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Functional Aspects of Tapioca Farmers Problems During Sales in Tamilnadu

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ABSTRACT

In this study, an effort was made to examine the problems encountered by tapioca farmers during 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 tapioca farmers selected using a simple random sampling technique to ensure fair representation. A carefully designed interview instrument was employed to gather information on the challenges faced by farmers. To verify the reliability of the measurement scale, the data were subjected to item analysis, and the internal consistency was tested using Cronbach's alpha coefficient. Subsequently, factor analysis and correlation analysis were applied to identify the functional dimensions and interrelationships among the problems reported by the farmers during sales.

Key words: Problems, tapioca, sales, study Area.

INTRODUCTION

Tapioca is a vital root crop extensively cultivated across tropical regions, primarily as a staple food. It is grown mainly for its tubers, which serve as a supplementary source of nutrition. Among food crops, tapioca provides the highest caloric yield, producing approximately 2,50,000 calories per hectare, compared to 2,00,000 calories from maize, 1,76,000 calories from paddy, and 1,00,000 calories from wheat (Katyal and Dutta, 1976).

Recognizing its importance, the Central Tuber Crops Research Institute (CTCRI) was established in 1963 at Trivandrum to intensify research efforts on tuber crops. To further promote tapioca, the Tapioca Market Expansion Board was set up in 1972. In Tamil Nadu, a Tapioca Research Station was first established in Salem in 1971, later relocated to Mulluvadi in Attur Taluk in May 1977. Additionally, under the State Industries Department, a Sago Testing and Research Laboratory has been operating in Salem since 1964. This laboratory plays a crucial role in testing tapioca products submitted by factory owners and merchants, certifying their quality, and issuing ISI certificates under the Ministry of Agriculture and Irrigation, Government of India.

Tapioca (Cassava)

Tapioca (*Manihot esculenta Crantz*) was introduced into India towards the end of the 18th century. In terms of global cassava production, Nigeria leads the list, followed by Thailand, Indonesia, Congo, Angola, Ghana, Brazil, and India (see Appendix II). Within India, tapioca is cultivated across nearly 3 lakh hectares, yielding between 90 to 96 lakh tonnes of tubers annually. While Kerala holds the top position in terms of cultivation and overall production, Tamil Nadu is recognized as the leading state for processing tapioca into starch and sago. As a result, tapioca has gained prominence as one of the most significant commercial crops in Tamil Nadu.

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Mass-Media-Exposure

Oto J. Okwu (2011) highlights that mass media is the most frequently used source of agricultural information. The study found that literate farmers rely on mass media more than non-literate farmers, and its usage is higher among those with greater income levels compared to low-income earners. Additionally, male farmers were observed to use mass media more often than female farmers for accessing agricultural knowledge.

Similarly, Gurav et al. (2009), in their study conducted in Maharashtra, emphasized the need to extend the duration of the Kisanwani programme broadcast from half an hour to one hour. Their findings suggest that such an extension would make All India Radio's agricultural programming more effective and better aligned with farmers' needs, thereby supporting the successful adoption of new agricultural technologies.

Objective

The major objectives of this study is as follows:

- To study the common issues during the sales of Tapioca farmers in Salem district

Research Design

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.

Area of the Study

The study is carried out in Salem district of Tamil Nadu during the year September 2015.

Selection of District

As this study deals with the tapioca farmers, Salem district in Tamil Nadu is purposefully selected, as it fulfills the following criteria:

Among the different district of Tamil Nadu, Salem district ranks high in terms of large area and production in tapioca.

A regional research station of Tamil Nadu Agricultural University, which has released many popular tapioca varieties, is located at Attur, in Salem district.

Table 1 Agricultural and horticultural institutions in Salem Districts

S.No	Taluk	State Seed Farm	Agricultural School	Seed Processing Unit	Research Station	Agri Laboratory	Agricultural Dept.
1	Attur	2	-	-	1	-	4
2	Mettur	1	-	1	-	-	3
3	Omalur	1	-	1	-	-	3
4	Salem	4	1	-	1	6	3
5	Sankari	-	-	-	-	-	2
6	Yercaud	1	-	-	1	-	1
7	Edappadai	-	-	-	-	-	2
8	Gengavalli	-	-	-	-	-	2

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9	Vazhappadi	-	1	-	-	-	1

Sample and Sampling Procedure

Appropriate sample size depends on various factors relating to the subject under investigation like the time, cost, degree of accuracy desired etc. (Rangaswamy 1995).

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.

Table 2 Block selected for the study

S.No	Name of Taluk	Block		No. of Respondents
1	Salem	1	Salem	25
		2	Veerapandi	25
		3	Panamarathupatti	25
		4	Ayothyapattinam	25
2	Vazhappadi	5	Vazhapadi	25
3	Yercaud	6	Yercaud	25
4	Gengavalli	7	Gengavalli	25
		8	Thallaivasal	25
5	Attur	9	Attur	25
		10	Peddanaickenpalayam	25
6	Mettur	11	Mecheri	25
		12	Nangavalli	25
		13	Kolathur	25
7	Omalur	14	Omalur	25
		15	Tharamanagalam	25
		16	Kadayampatti	25
8	Sankari	17	Sankari	25
		18	Magudanchavadi	25
9	Edappadi	19	Edappadi	25
		20	Konganapuram	25
Total				500

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

The data collected are analyzed by using the following statistical tools.

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Chi-square Analysis

The Chi square test is used in this study on social science and management for testing the independence of two attributes. It used to identify the socio economic variables and awareness factors influencing in the problems during sales among the farmers in Salem District.

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. Correlation analysis is involves various methods and techniques used for studying and measuring the extent of the relationship between two variables. These tools help to Assessing the level of variability of the respondents and relationship of variables in problems during tapioca sales.

Table 3: Chi Square: Personal and the awareness factors on the Problems identifying during Tapioca sales

Personal factors	**Chi-square Value**	**p values**	**Significant/ Not Significant**
Age	6.365	0.384	NS
Sex	0.465	0.792	NS
Literacy level	11.738	0.303	NS
Family Income	3.580	0.466	NS
Number of family members	4.583	0.333	NS
Nature of land holding	0.546	0.969	NS
Sources of irrigation	8.640	0.195	NS
Awareness factors	**Chi-square Value**	**p values**	**Significant/ Not Significant**
Activity of Tapioca cultivation	5.318	0.070	S
Aware of Tapioca cultivation	3.804	0.149	NS
Types of Tapioca	32.591	0.008	S
Engaging cultivation of Tapioca	14.253	0.027	S
Area of cultivation of Tapioca	0.625	0.960	NS

S – Significant at 5% level (p value< 0.05); NS – Not Significant at 5% level (p value>0.05)

It is found from the Table 5.2.4 that the hypothesis is rejected (Significant) in three cases of awareness factors in other cases the hypothesis is accepted (Not Significant).

It is concluded that the activity of Tapioca cultivation, Types of Tapioca and Engaging cultivation of Tapioca have significant influence on the Tapioca Problems identifying during Tapioca sales analysis.

Level of problems identifying during Tapioca sales

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

The significance (0.000) is less than the assumed value (0.05) & KMO coefficient = 0.618. This implies that the factor analysis is valid.

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Table -4 Rotated Factor Loadings for the level of problems identifying during Tapioca sales

Variables for level of problems identifying during Tapioca sales	F1	F2	F3	Communality
B1	0.599	0.076	-0.058	0.368
B2	-0.196	0.270	-0.655	0.540
B3	-0.036	0.546	0.010	0.300
B4	0.736	0.043	0.025	0.544
B5	0.545	-0.174	0.215	0.373
B6	-0.162	-0.659	0.012	0.461
B7	-0.559	-0.368	0.132	0.466
B8	-0.201	0.356	0.728	0.698
Eigen value	1.66	1.07	1.02	
% of var. explained	20.72	13.34	12.80	46.86
Cum. % explained	20.72	34.06	46.86	

Table 4 gives the rotated factor loadings, communalities, Eigen values and the percentage of variance explained by the factors. Out of the 8 level of problems identifying during Tapioca sales variables, 3 factors have been extracted and these 3 factors put together explain the total variance of these variables to the extent of 46.86%. 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 .5: Clustering of level of problems identifying during Tapioca sales variables into factors

Factors	Level of problems identifying during topica sales	Rotated factor loadings
1. (20.72%)	1 – B1	0.599
	2 – B4	0.736
	3 – B5	0.545
2. (13.34%)	4 – B2	0.270
	5 – B3	0.546
3. (12.80%)	6 – B6	0.012
	7 – B7	0.132
	8 – B8	0.728

Three factors were identified as being maximum percentage variance accounted. The 3 level of problems identifying during Tapioca sales variables B1, B4 and B5 were grouped together as factor I and accounts 20.72% of the total variance. The 2 level of problems identifying during Tapioca sales variables B2 and B3 **c**onstituted the factor II and accounts 13.34% of the total variance. The 3 level of problems identifying during Tapioca sales variables B6, B7 and B8 constituted the factor III and accounts 12.80% of the total variance.

The three level of problems identifying during Tapioca sales variables namely “To whom do sell most of Tapioca produce” (B1), “When do sell Tapioca after harvest” (B4) and “Mode of sale” (B5) were grouped together as factor I and accounts 20.72% of the total variance.

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Correlation Analysis

The correlation is the study of finding the relationship between the variables. If there are only 2 variables in the study of correlations there it is called simple correlation otherwise the study in either partial or multiple correlation. In this study the simple inter-correlations analysis is performed between the selected variables and the results are presented in the form of correlation matrix. Further the significance of correlation was tested at the 1% level of significance.

The Table 6 describes the results of inter-correlation analysis in terms of correlation coefficient & its significance at 1% level.

Table 6: Correlation Matrix - Problems identifying during Tapioca sales variables basis of the factor I

Problems identifying during Tapioca sales variables	To whom do sell most of Tapioca produce	When do sell Tapioca after harvest	Mode of sale
To whom do sell most of Tapioca produce	1	0.231**	0.185**
When do sell Tapioca after harvest		1	0.200**
Mode of sale			1

**Significant at 1% level

It is found from the Table 6 that all the problems identifying during Tapioca sales 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 problems identifying during Tapioca sales variables such as 'To whom do sell most of Tapioca produce' (B1), 'When do sell Tapioca after harvest' (B4) and 'Mode of sale' (B5) for Tapioca cultivation study have significant interrelationship between them.

Suggestions of the study

The problems identifying during Tapioca sales variables such as 'To whom do sell most of Tapioca produce' (B1), 'When do sell Tapioca after harvest' (B4) and 'Mode of sale' (B5) for Tapioca cultivation study have significant interrelationship between them.

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.

CONCLUSION

This study concluded that majority of farmers have expressed the non-availability of improved equipment followed by lack of irrigation facilities as their major short comings. Government should take necessary steps to promote the marketing facilities, irrigation facilities, training facilities, credit facilities and availability of crop insurance. Farm or Agricultural implements like tapioca set planter and harvester should be manufactured and supplied to farmers.

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