

## **Relationship of Socio-economic Profile of the Turmeric Growing Farmers to their Training Need**

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### **ABSTRACT**

A study on training needs of turmeric growers in Samastipur and Muzaffarpur district of Bihar was undertaken. The findings revealed that majority of turmeric growers belong to the advance age group, literate, possessing small size of land holding, low income group. The maximum per cent age of respondents has medium economic motivation, crop intensity and level of knowledge. The results revealed that training need in plant protection measure was given top priority. The other important areas of cultivation in which turmeric growers have shown their desire were high yielding variety, fungicidal seed treatment, sowing method, sowing time and fertilizer management. The most important factors influencing the training needs of turmeric growers in relation to turmeric production were cropping intensity, economic motivation and knowledge which were found to be positively and significantly associated with the training need of turmeric growers. These factors should be kept in view while formulating any training programme. The other independent variables such as family education, size of land holding and area under turmeric cultivation were not able to create such positive correlation as in the case of other selected independent variables.

**Key words:** Characteristic profile, training needs, turmeric, growers.

### **INTRODUCTION**

India is the largest producer, consumer and exporter of spices in the world. Turmeric is one of the important spices grown in India. Turmeric is the direct rhizome of *Curcuma longa* (L), an herbaceous plant native of South Asia. It is mainly used as spices and condiments for almost all food dishes. Turmeric oil and oleoresin are used extensively to impart the flavor in food and perfume industries. Besides these, it is also used in medicines since time immemorial in Indian system of medicine. It is grown in tropical region of India, Pakistan, Myanmar, Chile and Japan etc. But its cultivation is extended in almost parts of the tropical world. India is the leading country in terms of acreage (180.51 thousand hac) and production (829.53 thousand tones) of turmeric with a productivity of 4608 kg /hac (2010-11) In Bihar, the area and production of turmeric are 3.6 thousand hectare and 3.70 thousand million tones respectively which give the productivity of 1.03 million tones/ hectare (2009-10). Turmeric has characteristics of flavor and yellow colour. It is often used in preparation of flavor in many foods and as coloring agent in textile, cosmetics and food industries. Turmeric production in Bihar has not kept pace with increasing domestic and export potential demand.

Majority of the farmers engaged in its cultivation are small and marginal farmers. These farmers are still adopting traditional and need to adopt scientific mode of cultivation and improved post harvest technique. There is need to study socio-economic and demographic profile of turmeric growers and ascertain the relative training needs of farmers in the main areas of training in relation to turmeric production process, algorithm explore the relationship between selected socio-economic and demographical characteristics of farmers with relation to their training needs.

### **METHODOLOGY**

The present research was carried out in Pusa and Muraul block of Samastipur and Muzaffarpur district of North Bihar. In these blocks turmeric cultivation in Kharif season large area. Further out of these two blocks, four villages namely, Deopar, Harpur, Muraul and Lautan were selected on the basis of their area under turmeric cultivation. A list of all turmeric growing respondents was prepared in the aforesaid villages in consultation with contact farmers and the village level worker. From amongst the list 20 farmers were randomly selected from each village. Thus 80 farmers from the four villages

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finally constituted the sample for this study. Statistical parameters such as mean score, Coefficient of correlation and multiple regression analysis were analyzed using standard procedure.

## RESULTS AND DISCUSSION

### Socio- economic and demographic characteristics of the turmeric grower's farmers

Socio-economic demographic profile of selected respondents in two blocks was prepared by using various variables as shown in the category of column of the table 1.

**Age group:** A total of 36.25 per cent of the selected respondents who belongs to the advanced age group which indicates the age group between 51-65 years of age whenever 32.50 per cent of the respondents were from the middle age group between 36-50 years (Table 1). Young and aged farmers were travel to equal per centage of 16.25 and 15.00 per cent respectively out of selected respondents of both the districts.

**Education:** The data presented in the aforesaid indicates 40.00 per cent of respondents were found to be literate. However, 3.75 per cent of the total respondents were educated having their family education between score of 1.1 to 2. The per cent age of illiterate respondents was found to be 15. While 11.25 per cent of this were fund to be highly educated indicating their family education score between 3.1 to 4.

**Size of land holding:** Finding of study indicated that 45.00 per cent small and 31.25 per cent were marginal. However only 23.75 per cent of the selected turmeric growers were found to have the medium size of the land holding. Whereas none of the respondents were found as the large farmers among the selected turmeric growers.

**Annual income:** It can be seen that majority of the respondents were in low income group (40.00 %).The next 38.75 per cent were in medium income group followed by the respondents of high income group(10.00 %).

**Area under turmeric cultivation:** The table reveals that majority of respondents (30.75%) respondents were growing turmeric in below 0-5 hectare of land. The next 36.25 per cent of the farmers were having turmeric area in between 0-5 hectare to 1 hectare. Only 20.00 per cent of the respondents were found who cultivated turmeric above than 1 hectare of land.

**Table 1: Socio- economic and demographic characteristics of the turmeric grower's farmers**

Category	Pusa Block		Muraul Block		Total (n=80)	
	Frequency(f)	per cent	Frequency(f)	per cent	Frequency(f)	per cent
<b>Age group</b>						
Young aged farmers ( up to 35years)	6	7.50	7	8.75	13	16.25
Middle aged farmers (36-55 years )	14	17.50	13	16.25	26	32.50
Advanced aged farmers(51-65 Years)	15	18.75	14	17.50	29	36.25
Old aged farmers (above 65 years)	5	6.25	7	8.75	12	15.00
<b>Education</b>						
Illiterate (0-1)	7	8.75	5	6.25	12	15.00
Literate(1.1-2)	15	18.75	17	21.25	32	40.00
Educated(2.1-3)	14	17.50	13	16.25	27	33.75
highly educated( 3.1-4)	4	5.00	5	6.25	9	11.25
<b>Size of land holding</b>						
Marginal (below1 hac )	13	16.25	12	15.00	25	31.25
Small (1-4 hac )	19	23.75	17	21.25	36	45.00
Medium (4-10 hac )	8	10.00	10	13.75	19	23.75
Large (above 10 hac )	0	0.00	0	0.00	0	0.00
<b>Annual income</b>						
Low (below ₹ 50,000)	15	18.75	17	21.25	32	40.00
Medium (₹ 50,000-1,00,000)	16	20.00	15	18.75	31	38.75
High (₹ 1,00,000-1,50,000)	6	7.50	4	5.00	10	12.50
Very high( above 1,50,000)	3	3.75	4	5.00	7	8.75
<b>Area under turmeric cultivation</b>						
Below 0.5 hac	15	18.75	16	20.00	31	38.75
0.5-1 hac	14	17.50	15	18.75	29	36.25
Above 1 hac	10	12.5	10	12.50	20	25.00
<b>Cropping intensity</b>						
Very low (upto 100%)	2	2.50	1	1.25	3	3.75
Low ( 100-150%)	9	11.25	11	13.75	20	25.00
Medium (150-200%)	21	26.25	20	25.00	41	51.25
High(above 200%)	8	10.00	8	8.00	16	20.00
<b>Economic motivation</b>						
Low (0- 2.0)	9	11.25	10	12.50	19	23.75
Medium (2.1 - 4)	19	23.75	18	22.50	37	46.25
High (4.1 -6)	12	15.00	12	15.00	24	30.00
<b>Knowledge level</b>						
Low (1-6)	6	7.50	4	5.00	10	12.50
Average(7-12)	12	15.00	18	22.50	30	37.50
High(13-18)	13	16.25	10	12.50	23	28.75
Very high(above 19)	9	11.25	10	12.50	19	23.75

**Cropping intensity:** Finding showed that maximum number of respondents was having medium level (51.25 %) of cropping intensity followed by low (20.00 %) and high (16.00 %) level of cropping intensity respondents.

**Economic motivation:** It was evident that maximum (46.25 %) number of respondents were medium level of economic motivation followed by high (24.00 %) and low (23.75 %) level of motivation.

**Knowledge level:** It was noteworthy that 37.50 per cent respondents were having average level of knowledge followed by 28.75 per cent and 23.75 per cent respondents were having high and very high level of knowledge respectively. However only 12.50 per cent respondents were having low level of knowledge.

### Training need of turmeric growers

The relative training need of turmeric growers in the nine main areas of training with respect to the improved turmeric cultivation as perceived by farmers have been presented in Table 2.

**Table 2: Relative training need in the main areas of turmeric cultivation.**

Main areas of training	Mean score	Rank
High yielding varieties	2.64	II
Fungicidal seed treatment	2.62	III
Sowing method and sowing date	2.37	IV
Fertilizer management	2.35	V
Water management	2.34	VI
Plant protection	2.72	I
Weed management	1.63	VII
Harvesting	1.31	VIII
Processing	1.30	IX

The result presented in Table 2 revealed that the selected turmeric growers were perceived the areas of plant protection as their first and top most required need for the training indicating its mean score of 2.72 followed by the area of high yielding variety and fungicidal seed treatment, which mean score indicating 2.64 and 2.62 respectively. Other main areas of training needs required in order of their importance.

### Association of selected socio-economic characteristics with training needs of farmers.

The coefficient of correlation of training needs with selected independent variables of respondents was worked out and results are presented through table 3.

**Table 3: Co- relation matrix with dependent variable**

Independent variables	Correlation matrix
Age	-0.5820**
Family education	0.8483**
Size of land holding	0.7557**
Annual income	0.7220**
Area under turmeric cultivation	0.7226**
Cropping intensity	0.8086**
Economic motivation	0.7936**
Knowledge level	0.9112**

\*- Significant at 5 per cent level.

\*\*- Significant at 1 per cent level.

Table showed that the training needs of respondents with respect to improved turmeric cultivation was positively and significantly correlated with variables of family education, size of land holding, annual income, area under turmeric cultivation, cropping intensity, economic motivation and knowledge level. Hence the perusal of results indicated that above variables were relevant in determining the training needs of respondents. The relevance of independent variable *i.e.* age was not found very much important in determining the training needs of the respondents.

**Table 4: Multiple regressions of independent variables**

Independent Variables	Regression coefficient	t- value	R <sup>2</sup>
Age	-0.0314	-2.37**	
Family education	0.4894	1.48	
Size of land holding	0.3240	1.39	
Annual income	-0.027	-0.33	
Area under turmeric cultivation	-0.2485	-0.26	0.96744
Cropping intensity	1.3235	5.79**	
Economic motivation	0.9180	2.97**	
Knowledge level	0.4522	6.83**	

Table showed that the finding related to prediction potency of selected independent variables towards the training needs of respondents. The data coefficient along with corresponding t- value showed that the variables cropping intensity, economic motivation, knowledge level, and age emerged as the significant contributors towards the training needs because the data values pertaining to these variables were found statistically significant. It can be concluded that these variables play significant role in affecting the training needs. All the selected variables taken together were found accountable for 96.74 per cent variability towards the perception the training need by the respondents.

On the basis of above discussion, it can be concluded that majority of turmeric growers belongs to the advance age group, literate, possessing small size of land holding, low income group, have medium economic motivation, crop intensity, and medium level of knowledge. Training need in plant protection was given top priority in all the selected turmeric growers followed by the area of high yielding variety. The fungicidal seed treatment was observed third rank in related to training needs among the turmeric growers followed sowing method and sowing time. The variable, family education size of land holding, annual income, cropping intensity, economic motivation and knowledge level were found to be positively and significantly associated with the training need of turmeric growers. The cropping intensity, economic motivation, and knowledge were significant contributors towards training need of turmeric growers.

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