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A STUDY ON FARMERS' ATTITUDE TOWARDS TAPIOCA CULTIVATION IN SALEM DISTRICT, TAMIL NADU

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ABSTRACT **DOI No: 10.36713/epra27759** **Article DOI: https://doi.org/10.36713/epra27759**

This study makes an effort to assess the challenges faced by tapioca farmers in the sales process. The research is based entirely on primary data collected through a structured interview schedule administered to farmers. The survey was carried out in Salem District, Tamil Nadu, with a sample of 500 respondents selected using a simple random sampling technique to ensure fair representation. A carefully designed interview instrument was employed to gather information on the issues encountered by farmers. To test the reliability of the measurement scale, the data were subjected to item analysis, and Cronbach's alpha coefficient was calculated to determine internal consistency. Subsequently, factor analysis and correlation analysis were applied to identify the farmers' attitudes toward tapioca cultivation and to explore the functional aspects of the problems they face during sales.

KEYWORDS: ***Tapioca framers, Attitude of cultivation, Problems identified.***

INTRODUCTION

In India, productivity wise, Tamil Nadu tops the list with a yield of 20.70 tonnes per ha followed by 17.60 tonnes per ha in Kerala and 7.5 tonnes per ha in Andra Pradesh (Lakshmi et al 1992) as seen in appendix-I. In Tamil Nadu, cassava is cultivated in about ten per cent of the area and contributes to more than 70 per cent of the total production in the country.

Among the different districts in Tamil Nadu, Salem (31,569 ha in area with 11 lakh tonnes of production), Dharmapuri (31, 564 ha in area with 10 lakh tones of production) and Namakkal (27, 689 ha in area with 13 lakh tonnes of production) are the major cassava growing districts and put together, they account for 92 per cent of the total area planted.

India has made significant strides in the field of agriculture. The Green Revolution, White Revolution and Yellow Revolution have changed the face of Indian agricultural scenario. The country has achieved the stupendous task of becoming self-reliant in tapioca production which is clearly reflected in recent years mainly due to concrete research in technology transfer and information seeking behavior patterns for developing, diffusing and adopting these innovations.

OBJECTIVE

The major objectives of this study are as follows:

- To analyze the profile characteristic of the Tapioca farmers in Salem district
- To analyze the relationship between socio- economic characteristic and awareness factors on tapioca cultivation

METHODOLOGY OF THE STUDY

The research design adopted for the present study is the ex-post facto type. The research has no control over the independent variables prior to producing their effect.

Salem district is predominantly an agriculture district. Tapioca farmers of this district are the sampling unit of this study. Salem district is divided into four divisions, nine taluks and twenty blocks. After selecting the villages, random sampling method is followed for selecting the respondents in each village 25 sample, totally 500 sample size were chosen for this purpose of the study.

DATA COLLECTION

For the purpose of the study both primary and secondary data were used. The primary data were collected structured interview schedule employed and secondary data in website, books and journal were collected.

STATISTICAL TOOLS USED

Factor Analysis and Correlation Analysis

Factor analysis is a multivariate statistical technique used to condense and simplify the set of large number of variables to smaller number of variables.

Discriminant Analysis

Discriminant analysis is a statistical technique which allows the study of the differences between two or more groups with respect to several variables simultaneously and provides a means of classifying any object/individual into the group with

which it is most closely associated and to infer the relative importance of each variable used to discriminate between different groups.

A linear combination of predictor variables, weighted in such a way that it will best discriminate among groups with the least error is called a linear discriminant function and is given by:

D = L1.X1 + L2.X2+ ……. +Lk.Xku,

Where Xi's are predictor variables, Li's represent the discriminant coefficients, and D is the value of the discriminant function of the particular individuals' element such that if this value is greater than a certain critical value D* the individual would be classified in group I; otherwise the individual would be classified in Group II.

Level of attitude on Tapioca cultivation

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

The significance (0.000) is less than the assumed value (0.05) & KMO coefficient = 0.915. This implies that the factor analysis is valid.

Table 1: Rotated Factor Loadings for the level of attitude on Tapioca cultivation

Variables for level of attitude on Tapioca cultivation	F1	F2	F3	F4	Communality
D1	.728	.241	.184	.037	0.624
D2	.837	.242	.170	-.122	0.803
D3	.888	.302	.135	-.068	0.903
D4	.880	.309	.116	-.060	0.886
D5	.470	.078	.059	.579	0.567
D6	.769	.446	.007	-.013	0.791
D7	.793	.327	-.013	.051	0.739
D8	.435	.649	.007	.135	0.628
D9	.154	.837	.114	-.016	0.738
D10	.357	.769	-.039	.033	0.721
D11	.434	.759	.065	.112	0.780
D12	.293	.731	.145	.044	0.644
D13	.152	.677	.222	-.151	0.554
D14	.182	.285	.798	-.024	0.752
D15	.079	.006	.873	.081	0.774
D16	-.294	-.012	.029	.835	0.785
Eigen value	7.69	1.54	1.36	1.10	
% of var. explained	48.08	9.63	8.48	6.88	73.07
Cum. % explained	48.06	57.71	66.19	73.07	

Table 1 gives the rotated factor loadings, communalities, Eigen values and the percentage of variance explained by the factors. Out of the 16 level of attitude on Tapioca cultivation variables, 4 factors have been extracted and these 4 factors put together explain the total variance of these variables to the extent of 73.07%. In order to reduce the number of factors and enhance the interpretability, the factors are rotated. The rotation increases the quality of interpretation of the factors. There are several methods of the initial factor matrix to attain simple structure of the data. The varimax rotation is one such method to obtain better result for interpretation is employed and the results are given in Table 2.

Table 2: Clustering of level of attitude on Tapioca cultivation

Factors	Level of attitude on Tapioca cultivation	Rotated factor loadings
1. (48.08%)	1 – D1	0.728
	2-D2	0.837
	3-D3	0.888
	4-D4	0.880
	5-D6	0.769
	6-D7	0.793
2. (9.63%)	7– D8	0.649
	8 –D9	0.837
	9– D10	0.769
	10-D11	0.759
	11-D12	0.731
	12-D13	0.677
3. (8.48%)	13– D14	0.798
	14 – D15	0.873
4. (6.88%)	15 –D5	0.579
	16-D16	0.835

Five factors were identified as being maximum percentage variance accounted. The 4 level of attitude on Tapioca cultivation variables D1, D2, D3, D4, D6 and D7 were grouped together as factor I and accounts 48.08% of the total variance. The 3 level of attitude on Tapioca cultivation variables D8, D9, D10, D11, D12,and D13 **c**onstituted the factor II and accounts 9.63% of the total variance. The 2 level of attitude on Tapioca cultivation variables D14 and D15 constituted the factor III and accounts 8.48% of the total variance. The 1 level of attitude on Tapioca cultivation variables D16 constituted the factor IV and accounts 6.88% of the total variance.

The five level of attitude on Tapioca cultivation variables namely "Availability of quality stems" (D1), "Availability of labours " (D2), "Availability of water supply"(D3)," Soil condition"(D4), "Availability of fertilizer and pesticides"(D6) and "Cultivation method"(D7) were grouped together as factor I and accounts 48.08% of the total variance.

Correlation Analysis

The Table 5.3.9 describes the results of inter-correlation analysis in terms of correlation coefficient & its significance at 1% level.

Table 3: Correlation Matrix - Attitude on Tapioca cultivation variables basis of the factor I

Attitude on Tapioca cultivation	Availability of quality stems	Availability of labours	Availability of water supply	Soil condition	Availability of fertilizer and pesticides	Cultivation method
Availability of quality stems	1	0.744**	0.660**	0.637**	0.620**	0.601**
Availability of labours		1	0.843**	0.822**	0.684**	0.672**
Availability of water supply			1	0.949**	0.803**	0.769**
Soil condition				1	0.796**	0.766**
Availability of fertilizer and pesticides					1	0.754**
Cultivation method						1

**Significant at 1% level

It is found from the Table 3 that all the attitude on Tapioca cultivation variables on the basis of factor I considered have significant inter-correlation between their in respect of Tapioca cultivation analysis.

It is concluded that all the attitude on Tapioca cultivation variables such as 'Availability of quality stems' (D1), 'Availability of labours' (D2) , 'Availability of water supply' (D3),' Soil condition'(D4),' Availability of fertilizer and pesticides'(D6) and 'Cultivation method'(d7) for Tapioca cultivation study have significant interrelationship between them.

Type of activity on the level of Attitude on Tapioca cultivation

We looking at the Wilk's 1 statistic along with chi-square statistic and we test the following hypothesis:

Null Hypothesis: The Discriminant analysis is not valid

Table 4: Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	Degrees of freedom	p-value
1	.863	50.574	16	.000

Wilk's 1 is very high (0.889) and significance (0.00) is less than 0.000, so we reject the Null hypothesis, implying that the discriminant analysis is valid.

Canonical Discriminant Function

The linear discriminant function is

D = -0.082D1+0.338D2-0.221D3-0.353D4 +0.353D5 +0 .413D6+0.270D7+0.063D8-0.239D9-0.178D10-0.582D11-0.077D12+0.345D13+0.203D14+0.034D15+0.351D16-1.643

The following Table 5 and Table 6 shows the group means of each of the independent variables identified and coefficients of canonical Discriminant function respectively.

Table 5: Group means of each of the independent variables

S.No	Level of Attitude on Tapioca cultivation	Mean value	
		Level of attitude with main activity of Tapioca cultivation	Level of attitude with allied activity of Tapioca cultivation
1	Availability of quality stems (D1)	2.95	2.88
2	Availability of labours (D2)	3.10	3.04
3	Availability of water supply (D3)	3.02	3.14
4	Soil condition (D4)	3.01	3.15
5	Availability of financial support (D5)	2.44	2.05
6	Availability of fertilizer and pesticides (D6)	3.01	3.05
7	Cultivation method (D7)	2.94	2.86
8	Availability market information (D8)	2.89	3.07
9	Selling price (D9)	2.90	3.32
10	Profit (D10)	2.95	3.33
11	Manufacturers support(D11)	2.82	3.26
12	Commission agent support(D12)	2.98	3.19
13	Government support (D13)	3.17	3.13
14	Availability of leased land(D14)	2.56	2.44
15	Price fixation method(D15)	2.64	2.56
16	Availability of packing materials(D16)	3.56	3.30
Eigen Value	0.125	**% of Variance**	100
Cumulative %	100	**Canonical Correlation**	0.333

Relative Importance of Predictor Variable: The relative importance of each predictor variables in discriminating between the two groups is obtained and the results are presented below.

Table 6: Relative importance of ratios in Discriminating between the groups

Level of Attitude on Tapioca cultivation	Importance value of the variable (Ij)	Relative Importance (Rj)	Rank
Availability of quality stems (D1)	0.08	2	8
Availability of labours (D2)	0.34	8	4
Availability of water supply (D3)	0.21	5	6
Soil condition (D4)	0.34	8	4
Availability of financial support (D5)	0.42	10	2
Availability of fertilizer and pesticides (D6)	0.41	10	2
Cultivation method (D7)	0.28	7	5
Availability market information (D8)	0.06	1	9
Selling price (D9)	0.21	5	6
Profit (D10)	0.16	4	7
Manufacturers support(D11)	0.50	12	1
Commission agent support(D12)	0.07	2	8
Government support (D13)	0.35	9	3
Availability of leased land(D14)	0.21	5	6
Price fixation method(D15)	0.04	1	9
Availability of packing materials(D16)	0.38	9	3

Among the variables under study one variable namely 'Manufacturers support' (D11) is substantially important variable in discriminating between groups namely 'Level of attitude with main activity of Tapioca cultivation' and 'Level of attitude with allied activity of Tapioca cultivation' on the Tapioca Cultivation of farmers in Salem District.

CONCULSION

Local press plays an important role in the areas. The local press should be persuaded to provide more coverage to tapioca cultivation practices through an exclusive column earmarked for it which should include success stories, problems and their solutions. Agriculture specialists should be approached by the press to write for them. Agro-based industries can be persuaded to give advertisement to local press. Every local Newspaper should allot Agricultural pages twice a week and these

agricultural pages should contain information about tapioca production technology in local dialect with more illustrations. State Department of Agricultural extension personnel should regularly contact the tapioca Framers and provide required and timely information related to tapioca cultivation. Agricultural tours particularly for tapioca Framers and agricultural functionaries should be organized more frequently to exchange their experience with their counterparts in other states and similar agro-climatic zones.

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