



KNOWLEDGE LEVEL OF MEDICINAL PLANT CULTIVATORS IN THRISSUR DISTRICT OF KERALA

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Abstract: *The State of Kerala is enormously graced with the medicinal plants due to its diverse agro - climatic conditions. As per the report of Government of Kerala (2017), out of 26, 24,624 hectare of total cropped area, only 2435 hectare of land is utilized for the cultivation of medicinal plants. The present study was conducted to find out the knowledge level of farmers on medicinal plant cultivation in Thrissur District of Kerala. A total of 30 farmers drawn purposively from two panchayats of Thrissur constituted the sample for the study. Data were collected on personal, socio-economic, communicational and psychological profile of farmers and knowledge on cultivation of medicinal plants by using exploratory design of social research. Data from the respondents were collected by personally interviewing with the help of well-structured interview schedule and suitable statistical tools were used for the analysis of data. It was observed from present study, 66.6 per cent of respondents had medium level knowledge, while 23.4 per cent had low level of knowledge. Only 10 per cent of medicinal plant cultivators had high level of knowledge.*

Keywords: *Knowledge level, Medicinal plants.*

Introduction

The State of Kerala is enormously graced with a rich biodiversity of medicinal plants due to its diverse agro-climatic conditions and this state has a prominent place in the health map of India as it is the main center for Ayurvedic treatment and is a globally favored health tourism destination. In Kerala, cultivation of medicinal plants is confined to homesteads, along the boundary of farms, forest areas, leased land and as intercrops in coconut or rubber plantations. Ayurvedic medicine manufacturing units and practitioners use considerable quantities of parts of medicinal plants as raw drugs and most of these medicinal plants are harvested from forest areas, which seriously threatens not only the future supply but also leads to extinction of medicinal plant species. For sustainable utilization of medicinal plants these species are to be

conserved, hence it is necessary to cultivate medicinal plants to meet the internal and external demand. With this background it was thought important to know the level of knowledge possessed by farmers in cultivation of medicinal plants, so that shortcomings if any could be overcome by suitable interventions. The following are the specific objectives of the study.

- To understand profile characteristics of farmers involved in medicinal plant cultivation
- To understand the extent of knowledge of farmers in cultivation of medicinal plants

Methodology

The study was carried out during the year 2017-18 in Thrissur district of Kerala. Kodakara block of Thrissur district was purposively selected for the study, since it is the highest medicinal plant cultivating area. It is located 20 km towards south from district head-quarters Thrissur. Kodakara block

is bounded by by Irinjalakkuda block towards west, Cherpu block towards west, Ollukkara block towards north, Chalakkudy block towards south. The block has 13 villages and a total of 55716 homes. Two panchayats namely Mattathur and Kodakara were selected and a total of 30 respondents were randomly selected. An interview schedule was prepared to collect the information and suitable statistical tools like mean, frequency, percentage, correlation and knowledge index were used for analyzing the data.

Knowledge measurement

A teacher made knowledge test with 30 statements was developed to measure the knowledge level of the farmers about cultivation and use of medicinal plants. A score of 1 was given to the right answer and 0 to the wrong answer. Therefore the minimum and maximum scores ranged from 0-30. Based on the total scores, the respondents were classified into low, medium and high knowledge taking mean and standard deviation as measures to check.

Knowledge index

Based on the score obtained by all the respondents, knowledge index was worked out by using the following formula:

$$\text{Knowledge Index} = \frac{\text{Respondent's total score}}{\text{Total possible score}} \times 100$$

Results and Discussions

Profile characteristics of medicinal plant cultivators

Profile characteristics of farmers involved in medicinal plant cultivation revealed that half of the respondents belonged to middle age group (50.00%) with 36.70 per cent of the farmers having education up to high school level and about half of the respondents (52.20 %) were doing farming as their sole profession. Data in Table 1 also revealed that 47.8 per cent of the respondents had ten to twenty years of farming experience and 43.30 per cent of them possessed small land holdings (< 0.5 acres) and income from medicinal plant cultivation is lower in case of most of the farmers in the study area.

While majority of the respondents (44.35%) believed in home-remedies, 37.50 per cent farmers prefer ayurvedic medicines to all other systems of medicine. In cases of all others profile characteristics, majority of the farmers belonged to the medium category. Detailed data is given in Table 1.

Table 1: Profile characteristics of medicinal plant cultivators (N=30)

Category	Percentage
Age	
Young (<35 years)	8.9
Middle aged (35-45)	50.0
Aged (>55 years)	41.1
Education	
Literate	13.3
Primary level	27.8
High school	36.7
Collegiate	22.2
Occupation	
Farming as a sole profession	52.2
Farming + Agri. Labour	25.6
Farming + Business	16.7
Farming + Service	5.6
Farming experience	
Low (Less than 10 years)	31.1
Medium (10-20 years)	47.8
More than 20 years (high)	21.1
Farm size	
Small (Less than 1 acre)	43.3

Medium (1-2 acres)	35.6
Large (More than 2 acres)	21.1
Annual income	
Low (Lesser than Rs.10000)	57.8
Medium (Rs.10000-50000)	20.0
High (greater than Rs.50000)	22.2
Social participation	
Low (Lesser than 3.71)	20.0
Medium (3.71-10.91)	73.3
High (Greater than 10.91)	6.7
Mean = 7.31 S.D = 3.60	
Extension agency contact	
Low (Lesser than 6.76)	28.9
Medium (6.76 – 12.34)	51.1
High (Greater than 12.34)	20.0
Mean = 9.55 S.D = 2.79	
Trainings undergone	
No trainings	27.8
Up to 2 trainings	48.9
More than 2 trainings	23.3
Innovativeness	
Low (Lesser than 5)	20
Medium (5-10)	43.3
High (Greater than 10)	36.7
Mass media exposure	
Low (Lesser than 14.16)	14.4
Medium (14.16 – 21.92)	71.2
High (Greater than	14.4
Mean = 18.04 S.D = 3.88	
Economic motivation	
Low (Lesser than 15.91)	16.7
Medium (15.91 – 26.17)	70.0
High (Greater than 26.17)	13.3
Mean = 21.04 S.D = 5.13	
Scientific orientation	
Low (Lesser than 13.64)	7.8
Medium (13.64 – 24.42)	75.5
High (Greater than 24.42)	6.7
Mean = 19.03 S.D = 5.39	
Environmental orientation	
Low (Lesser than 12.39)	10.0
Medium (12.39 – 15.33)	75.6
High (Greater than 15.33)	14.4
Mean = 13.86 S.D = 1.47	
Risk orientation	
Low (Lesser than 16.33)	24.4
Medium (16.33 – 28.63)	64.5
High (Greater than 28.63)	11.1
Mean = 22.48 S.D = 6.15	
Decision making behaviour	
Low (Lesser than 18.55)	15.6
Medium (18.55 – 23.31)	67.7

High (Greater than 23.31)	16.7
Mean = 20.93 S.D = 2.38	
Market orientation	
Low (Lesser than 9.15)	27.8
Medium (9.15 – 11.33)	56.6
High (Greater than 11.33)	15.6
Mean = 10.24 S.D = 1.09	
Attitude towards organic farming	
Low (Lesser than 30.21)	13.3
Medium (30.21 - 44.83)	73.4
High (Greater than 44.83)	13.3
Mean = 37.52 S.D = 7.31	
Belief in home remedies	
Low	21.3
Medium	34.3
High	44.3
Preference towards Ayurvedic medicines	
Low	25
Medium	37.5
High	37.5

Knowledge of medicinal plant cultivators

A look at Table 2 indicates that the respondents had high knowledge on production technology followed by the knowledge about the use of medicinal plants cultivated by them. The least

knowledge index obtained for post-harvest technology. So proper extension intervention is required to improve the knowledge of medicinal plant cultivators on post-harvest technology.

Table 2: Knowledge index of medicinal plant cultivators (N=30)

Category	Knowledge Index
Production technology	93.30
Protection technology	70.00
Post-harvest technology	30.10

Table 3: Knowledge level of medicinal plant cultivators (N=30)

Category	Frequency	Percentage (%)
Low (<50.25)	7	23.40
Medium (50.25-86.45)	20	66.60
High (>86.45)	3	10.00
Mean = 68.35 S.D = 18.1		

The data in Table 3 indicates the categorization of respondents according to their knowledge about cultivation practices and use of medicinal plants. The data shows that majority of the respondents belonged to the medium category (66.60 %), followed by 23.40 per cent in low category and only 10.00 per cent belonged to the high category. The reasons might be their age coupled with farming experience, scientific orientation, market orientation and participation in training programmes. The

modern communication technologies available and the recent positive support given in this field by government and other non-governmental agencies might have helped the medicinal plant cultivators to know more about the cultivation practices of different medicinal plants. The contact with extension agencies and exposure to mass media sources might have contributed to their knowledge on medicinal plant cultivation in their homesteads. Even though 23.40 per cent of the

farmers have only low level of knowledge. This indicates the need for extension interventions in this field.

This finding is in accordance with the findings of Jaganathan *et al.*(2012)

Relationship between the independent variables and knowledge

Table 4: Relationship between the independent variables and knowledge (N=30)

Independent variables	Correlation coefficient
Age	0.154
Farm size	0.085
Market orientation	0.106
Occupation	0.077
Preference toward ayurvedic medicines	0.129
Extension agency contact	0.216*
Economic motivation	0.233*
Innovativeness	0.246*
Income	0.250*
Risk orientation	0.282**
Environmental orientation	0.316**
Decision making behaviour	0.320**
Scientific orientation	0.360**
Belief in home remedies	0.361**
Attitude towards organic farming	0.421**
Farming experience	0.424**
Trainings undergone	0.471**
Education	0.479**
Social participation	0.593**
Mass media exposure	0.597**

**Significant at 1 per cent level

*Significant at 5 per cent level

Table 4 explains the relationship between the independent variables and the dependent variable knowledge of respondents. The variables age, occupation, farm size, preference towards ayurvedic medicines and market orientation had no relationship with knowledge, while variables like income, innovativeness, extension agency contact and economic motivation had positive significant relationship with knowledge of respondents at five per cent level of significance. The other variables which were positively and significantly related to knowledge at one per cent level of significance were education, farming experience, environmental orientation, decision making behaviour, belief in home-remedies, mass media exposure, attitude towards organic farming, social participation, risk orientation, risk orientation, scientific orientation and trainings undergone.

It is but natural that when farmers attend trainings and other extension programmes they update their knowledge. Their social participation exposes them to other members of the society like opinion leaders where information exchange happens.

Conclusion

Knowledge level of the farmers about medicinal plant cultivation was found to be medium. A strategy for knowledge development in medicinal plant cultivation for the farmers/ producers would help in promotion and area expansion of medicinal plant cultivation in Thrissur district. Correlation of profile characteristics with knowledge level showed that out of 20 variables, 15 variables had significant and positive relationship. The variables mass media exposure, social participation, trainings undergone, education and attitude towards organic farming had

shown higher positive correlation with knowledge. Training institutions, NGOs and extension functionaries who are in constant contact with farming community need to take into account the profile characteristics while planning and executing the development programmes as these characteristics were found to influence their knowledge about cultivation of medicinal plants.

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