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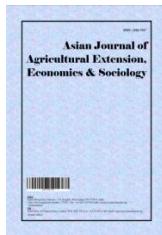
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# **Relationship between Independent Variables and Training Needs of Farmers about Recommended Turmeric Cultivation Practices**

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

Erode district is well known for turmeric production and turmeric market in entire country. This study was conducted in Erode district of Tamil Nadu. Erode district consists of nine taluks. Among nine taluks, Erode taluk was selected. Erode taluk has two blocks and among the two blocks, Kodumudi has more area under turmeric cultivation. Therefore, Kodumudi block was selected purposively. Kodumudi block comprises of twenty-four revenue villages. Among the twenty-four villages, five villages were selected for the study purpose. From each selected village, total sample of 120 turmeric growers were selected through proportionate simple random sampling technique. Thirteen independent variables were selected and analyzed to identify its relationship with dependent variable (training needs). From the above study it may be concluded that that educational status, farming experience, extension agency contact, trainings undergone, innovativeness, and scientific orientation were found to have positive and significant relationship with the training needs of turmeric growers about recommended turmeric cultivation practices.

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## 1. INTRODUCTION

Turmeric (*Curcuma longa L.*), is used as condiment, dye, drug and cosmetic in addition to its use in religious ceremonies. It has anti-cancer and anti-viral-activities and hence finds use in the drug industry and cosmetic industry. It is used in diversified forms as a condiment, flavouring and colouring agent and as a principal ingredient in Indian culinary as curry powder. India is the largest producer, consumer and exporter of turmeric in the world. India occupies an area of 219 thousand hectares with the production of 1,167 thousand tonnes with productivity is nearly 5.1 metric tonnes per hectare in India during 2011-12(<http://www.indianspices.com/>). Turmeric production is largely concentrated in southern states of India. Tamil Nadu occupies second position with 35,760 hectares with 1,90,100 tonnes of production during 2012-13 (<http://www.indianspices.com/>). In Tamil Nadu major turmeric growing districts are Erode, Coimbatore, Dharmapuri and Salem. Erode district occupies the first position in the state in area and second position in productivity next to Coimbatore district. Erode district has 8,179 hectares under turmeric cultivation with a total production of 40,641 million tonnes during 2013-2014 (<http://www.indianspices.com/>).

Training must be given to educate the farmers about the various recommended technologies and to help them to gain more profit by improving the productivity, cutting down the cost of production through effective extension system. The way to make use of natural and potential capabilities of turmeric growers is to provide them with opportunities for self-development through training, which means transfer of technology for improving the existing knowledge and skill [1-3]. The role of Krishi Vigyan Kendra, training institutes and farmers training centre is crucial for rapid transfer of recommended turmeric cultivation practices but it would be more effective when these institutes and organizations conduct the training programme by considering the felt training needs of the farmers. Thus, the gaps identified through assessment of training needs would be of great help in designing future training programmes. This part of the study describes the influences of independent variables on training needs of turmeric growers on recommended turmeric cultivation practices.

## 2. RESEARCH METHODOLOGY

Research design is the important and crucial aspect of research methodology. *The variable that is antecedent to the dependent variable is termed as an independent variable* [4]. By reviewing literature and discussing with the advisory committee members and extension scientists, a list of 35 independent variables that could possibly influence the dependent variables was prepared. The experienced behavioural scientists and farm scientists have been requested to evaluate the degree of relevancy of each variable. A three-point continuum was given to the judges to indicate their response with regard to the relevancy. A score of three was given to the 'most relevant' followed by score of two was given to the 'relevant' and score of one was given to 'irrelevant'. The Criteria for the selection of independent variables are as follows,

- The individual variables mean should be greater than the overall mean. Individual mean > Overall mean.
- The individual variables co-efficient of variation (CV) should be less than the overall coefficient of variation. Individual CV < Over all CV.

Based on the rating by judges, the mean and coefficient of variations were worked out for all the independent variables. The overall mean and overall coefficient of variation were also worked out. Through this process, thirteen independent variables were selected from the judges' ratings. For this study, *ex post-facto* research design was followed. Erode district is well known for turmeric production and turmeric market in entire country. This study was conducted in Erode district of Tamil Nadu. A total sample of 120 turmeric growers were selected through proportionate simple random sampling technique. Data were collected using personal interview schedule. Arithmetic mean, standard deviation, cumulative frequency method, zero order correlation and multiple regression analysis were used in this study. The map showing study area is presented in Fig. 1.

## 3. RESULTS AND DISCUSSION

The relationship between selected independent variables namely age, educational status, occupational status, annual income, farm size, farming experience, experience in turmeric cultivation, social participation, extension agency

contact, mass media exposure, trainings undergone, innovativeness and scientific orientation were measured by computing correlation coefficients and results depicted in Table 1.

A critical examination of the data presented in Table 1 reveals that educational status, farming experience, extension agency contact, trainings undergone, innovativeness and scientific orientation were found to have positive and significant relationship with the training needs. All other variables viz., age, occupational status,

annual income, farm size, experience in turmeric cultivation, social participation and mass media exposure were found to be non-significant. Among the significant variables, three variables namely educational status, innovativeness and scientific orientation were found to be significant at one per cent level of probability. The remaining three variables viz., farming experience, extension agency contact and trainings undergone were found to be significant at five per cent level of probability. Individual variable wise discussion is given in subsequent headings.



**Fig. 1. Map Showing the Study Area**

**Table 1. Relationship between selected independent variables and training needs of turmeric growers**

S.No.	Variables	'r' value
1.	Age	0.107 NS
2.	Educational status	0.276**
3.	Occupational status	0.022 NS
4.	Annual income	0.237 NS
5.	Farm size	0.148 NS
6.	Farming experience	0.196*
7.	Experience in turmeric cultivation	0.129 NS
8.	Social participation	0.145 NS
9.	Extension agency contact	0.211*
10.	Mass media exposure	0.113 NS
11.	Trainings Undergone	0.189*
12.	Innovativeness	0.289**
13.	Scientific orientation	0.278**

\* = Significant at 5% level  
 \*\* = Significant at 1% level  
 NS = Non Significant

### 3.1 Age

The data presented in Table 1 show that age was non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between age and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the age did not exert significant effect on turmeric cultivation practices on training needs.

### 3.2 Educational Status

The data presented in Table 1 show that educational status showed a positive and highly significant relationship with training needs. Farmers with higher educational level would have higher awareness on the recommended technologies, which in turn might have resulted in higher training needs about turmeric cultivation. The finding is in line with the findings of Dillikumar [5].

### 3.3 Occupational Status

The data presented in Table 1 show that occupational status was non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between age and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the occupational status did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### 3.4 Annual Income

The data in Table 1 shows the annual income was non-significantly associated with the training need of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between annual income and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the annual income did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### 3.5 Farm Size

As per data shows in the Table 1 the farm size was found to be non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between farm size and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the farm size did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### 3.6 Farming Experience

The data presented in Table 1 show that farming experience was found to be positively and significantly related with training needs of turmeric growers about recommended turmeric cultivation practices. In general farmers with more farming experience would try to practice new technologies which require efficient training. The findings are in line with the findings of Pratheebs Kumar [6].

### **3.7 Experience Turmeric Cultivation**

As per data shows in the Table 1 the experience turmeric cultivation was found to be non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between experience turmeric cultivation and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the experience turmeric cultivation did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### **3.8 Social Participation**

As per data shows in the Table 1 the social participation was found to be non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between social participation and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the social participation did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### **3.9 Extension Agency Contact**

The data presented in Table 1 show that extension agency contact showed a positive and significant relationship with training needs of the respondents. It could be justified that the variable extension agency contact would have provided awareness about the recommended technologies in turmeric cultivation, which in turn might have resulted in higher training needs about turmeric cultivation. The findings are in line with the findings of Jangid et al. [7].

### **3.10 Mass Media Exposure**

As per data shows in the Table 1 the mass media exposure was found to be non-significantly associated with the training needs of turmeric growers about recommended turmeric cultivation practices. Hence, there is no association between mass media exposure and training needs of turmeric growers about recommended turmeric cultivation practices. It means that the mass media exposure did not exert significant effect on training needs of turmeric growers on turmeric cultivation practices.

### **3.11 Trainings Undergone**

The data presented in Table 1 show that trainings undergone was found to be positively and significantly related with training needs of turmeric growers on recommended turmeric cultivation practices. Turmeric is one of the major crops in Erode district. MYRADA a non-Governmental Krishi Vigyan Kendra located at Gobichettipalayam of Erode District serves the rural farming community by organizing various capacity building programmes in turmeric cultivation covering 7 Taluks namely Anthiyur, Bhavani, Gobichettipalayam, Perundurai, Santhymangalam and Talavadi for the benefit of Erode District Farming Community. With the efforts of MYRADA most of the respondents had attended one or more training programmes. This finding is in line with the findings of Pratheeb Kumar [6].

### **3.12 Innovativeness**

The data presented in Table 1 show that innovativeness was found to be positively and highly significantly related with training needs of turmeric growers on recommended turmeric cultivation practices. It means that the Innovativeness of turmeric growers exerts highly significantly influence on their training needs of turmeric growers on recommended turmeric cultivation practices. Farmers with more innovativeness would try to practice new technologies, which require efficient training. The turmeric farmers of Erode district were succeed in cultivating turmeric along with other intercrops such as castor and onion. This finding derives support from the findings of Kathiresan [8].

### **3.13 Scientific orientation**

The data presented in Table 1 show that scientific orientation was found to be positively and highly significantly related with training needs of turmeric growers on recommended turmeric cultivation practices. It means that the trainings undergone of turmeric growers exert highly significantly influence on their training needs of turmeric growers about recommended turmeric cultivation practices. The turmeric farmers were desired to find out scientific solutions to solve their farm problems in turmeric cultivation and this denotes the influence of MYRADA KVK on penetration of scientific knowledge about recommended turmeric cultivation practices. It is quite natural to expect a relationship between scientific orientation and training needs. This finding derives support from the findings of Rajamohandoss [9].

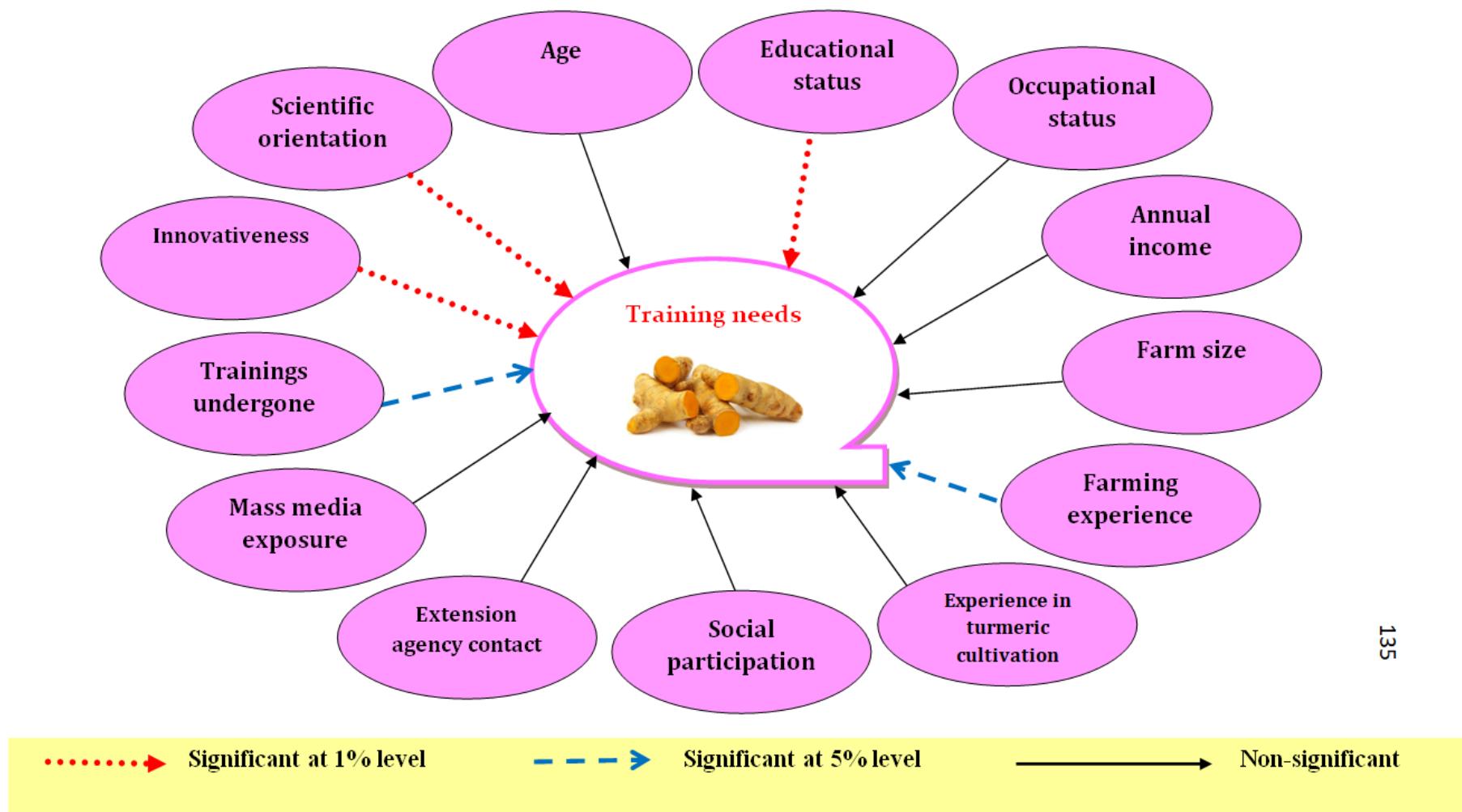


Fig. 2. Empirical model showing the relationship of profile characteristics with training needs of turmeric growers

#### 4. CONCLUSION

Positive and significant association was observed between training needs of growers about recommended turmeric cultivation practices with their educational status, farming experience, extension agency contact, trainings undergone, innovativeness and scientific orientation, while their age, occupational status, annual income, farm size, experience in turmeric cultivation, social participation and mass media exposure were found to be non-significant. The training assessment is an important part of the training process as it enables the training agencies to discover the requirement of the farmers and thereby alters the training module based on their need to increase the effectiveness of the training programmes. The scope of the future studies are similar studies were to be conducted in different study area with increased number of sample size and the effectiveness of the training programmes provided by the change agency are to be studied.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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