INFLUENCE OF CHARACTERISTICS OF FARMERS ON THEIR TRAINING NEEDS ABOUT CULTIVATION OF MUSTARD

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It is imperative that the farmers should be trained to keep abreast with the latest innovations in mustard cultivation so as to maintain its productivity. Training plays a vital role in making the farmers more receptive and skillful with new technologies. Training may be useful in bridging the enormous gap between remarkable yield achieved by the scientists and that obtained by the farmers. Considering the above facts in mind, the study was conducted with the following specific objectives :

1. To find out the relationship between farmers socio-economic characteristics and their training needs about mustard cultivation technology.
2. To find out the relative influence and extent of contribution of socio-economic factors fo farmers on their training needs.

METHODOLOGY :

The present study was undertaken in Morar block of Gwalior district (M.P.). Morar block was purposely selected among four blocks of Gwalior district. The Morar block compresses of 16 RAEO's circles. Out of these, 8 RAEO circles and from each selected circle one village was selected by using simple random sampling method. A list of farmers growing mustard was prepared for each of the selected village. Out of the list, 120 mustard growers were selected randomly by simple random sampling method.

The data was collected through personal interview method with the help of specially structured schedule prepared in this regard. The characteristics like age, education, occupation, social participation, income, experience in mustard cultivation, land holding, area under mustard and socio-economic status of the farmers were selected as independent variables and their training needs in main and sub areas; and scientific attitude towards mustard cultivation were taken as dependent variables. Statistical methods given by Jonhson (1950) namely simple correlation coefficient and standard partial regression coefficient were used to analyze the data.

RESULTS AND DISCUSSION :

Association of Socio-economic Characteristics with Training needs and scientific attitude towards mustard cultivation–Simple correlation coefficients between socio-economic characteristics of farmers and their training needs in main and sub area and scientific attitude towards mustard cultivation are presented in table-1. As evident form Table-1 that age, education and socio-economic status of the farmers were found negative and highly significant with main area of training needs while its relationship with experience in mustard cultivation was found positive and significant at $p = 0.05$. It is interesting to note that the relationship of age, education, socio-economic status and social participation (only with scientific attitude) of the farmers with sub area of training needs as well as scientific attitude towards mustard cultivation were found positive and

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highly significant. It can be inferred that respondents having higher socio-economic status, age and education did not require any training in main area of mustard technology whereas in case of sub areas as well as their scientific attitude towards mustard cultivation they need special training in sub area to have deeper knowledge as well as skillful development for making mustard cultivation more scientific. Whenever, respondents having more experiences of mustard cultivation reported for positive correlation were of the opinion to have more training to be given in main areas. These findings were supported by Raut et al. (1995) and Mathiyazhaban and Singh (1986).

Table-1. The simple correlation coefficient of socio-economic factors with training needs in main area and sub areas; and scientific attitude towards mustard cultivation

S. No.	Socio-economic factors	'r' values		
		Training needs in		Scientific attitude towards mustard cultivation
		Main area	Sub area	
1.	Age	-0.418**	0.402**	0.510**
2.	Education	-0.597**	0.496	0.762**
3.	Occupation	0.151	-0.039	0.006
4.	Social participation	-0.090	-0.069	0.282**
5.	Income	0.165	0.025	0.016
6.	Experience in mustard cultivation	0.0206*	-0.031	-0.096
7.	Land holding	-0.112	0.142	0.058
8.	Area under mustard	-0.084	0.051	0.136
9.	Socio-economic status	-0.297**	0.284**	0.482**

*   Significant at p = 0.05
* *   Significant at p = 0.01

Predictable variables of training needs and scientific attitude–Since a character like training needs in main area & sub area or scientific attitudes of farmers is associated with or dependent on their socio-economic characteristics, simple correlation coefficient alone are not sufficient in ascertaining the intensity of association between characters and may even be miss leading. Studies with partial regression coefficient are very useful in determining such relationship precisely. In order to study the relative influence of nine socio-economic characteristics of the farmers on their training needs in main and sub area; and scientific attitude towards mustard cultivation, the values of standard partial regression coefficient in place of partial regression coefficient were calculated and presented in Table-2 & 3. The study of the standard partial regression coefficient showed that out of 9 socio-economic fetors only two factors i.e. education and social participation influenced the training needs of the farmers in main area significantly to the extent of 38.98 per cent. About 44.23 per cent variation in main area of training needs was contributed by all 9 socio-economic factors. As per their relative importance in predicting the training needs of the farmers in main area, education was the first, and social participation was the second.

It is evident from the Table-2 & 3 that the training needs of the farmers in sub area as well as scientific attitude towards mustard cultivation were positively and significantly influenced by the education to the extent of 24.63 and 58.13 per cent, respectively. However, 32.63 percent variation in training needs in sub area and 63.55 percent variation in scientific attitude towards mustard cultivation were explained by all 9 socio-economic factors.

All the multiple correlation coefficients ⓡ were found to be significant (Table-2 & 3). Multiple regression equation fitted to serve as selection indicates were judge by R^2 and it was found that the multiple regression equation

based on education and social participation (only for main area) thus appeared to be fairly effective.

Table-2. Standard partial regression coefficient (β- values) of socio-economic factors with training needs in main area and sub area and scientific attitude towards mustard cultivation.

S. No.	Socio-economic factors	'β' values		
		Training needs in		Scientific attitude towards mustard cultivation
		Main area	Sub area	
1.	Age	-0.040	0.196	0.010
2.	Education	-0.595**	0.519	0.858**
3.	Occupation	0.107	-0.044	0.138
4.	Social participation	0.184	-0.172	-0.079
5.	Income	0.172	0.121	0.134
6.	Experience in mustard cultivation	0.124	0.096	0.126
7.	Land holding	-0.126	0.108	-0.048
8.	Area under mustard	0.141	-0.097	-0.104
9.	Socio-economic status	-0.049	0.019	0.050
	Coefficient of determination (R^2)	0.4423	0.3898	0.6365
	Multiple correlation coefficient (R)	0.66**	0.57**	0.79**

*   Significant at p = 0.05
**   Significant at p = 0.01

Selection index for the determination of training needs of farmers in main area and sub area s well as scientific attitude towards mustard cultivation.

Multiple regression equation–Main area of training needs :

$$Y = 47.7910 - 3.2190X_1 + 1.8440 X_2$$

Sub area of training needs :

$$Y = 167.3620 + 5.1040X_1$$

Scientific attitude towards mustard cultivation :

$$Y = 42.6816 + 3.3945X_1$$

Table 3. Standard partial regression coefficient (β-values) of socio-economic factors with training needs in main & sub area and scientific attitude towards mustardcultivation(by step down method)

S. No.	Socio-economic factors	'β' values		
		Training needs in		Scientific attitude towards mustard cultivation
		Main area	Sub area	
1.	Education (X_1)	-0.683**	0.496**	0.762**
2.	Social participation (X_2)	-0.200*	–	–
	Coefficient of determination (R^2)	0.3898	0.2464	0.5813
	Multiple correlation coefficient (R)	0.62**	0.50**	0.76**

*   Significant at p = 0.05
**   Significant at p = 0.01

CONCLUSION :

1. The socio-economic factors like age, education and socio-economic status were negatively associated with training needs in main area while experience in mustard cultivation was positively associated with training needs in main area.

2. The socio-economic factors namely age, education, social participation (only with scientific attitude) and socio-economic status of the farmers were positively associated with training needs in sub area as well as with scientific attitude.

3. The socio-economic factors like education and social participation have influence on training needs in main area while only education have influence on training needs in sub area as well as scientific attitude towards mustard cultivation.

Implications–The findings of the present study suggested that only two socio-economic characteristics like education and social

participation may be considered for better prediction of training needs by the farmers in main area. However, only one socio-economic characteristics of the farmers namely education may be considered for better and effective prediction of training needs by the farmers in sub area as well as scientific attitude of the farmers towards mustard cultivation suggested that more emphasis on educating the farmers for their betterment is to be taken on priority basis in view of making them abreast with the technology generating from time to time.

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