ANALYSIS OF INFORMATION SEEKING BEHAVIOUR OF WHEAT GROWERS

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ABSTRACT

In view of less adoption of scientific wheat production technologies, the productivity of this major crop in Madhya Pradesh is low. Knowledge being the key to adoption of a technology, this study was conducted to asses it and focused on the prediction potentialities of various factors affecting the knowing behaviour of wheat growers. Among the selected practices, majority of the respondents had complete knowledge regarding two, partial knowledge about four and no knowledge about the rest. By and large, the majority of the respondents had medium knowledge about wheat production technology. Of the 10 selected factors; age, education, farm size, social participation, and information seeking behaviour were comparatively more important. The education was very important factor which produced direct as well as indirect impact on knowing of the farmers.

INTRODUCTION

Wheat is one of the most important food crops of India. India ranks fourth amongst all the wheat growing countries of the world. In Madhya Pradesh wheat is an important crops, grown in rainfed as well as irrigated conditions. The productivity here is very low as the farmers are not adopting the recommended wheat production technology to its fuller extent. The adoption of improved technology by the farmers depends primarily upon knowledge of these technologies. Past studies in the field of Extension Education have laid much emphasis on bringing changes in the knowledge component of behaviour. Once farmers' behaviour is changed they are bound to fully utilize the required knowledge in the field situation provided other conditions governing the adoption are satisfactory (Singh and Choudhary, 1997). The knowing behaviour is psychological in nature, get affected by the number of influencing factors overtly or covertly.

The present study was conducted to asses the extent of knowledge of the wheat growers regarding the wheat production technology and focus the prediction potentialities of various factors affecting the knowing behaviour of wheat growers.

METHODOLOGY

The study was conducted in 20 villages of Fanda block of Sehore district Madhya Pradesh; from which 200 wheat growers were selected randomly for the study. A standardized teacher made type 'knowledge test' was developed and administered to farmers. Salient package of practices regarding scientific cultivation of wheat crop recommended for the study area was drawn from package of practices for rabi crops (Published by J. N. Krishi Vishwa Vidyalaya, Jabalpur). Scientists of the Vishwa Vidyalaya were also consulted for this purpose. The correct answer was assigned a score of 'two'; partially correct with score 'one' and zero score to incorrect reply of a question or part there of. The practice wise score of each individual were

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Table 1: Distribution of wheat growers according to their knowledge regarding wheat production technology

Sr. No.	Particular	Extent of knowledge		
		Complete knowledge	Partial knowledge	No knowledge
1.	Soil testing	09 (04.50)	56 (28.00)	135 (67.50)
2.	Field preparation	136 (68.00)	42 (21.00)	22 (11.00)
3.	Soil treatment	04 (02.00)	158 (79.00)	38 (19.00)
4.	Improved varieties	15 (07.50)	185 (79.00)	00 (00.00)
5.	Seed treatment	41 (20.50)	40 (20.00)	109 (54.50)
6	Seed rate	102 (51.00)	90 (45.00)	08 (04.00)
7.	Time of showing	88 (44.00)	112 (61.00)	00 (00.00)
8.	Method of showing	78 (30.00)	122 (56.00)	05 (02.50)
9.	Geometry of showing	119 (59.50)	76 (38.00)	05 (02.50)
10.	Application of fertilizer	61 (30.50)	107 (53.50)	32 (16.00)
11.	Irrigation management	128 (64.00)	72 (36.00)	00 (00.00)
12.	Weed management	03 (01.50)	39 (19.50)	158 (79.00)
13.	Pest management	03 (01.50)	125 (63.50)	72 (36.00)
14.	Disease management	01 (00.50)	133 (66.50)	66 (33.00)

Figures in parenthesis indicate per cent

first ascertained, added together and sum total score was divided by the total number of respondents.

RESULTS AND DISICUSSION

Extent of knowledge

Extent of knowledge of wheat growers about wheat production technology (data in Table 1) indicated that more than 65 percent of the respondents had complete knowledge about field preparation and irrigation management. More than 60 percent respondents had partial knowledge about improved varieties, soil treatment, recommended method of sowing, and pest and disease management. Majority of the respondents had no knowledge about weed management (79%) and soil testing (67.5%).

The data in Table 2 denote that the majority (62.5%) of the respondents possessed the medium level of knowledge, while 20 per cent had low and 17.5 per cent had high level of knowledge. The data also revealed that the farmers who had large holding possessed higher knowledge (20.96) as compared to those farmers with small (12.92) and medium holding (16.73). Calculated't' values also indicated that the small, medium and large holding farmers differ with each other according to their level of knowledge.

Table 2: Distribution of the respondents according to their knowledge level

Knowledge level (N=200)	Size of holding			Total Land Holding
	Small (n=39)	Medium (n-126)	Large (n-35)	
Low (<12)	17(44)	22(17)	01 (03)	40(20)
Medium (12-21)	20(51)	89(71)	16(46)	125(62.5)
High (>21)	02(5)	15(12)	18(51)	35(17.5)
Mean	12.92	16.73	20.96	16.73
S.D	2.77	3.98	4.01	4.49

Small verus medium "t" = 6.71*
Medium verus large "t" = 5.50 ** Significant at 1%
Small verus large "t" = 9.90 *
* Significant at 0.05 level of probability
** Significant at 0.01 level of probability

Table 3: Path coefficient showing direct and indirect effects of independent variables on knowledge score

Variables	Correction coefficient (r)	Direct effect	Total indirect effect	Maximum indirect effect channeled through other variables
X1 Age	0.6222 **	0.2092	0.4130	0.1833 X2 Education
X2 Education	0.7224 **	0.2513	0.4711	0.1528 X1 Age
X3 Farm size	0.6175 **	0.1925	0.4250	0.1491 X2 Education
X4 Socio-economic status	0.6118 **	0.0951	0.5167	0.1558 X2 Education
X5 Social Participation	0.4303 **	0.1164	0.3139	0.0896 X2 Education
X6 Extension Participation	0.5055 **	0.0563	0.4492	0.1528 X2 Education
X7 Innovativeness	0.0645 **	-0.0397	0.1042	0.0333 X2 Education
X8 Cosmopoliteness	0.3580 **	-0.0043	0.3623	0.0978 X2 Education
X9 Information seeking Behavior	0.4551 **	0.1622	0.2929	0.0978 X2 Education
X10 Scientific orientation	0.3107 **	0.0388	0.2719	0.0871 X2 Education

** Significant at 0.01 level of probability

Factors associated with knowing behaviour

The data in Table 1 reveal that out of 10 independent variables, 9 variables were significantly and positively correlated with knowing behaviour. These variables were age, education, farm size, socio-economic status, social participation, extension participation, cosmopoliteness, information seeking and scientific orientation. These results were in agreement with the findings of Singh et al. (1991).

The direct and indirect effects of all the independent variables on the knowing behaviour are also presented in Table 3. The data reveal that education had maximum positive direct effect followed by age, farm size and social participation respectively. On the other hand, the direct effect of socio-economic status, extension participation,

Table 4: Multiple Regression Analysis of knowing behavior with all the selected independent variables

Variable	Regression coefficient	Std. Error	"t" Value	Per cent Contribution
X1 Age	1.288	0.402	3.204	20.054
X2 Education	0.694	0.224	3.0962	7.967
X3 Farm size	0.719	0.229	3.1421	8.313
X4 Socio-economic status	0.221	0.152	1.454	8.963
X5 Social participation	0.911	0.402	2.266	7.721
X6 Extension participation	0.020	0.020	0.998	4.383
X7 Innovativeness	-0.121	0.142	0.850	-0.394
X8 Cosmopoliteness	-0.021	0.266	0.081	-0.235
X9 Information seeking behavior	0.563	0.173	3.258	11.372
X10 Scientific orientation	0.086	0.108	0.801	1.857

Constant 0.38 $R^2 = 0.6490$
Multiple R = 0.8056 F value for R = 34.95 with 10 and 189 DFs.

Table 5: Optimum model of Multiple Regression Analysis of five variables with knowing behavior

Variable	Regression coefficient	Std. Error	"t" Value	% Contribution
X1 Age	1.381	0.389	3.547	21.883
X2 Education	0.856	0.203	4.218	35.095
X3 Farm size	0.895	0.207	4.327	23.171
X4 Socio-economic status	1.155	0.371	3.116	9.963
X9 Information seeking behavior	0.482	0.168	2.872	9.888

Constant 4.02 R^2 = 0.6381
Multiple R=0.7988, "F" value for R=68.41 ** with 5 and 194 DFs

information seeking behaviour and scientific orientation was positive but of lesser magnitude.

In respect of total indirect effect, socio-economic status exerted maximum impact followed by education, extension participation, farm size, age, cosmopoliteness, social participation, information seeking behaviour, scientific orientation and innovativeness. The data also revealed that all the variables had maximum indirect effect on knowledge through education.

For identifying the relative contribution of various factors in the variation of knowing behaviour, a step wise multiple regression analysis was carried out and findings are presented in Table 4.

The model I which include all the 10 factors gave highest value of Coefficient of Determination (R^2 =0.649), which was significant at 1 per cent level of significance. This indicates that, selected 10 factors explained 64.9 per cent of the variation in knowledge of improved wheat production technology. In this model, socio-economic status, extension participation, innovativeness, cosmopoliteness, and scientific orientation did not contribute significantly in knowing behaviour of wheat growers and hence lesser number of factor were responsible for major share in observed variation. In model II, these factors were deleted from regression analysis on the basis of their low 't' value. Finally, this model contained only 5 factors (Table 5). The coefficient of determination was 0.639, which was significant at 1% level. In other words, these five variables explained 63.81 per cent variability in knowing behaviour.

CONCLUSION

Among the 14 practices, majority of the respondents had complete knowledge regarding field preparation and irrigation management, partial knowledge about improved varieties, soil treatment, method of sowing, and plant protection and no knowledge about soil testing, seed treatment, and weed management. Overall, the majority of the respondents had medium knowledge about wheat production technology.

Out of 10 selected factors; age, education, farm size, social participation, and information seeking behaviour were comparatively more important because these five factors explained nearly the same variation (63.81%) as all the ten factors together (64.9%) The education was very important factor which produced direct as well as indirect impact on knowing of the farmers.

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