A STUDY ON COCONUT MARKETING ISSUES AT THANJAVUR

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1. INTRODUCTION
The Coconut Palm (Cocos nucifera Linn.) is supposed to be one of the five legendary Devavrikshas and is known as Kalpavriksha - the all giving tree - in Indian classics. All parts of the coconut palm are used in some way or another in the daily life of the people of the coconut growing countries in the world. Its fruit is called Lakshmi Phai and is used in social and religious functions in India irrespective of whether coconut palm is locally grown or not.

Coconut is grown in more than 86 countries worldwide, with a total production of 54 billion nuts per annum. India occupies the premier position in the world with an annual production of 13 billion nuts, overtaking Indonesia and the Philippines, the other two prominent coconut-growing countries.

The coconut palm is a versatile tree crop, no other tree crop grown can match coconut palm in its versatility. It provides nutritious food and a refreshing drink, oil for edible and non-edible uses, fibre of commercial value, shell for fuel and industrial uses, thatch, an alcoholic beverage, timber and a variety of miscellaneous products for use as domestic fuel. The palm is amenable to both plantation and homestead management and it can be either a major crop or a minor one in a homestead garden of mixed crops. While responding favorably to scientific management, the palm also tolerates negligent farming to a certain extent. Thus, it can adapt to the divergent farming situations and management practices that are prevalent in the different agro-climatic regions.

The coconut palm exerts a profound influence on the rural economy of the many states where it is grown extensively and it provides sustenance to more than 10 million people. The export earnings derived by India from coconut are around Rs.3000 million, mainly through the export trade in coir and coir goods. The processing and related activities centered on the crop generate employment opportunities for over two million people in India. The contribution of coconut oil to the national edible oil pool is 6 %. In addition, the crop contributes Rs.7000 Crores annually to the Gross Domestic Product (GDP). It is no wonder coconut culture is spreading even to non-traditional belts that were, until recently, considered unsuitable for the purpose.

In India, coconut is cultivated mainly in the coastal tracts of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, West Bengal, Pondicherry, and Maharashtra and in the islands of Lakshadweep, Andaman and Nicobar. Of late, coconut cultivation has been introduced to suitable locations in non-traditional states including Assam, Gujarat, Madhya Pradesh, Rajasthan, Bihar, Tripura, Manipur, and Arunachal Pradesh and in the hinterland regions of the coconut growing states.

2.OBJECTIVES OF THE STUDY
The following are the main objectives of the study:
1. To analyze the coconut marketing problems faced by the farmers in and around Thanjavur delta region and incorporate their marketing problems with the livelihood of farmers and the resultant impact on them.
2. To study the farmers' views on marketing problems encountered by them while marketing of coconut such as variety of coconut trees, proper pest and disease control, nutritional and health aspects of coconut, medicinal and industrial use of coconuts and its by-products and trends in coconut area and production in Thanjavur delta region.
3. To measure the respondents' awareness of the prospects of coconut marketing and suggest suitable remedial measures to achieve the same.
4. To identify the factors responsible for the present marketing problems involved in coconut marketing and identify the solutions to overcome such marketing issues.

3. RESEARCH DESIGN
Methodology used in this study was of both qualitative quantitative. However, participatory approaches were used for gathering information that was used in guiding the survey and enriching analysis and interpretation of the survey results. Both cases were simultaneously and sequentially utilized to collect the required information. A simple cross-section survey design was applied to collect the data, where households of the farmers in the projected areas were given an equal chance of being selected for the survey.

3.1 Sampling
The validity of any research is based on the systematic method of data collection and analysis. The present study uses both primary and secondary data. The primary data have been collected from the farmers cultivating coconut and their problems involved in the coconut marketing in the Thanjavur delta region.

3.2 Primary Data Collection
The primary data for the study were collected through the questionnaire. The researcher met the farmers and collected the required data from them. Published information from journals, newspapers, newsletters and websites were also obtained. The size of the sample was 477.The researcher interviewed 500 farmers in Thanjavur district, the respondents those who have given complete information were chosen for the study. The respondents those who have given incomplete information were not included in the study.

3.4 Secondary Data Collection
- The secondary data are gathered from reference books, reports, journals, newspapers, other Ph.D theses, internet and etc. in order to provide the academic theories.
- Secondary data, used to support with the primary data, are collected from the chosen study on Indian coconut industry.

3.5 Population
The farmers in the Thanjavur district have been chosen as the population. The samples were drawn from this population.

3.6.Frame Work of Analysis
In order to study the farmers view in coconut marketing problems encountered by them, the questionnaire consisting of the 5 point rating scale has been adopted. "Strongly agree" denotes 5 points, "agree" indicates 4 points, "Neutral" indicates 3 points, "disagree" denotes 2 points and "strongly disagree" indicates 1 point. The analyses have been scaled on the basis of mean score value. The collected data were classified and tabulated with the help of computer programming. The collected data was edited, coded and classified. The views of the farmers on marketing problems of coconut were then analyzed by applying relevant statistical techniques.

3.7 Sampling Method
The stratified sampling method was employed for the purpose of this survey. First the population was divided into homogeneous sub-parts (strata), which were mainly the coconut farmers. The Thanjavur district was further sub-divided into divisions and locations. This method assisted in identifying the exact locations/sub-locations where the actual survey was to be conducted. In the selected areas, all the farmers were then interviewed.
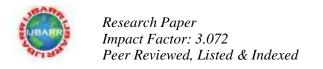
3.8. Data Collection Tool
The main tool used for the survey was a questionnaire. Primary data was collected from farmers using two-structured questionnaires. One questionnaire was designed specifically for farmers only. The study was conducted in local language Tamil. The farmers were probed through simple questions found in the questionnaires. Information sought under these instruments related to annual production of various coconut-based products as well as earnings from these products, prices and quantities, cultivating practices, problems involved in coconut marketing of coconut.

4. REVIEW OF LITEARTURE
COCONUT MARKETING IN TAMIL NADU
Coconut (*Cocos nucifera*) is one the most important crops grown in the humid tropics. More than 11 million farmers, mostly smallholders with low income, grow the palm in 90 countries. More than 80% of the total world production comes from the Asia–Pacific countries .Coconut prices in Tamil Nadu, the third largest coconut producing state in the country, are expected to rise by around 10-15% in the coming months due to short supply and festival demand. According to the latest report released by the Domestic & Export Market Intelligence Cell (DMIC) attached to Tamil Nadu Agricultural University (TNAU), farm level price in Tamil Nadu would increase to Rs 5-5.5 per nut during August-September and the price is likely to move up further to Rs 5.75-Rs 6 per nut in October-November. The price outlook has been given as per the survey conducted in Pollachi (Tamil Nadu), a major coconut market in the country. The demand-supply gap in the Indian coconut market has widened as coconut area in Kerala has been shrinking in the past few years, trade sources said. Kerala tops in coconut production in the country with an area under cultivation of 0.87 million hectare.

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5. DATA ANALYSIS
Hypothesis - I
Null Hypothesis: There is no significant difference between male and female with respect to overall coconut marketing problems .

Table - 1: Student t test for significant difference between male and female with respect to overall over all coconut marketing problems

Gender	Mean	SD	t -value	P- value
Male	59.84	7.52	2.71	0.00**
Female	63.71	14.78		

Source: Data generated from the respondents

Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence concluded that there is significant difference between male and female with respect to overall coconut marketing problems. Mean level of coconut marketing problems of female customers are higher than male .

Hypothesis -II
Null Hypothesis: There is no significant difference between numbers of years of experience of farmers with respect to overall coconut marketing problems

Table -2: ANOVA for significant difference between numbers of years of experience of farmers with respect to overall coconut marketing problems

Numbers of years of experience of farmers	Mean	SD	F value	P value
Below 5	62.83[b]	8.42	5.094	0.006**
5 –10	59.91[ab]	13.42		
Above 10	58.07[a]	7.74		

Source: Data generated from the respondents

Note: Different alphabet between years of experience of farmers denotes significant at 5% level using Duncan Multiple Range test.

Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence concluded that there is significant difference between numbers of years of experience as farmers with respect to overall coconut marketing problems. Based on Duncan Multiple Range test, the below 5 years of experience as farmers are significantly higher level of overall coconut marketing problems than above 10 years but between 5 and 10 years of experience as farmers are not significant with other group of years.

Hypothesis -III
Null Hypothesis: There is no association between price received by the farmer and the years of experience of farmer.

Table -3: Chi-square test for association between price received by the farmer and the years of experience of farmer

Price received by the farmer	No. of years experience in coconut farming					Total	Pearson Chi-Square	P value
	Below 5	5-10	10-15	15-20	Above 20			
Below Rs2	4	24	37	26	46	137	28.070	0.005**
	(2.9%)	(17.5%)	(27.0%)	(19.0%)	(33.6%)	(100.0%)		
	[9.1%]	[40.0%]	[39.8%]	[23.0%]	[27.5%]	[28.7%]		
Rs. 2-4	19	20	21	43	71	174		
	(10.9%)	(11.5%)	(12.1%)	(24.7%)	(40.8%)	(100.0%)		
	[43.2%]	[33.3%]	[22.6%]	[38.1%]	[42.5%]	[36.5%]		
	8	8	14	18	25	73		
	(11.0%)	(11.0%)	(19.2%)	(24.7%)	(34.2%)	(100.0%)		

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	[18.2%]	[13.3%]	[15.1%]	[15.9%]	[15.0%]	[15.3%]	
Rs6-8	13	8	21	26	25	93	
	(14.0%)	(8.6%)	(22.6%)	(28.0%)	(26.9%)	(100.0%)	
	[29.5%]	[13.3%]	[22.6%]	[23.0%]	[15.0%]	[19.5%]	
Above Rs 8	44	60	93	113	167	477	
	(9.2%)	(12.6%)	(19.5%)	(23.7%)	(35.0%)	(100.0%)	
	{100%}	{100%}	{100%}	{100%}	{100%}	{100%}	

Source : Data generated from the respondents
Note: 1. The value within ( ) refers to Row Percentage
2. The value within [ ] refers to Column Percentage
Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence concluded that there is association between price received by the farmer and the years of experience of farmer.

Hypothesis - IV
There is association between price received by the farmer and the total value of coconut products
Null Hypothesis: There is no association between price received by the farmer and the total value of coconut products.

Table - 4: Chi-square test for association between price received by the farmer and the total value of coconut products

Price received by the farmer	Total value of coconut products					Total	Pearson Chi-Square	P value
	Below 5	5-10	10-15	15-20	Above 20			
Below Rs2	37	17	22	39	22	137		
	27.0%	12.4%	16.1%	28.5%	16.1%	100.0%		
	48.7%	24.6%	23.2%	24.4%	28.6%	28.7%		
Rs 2-4	24	33	37	54	26	174	25.068	0.005**
	13.8%	19.0%	21.3%	31.0%	14.9%	100.0%		
	31.6%	47.8%	38.9%	33.8%	33.8%	36.5%		
Rs4-6	6	9	15	29	14	73		
	7.9%	13.0%	15.8%	18.1%	18.2%	15.3%		
	9.7%	10.8%	22.6%	40.9%	16.1%	100.0%		
Rs6-8	9	10	21	38	15	93		
	9.7%	10.8%	22.6%	40.9%	16.1%	100.0%		
	11.8%	14.5%	22.1%	23.8%	19.5%	19.5%		
Above Rs 8	76	69	95	160	77	477		
	15.9%	14.5%	19.9%	33.5%	16.1%	100.0%		
	100%	100%	100%	100%	100%	100%		

Source: Data generated from the respondents
Note: 1. The value within ( ) refers to Row Percentage
2. The value within [ ] refers to Column Percentage
Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence concluded that there is association between price received by the farmer and the total value of coconut products .

Hypothesis -V
Null Hypothesis: There is no significant difference between mean ranks towards problems involved in the coconut marketing faced by the farmers in the Thanjavur delta region.

Table –5: Friedman test for significant difference between mean ranks towards problems involved in the coconut marketing faced by the farmers in the Thanjavur delta region

S.No	Coconut marketing problems	Mean Rank	Chi-Square value	P-Value
1	high fluctuations in market prices	16.65		
2	more pests and more diseases	16.63		
		13.37		
3	high cost of plant protection chemicals	12.39	25.068	0.005**
		13.20		
4	non-availability of adequate institutional credit facilities at right time	13.98		
		12.60		
5	inadequate infrastructural facilities and civic amenities	12.72		
		13.10		
6	Ineffective Channel of distribution of 'producer—copra maker—oil miller—wholesaler—consumer'	12.50		
		13.63		
7	Low profit margin	13.00		
8	High marketing cost	14.00		
9	Refusal to intervene by the state government and traditional regulatory authorities	12.72		
10	Low prices paid to small producers	12.08		
11	deregulation of the coir industry	12.33		
12	Vilification campaign unleashed by vested interests against the edible use of coconut oil	11.08		
13	inadequate institutional support	13.66		
14	declining viability of coconut farming	11.01		
15	eroding profitability	12.32		
16	Decline in coconut hectarage due to land conversion into commercial and industrial purposes	12.35		
17	Tenurial arrangement as a hindrance to increased investment in coconut culture	13.86		
18	Relative un remunerativeness of Coconut farming being a predominantly monocrop	11.62		
19	Price instability due to increasing competition from substitute oils	12.85		
20	Lower oil recovery due to harvesting of immature nuts.	11.34		
21	Poor copra making practices	12.35		
22	Post harvest losses due to quality deterioration of copra In insect infestation	13.86		
23	Post harvest losses due to quality deterioration of copra in transport	11.62		
24	Post harvest losses due to quality deterioration of copra in storage	12.85		
25	Low farm productivity	11.34		

Source: Data generated from the respondents

Since P value is lesser than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence concluded that there is significant difference between mean ranks towards problems involved in the coconut marketing faced by the farmers in the Thanjavur delta region.

6. CONCLUSION

The study on coconut marketing problems and prospects carried out in the Thanjavur delta region generates economic benefits offered by the coconut marketing and contributes to the national economy. The farmers in the selected region constitute an optimum approach in a situation in which both the inputs and the outputs can be locally traded. Institutional arrangements have to be reviewed and adapted to permit flexible and commercially oriented decision making on exporting copra as well as oil depending on prices and marketability.

The Institutional implications ought to be fully assessed and interagency relationships between the farmers and traders should be defined, agreed upon at appraisal and followed through.

The provision of consultant services offered by the Coconut development board contributed to the successful operational and financial performance of coconut while pricing. It is important that suitably experienced Coconut development board services continue to be employed in the Thanjavur delta region to increase the revenue earning capacity of the farmers during the harvest of coconuts.

The Tamilnadu Government support such as fixing the price for coconuts, providing marketing support for the farmers in the Thanjavur delta region helps the farmers to maximize the return during the production and marketing of coconuts.

More systematic and persistent efforts are needed on the part of the Government and the coconut marketing complex to train the farmers to increase the productivity of coconut in the coming months. Since suitably experienced farmers are of crucial importance, the necessary resources have to be allocated to either attract locally available expertise of farmers to increase the productivity of coconut in the Thanjavur delta region. The functions of Tamilnadu governmental agencies in the coconut sector, especially the marketing and purchasing arrangements, the copra price stabilization scheme and cost and revenue sharing ought to be reviewed in view of the costly burden and questionable benefits derived from present procedures and institutional arrangements. The objective should be to maximize the benefits to the regional economy.

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