of sugarcane are due to many factors responsible for non-adoption of improved technology. Until and unless the farmers have not adopted complete package of practices of sugarcane cultivation, consequently resulted that the production may no be raised to achieve the desirable target of sugarcane production. The adoption of improved technology of sugarcane by the farmers is not uniform due to several reasons. Hence, this study was undertaken to identify the various factor in relation to adoption of improved agricultural technology for sugarcane cultivation.

Objectives :
1. To study the knowledge and adoption level of recommended package of practices of sugarcane crop.
2. To study the relation between the characteristics of sugarcane growers and their knowledge and adoption of improved practices of sugarcane cultivation.

METHODOLOGY :

The Dabra block of Gwalior district of Madhya Pradesh was purposely selected for the study as it has highest area under sugarcane crop during 2000-2001. The list of villages under Dabra block were obtained from the block head quarter. Dabra block consists of 16 R.A.E.O circles. Out of 16 R.A.E.O. circles. 6 circles were selected randomly and from each selected R.A.E.O. circle, two villages growing sugarcane crop were selected with the help of random number. List of the farmers of 10 selected villages were prepared. From each selected village, 15 farmers were selected on the basis of simple random sampling method. In this study, in all 150 sugarcane growers were selected for this study. The data was collected by personal interview method with the help of structured interview schedule.

For this study, ten important improved practices such as improved variety, seed rate, seed treatment, time of sowing, sowing method, spacing, application of fertilizer, irrigation, intercultural operations and plant protection measures were selected for studying the knowledge and adoption of improved practices of sugarcane cultivation.

The knowledge and adoption index was computed with the help of following formulae :

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1. Knowledge Index =

$$\frac{\text{Sum of the adoption score obtained by the respondents}}{\text{Sum of the obtainable knowledge socre}} \times 100$$

2. Adoption Index =

$$\frac{\text{Sum of the adoption score obtained by the respondents}}{\text{Sum of the obtainable knowledge socre}} \times 100$$

The relationship between independent variables of sugarcane growers with knowledge and adoption of improved recommended practices of sugarcane cultivation was analysed with the help of computing correlation coefficient.

RESULTS AND DISCUSSION :

Knowledge and adoption level of recommended package of practices of sugarcane growers :

(a) Knowledge–It may be observed from the table-1, that the overall average of knowledge index was found to be 82.92. The knowledge index of sugarcane growers with reference to improved variety, seed rate, time of sowing, method of sowing, spacing, irrigation, intercultural operation was found to be 100. Similarly, the knowledge index about fertilizers application was found to be 90.33. The knowledge in respect of seed treatment and plant protection measures was found to be relatively lower than other proactices and ranged between 55.33 to 65.33 accordingly. Consequently resulted, that the most of the sugarcane growers knew about recommended practices of sugarcane cultivation except seed treatment and plant protection measures.

(b) Adoption–The extent of adoption of recommended practices of sugarcane crop by farmers has shown that the overall adoption index was 73.31. The adoption index pertaining to seed rate, application of fertilizer, irrigation, method of sowing and spacing was found to be ranging between 82.00 to 94.68. It was found to be 35.68 and 45.60 for plant protection measures and seed treatments respectively. The extent of adoption of recommended package of practices of sugarcane was found to be satisfactory, though, it was discouraging particularly in respect of use of plant protection measures and seed treatment.

The knowledge and adoption of recommended practices of sugarcane by the farmers were significantly related with each other. It can be concluded that the increase in knowledge of the farmers was also significantly increased with their adoption of sugarcane technology for all practices.

Table-1. Knowledge and adoption level of recommended package of practices of sugarcane.

S. No.	Recommended Practices	Knowledge Index	Adoption Index
1.	Improved variety	100.00	100.00
2.	Seed rate	100.00	82.00
3.	Seed treatment	55.33	45.60
4.	Time of sowing	100.00	100.00
5.	Sowing method	100.00	90.00
6.	Spacing	100.00	94.68
7.	Application of fertilizer	90.33	82.44
8.	Irrigation	100.00	85.67
9.	Intercultural operation	100.00	90.26
10.	Plant protection measures	65.33	35.68
	Average	**82.82**	**73.31**

Correlation of independent variables with knowledge and adoption behaviour of sugarcane growers :

In order to find out the relationship of independent variables with knowledge and adoption behavior of sugarcane growers and reported in table-2. Among the independent variables only education, farm information sources, social participation and socio economic status were found to have positive significant relationship with knowledge and adoption of recommended practices of sugarcane crop. But annual income was positively significantly related with adoption. The independent variable that is size of land

holding did not establish the relationship with knowledge and adoption of recommended practices of sugarcane. The reason may be that, the farmers were required to acquire knowledge about latest technology and use it on their farm for enhancing production.

Table-2. Correlation of independent variables with knowledge and adoption behavior of sugarcane growers

S. No.	Variables	Knowledge 'r' value	Adoption 'r' value
1.	Education	0.2806**	0.2685**
2.	Size of holding	0.1624	0.1541
3.	Annual income	0.0980	0.1605*
4.	Farm information sources	0.3312**	0.3674**
5.	Social participation	0.2976**	0.2533**
6.	Socio economic status	0.4395**	0.4036**
7.	Economic motivation	0.1424	0.0365
8.	Risk preference	0.1969*	0.3742**
9.	Extension programme participation	0.1460	0.2349*
10.	Market availability	0.0625	0.0031
11.	Scientific orientation		

* & ** Significant at 5% and 1% level respectively.

Risk preference was found to be positively and significantly related with knowledge and adoption accordingly. But the factor economic motivation did not establish significant relation with knowledge and adoption. The scientific orientation shshows the positive association only with adoption. The extension programme participation indicated positive association with various information sources increases their contacts and receipt of information which ultimately leads to addition in existing level of knowledge of individual. The independent variable, market availability was not found to be significant correlation with both knowledge as well as adoption of recommended practices of sugarcane. It is a matter of fact that the factor market availability is very important because the sugarcane is not consumed at the village level and the farmers has to sell it for processing. The non significant relation may be due to the fact that two sugar factories plant were established in Dabra and Kolaras area and present sugarcane growers not facing any problem about marketing of the produce.

CONCLUSION :

The study revealed that the majority of the farmers are taking sugarcane crop due to traditional impact of sugar factories established in study area of Gwalior district. The farmers were having adequate knowledge about cultivation of sugarcane crop but the adoption was found to be low, when compared with knowledge. It is further concluded that the knowledge has strong relation with extent of adoption of sugarcane crop. It is stated that adoption of any innovation is not possible without knowledge.

For the adoption of recommended practices farmers should be exposed to improved method of sugarcane cultivation through training and field demonstration. The extension agencies providing information about the production technology of sugarcane through personal contact, radio, T.V. and other media. This will not only speed up the process of adoption but also increase in production of sugarcane which is the main source of sugar.

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