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Analysis of Factors of Cultivators In Coconut Cultivation - (a Study with reference to Tenkasi Taluk)

Dr.M.Yathirajan[1]* and Dr.K.Alagar[2]

[1]Assistant Professor, Department of Commerce, Yadava College, Madurai-625014, India.

[2]Associate Professor & Head, Department of Commerce, Yadava College, Madurai-625014, India.

*Corresponding Author Email Id: mycom.india72@gmail.com

Abstract

Coconut cultivation and industry plays a vital role in the sustainability of the rural economy of many states of the country. This crop plays an important role in the socio economic structure of a country. Since coconut is a multi-product crop, farmers involved in coconut growing depend solely on the palm for their domestic requirements such as food, fuel and shelter. Among the coconut based industries such as, coir making and milling are significant and coir products constitute one of the major items of export. Coconut occupies a place of importance in the social and religious functions of the people of India. The Coconut Development Board is a statutory body set up by the Government of India for integrated development of coconut cultivation and industry in the country. Coconut provides food and livelihood security to more than 10 million people across 18 states and three UTs in the country.

Keywords: Coconut, Cultivators, Cultivation.

Introduction

Agriculture in India has a significant history. Today, India ranks second world wide in farm output. The economic contribution of agriculture of India's Gross Domestic Product [GDP] is steadily declining with the country's broad-based economic growth. It is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India. According to 2010 Food and Agriculture Organization [FAO] world agriculture statistics, India is the world's largest producer of many fresh fruits and vegetables, milk, major spices, select fresh meats, select fibrous crops such as jute, several staples such as millets and castor oil

seed. India has shown a consistent average annual increase in the kilograms produced per hectare for various agricultural items, over the last 60 years.

Coconut cultivation and industry plays a vital role in the sustainability of the rural economy of many states of the country. Coconut is referred to as a 'Kalpaviriksha' or 'Tree of Heaven' and 'Tree of Abundance'. This crop plays an important role in the socio economic structure of a country.

Statement of the Problem

Agriculture is the function of nature. Too oft-repeated statement that the Indian farmers are born in debt, live in debt and die in debt and also highlights the bottlenecks chasing the Indian farmers from their cradle to the grave. Thus, the Indian farmer remains a prisoner of financial chains. One of the most vigorously exploited sectors of Indian community is the cultivator. In spite of the fact that coconut is one of the crops in Tenkasi taluk**,** its cultivation is not properly taken care of. Agriculture product cultivation plays an important role in development of the study area.

Objective of the Study

The following are the objectives of the study:

1. To study the view of coconut in general.
2. To analyse, factors of coconut cultivators in cultivation in study area.
3. To give suitable suggestions to improve their factors in cultivation.

Scope of the Study

This study provides the analysis to light specific factors in coconut cultivation characteristics of coconut cultivators in Tenkasi Taluk. It emphasizes the need for all size of farmers to focus their attention on policies and programmes for improving their cultivation factors.

Methodology

The present study is based on both primary data and secondary data. The primary data were collected from the cultivators by a sample survey using interview schedule. Secondary data were collected from various reports and records of relevant departments.

Sampling

Since, it is an empirical study. In this study, stratified random sampling method was adopted. It is to be noted, that Tenkasi Taluk is one of the Taluks of this district, which is dominant in coconut cultivation. Thus, twenty villages were selected using lottery method from study area; nine cultivators were selected from each village random. Thus a sample size of 180 has been arrived at for the purpose of collection of primary data from the cultivators of coconut.

Construction of Interview Schedule

Interview schedule was constructed for this study to collect data from coconut cultivators. The schedule thus prepared had been pre-tested and necessary changes have been made so as to make them capable of eliciting the required data. The primary information recorded on such schedules was the responses and judgment of the coconut cultivators.

Data Processing

The collected data were analysed with the help of computer using statistical packages on social services. Percentage and factorial analysis has been used for the analysis; that details are given in the following.

Period of the Study

The primary data from the cultivators are collected for a period of ten months from November 2014 to August 2015.

Area of the Study

Tenkasi taluk is one among the eleven taluks in Tirunelveli districts at Tamilnadu, completely land – locked. The cultivators who are producing coconut in this taluk have been included in the study.

Limitation of the Study

The study is confined to a particular agro-climatic region in Tenkasi Taluk. The primary data have been collected through the survey method by personal interviews with a pre-tested interview schedule. To minimize the recall bias, cross checks were made in the field itself.

General Factors of Cultivators In Coconut Cultivation

In this paper an effort has been prepared to analysis the general factors of cultivators in coconut cultivation. Cultivator has to pass through these general factors in coconut cultivation and it includes various variables such as, Existing Transport facilities, Availability of labourers, Loss of plants from pests, commission charged by intermediaries, satisfaction through government scheme, Existing infrastructure for Export, method of price fixation, price availability, existing finance facilities, interest charged and mode of collection by lenders, availability of market information, incurring of marketing cost, weighing procedure, conflict among traders in reducing price, availability of packing material, help rendered by staffs of agriculture department, protection of plants through government schemes, methods of fertilizers distribution, help rendered by coconut board and heirs entry into agriculture field. It can be analyzed with the help of percentage analysis and factor analysis. The details are given in table 1.

In among the twenty factors, 12 factors are agreed by more than sixty of percent cultivators in averagely. That factors such as Existing Transport facilities, Loss of Plants by Pests, Commission Charged by intermediaries, Satisfaction through Govt. Scheme, Price availability, Existing Finance facilities, availability of market information, incurring marketing cost, weighing procedure, help rendered by agriculture department, entry of heirs into the agriculture and help rendered by coconut board.

TABLE 1 PERCENTAGE ANALYSIS – GENERAL FATORS OF CULTIVATORS
Source: Primary data

Sl. No.	Variables	Highly Agree	Agree	Neither agree or disagree	Disagree	Highly disagree
1	Existing Transport facilities	-	122 (67.8)	5 (2.8)	53 (29.4)	-
2	Availability of Labourers	2 (1.1)	-	-	89 (49.4)	89 (49.4)
3	Loss of Plants by Pests	55 (30.6)	122 (67.8)	-	3 (1.7)	-
4	Commission Charged by intermediaries	-	158 (87.6)	10 (5.6)	12 (6.7)	-
5	Satisfaction through Govt. Scheme	-	87 (48.3)	6 (3.3)	87 (48.3)	-
6	Existing infrastructure for Export	-	35 (19.4)	31 (17.2)	114 (63.3)	-
7	Method of Price Fixation	-	45 (25.0)	1 (0.6)	125 (69.4)	9 (5.0)
8	Price availability	13 (7.2)	159 (88.3)	8 (4.4)	-	-
9	Existing Finance facilities	-	114 (63.3)	8 (4.4)	58 (32.2)	-
10	Interest charged and mode of collection by lenders	-	18 (10.0)	23 (12.3)	131 (72.8)	8 (4.4)
11	Availability of Market Information	-	145 (80.6)	-	32 (17.8)	3 (1.4)
12	Incurring Marketing cost	-	162 (90.0)	-	18 (10.0)	-
13	Weighing Procedure	-	105 (58.3)	2 (1.1)	32 (17.8)	41 (22.8)
14	Conflict among Traders	-	2 (1.1)	7 (3.9)	129 (71.7)	42 (23.3)
15	Need for Packing Material	-	16 (8.9)	72 (40.0)	53 (29.4)	39 (21.7)
16	Help rendered by Agriculture dept.	-	97 (53.9)	-	80 (44.4)	3 (1.7)
17	Protection of Plants through Govt. schemes	-	60 (33.3)	-	120 (66.7)	-
18	Methods of Fertilizers distribution	-	47 (26.1)	-	133 (73.9)	-
19	Help rendered by Coconut Board	-	156 (86.7)	-	24 (13.3)	-
20	Entry of heirs into the agriculture field	7 (3.9)	153 (85.0)	-	20 (11.1)	-

Note: Figures in parentheses indicates percentage

Factor analysis

This section computes the general factors of coconut cultivators in this study area and it enlighten analytical frame work of factor analysis. The co-variation among the variables is described in terms of a small number of common factors plus unique factors for each variable. These factors are not over observed. That details of factor analysis is given below

Mathematically factor analysis is somewhat similar to multiple regression analysis. Each variable is expressed as a linear combination of underlying factors. The amount of variance, a variable shares with all other variables included in the analysis, is referred to as communality (h^2). The communalities (h^2) factors with factor loadings of 0.5 or greater are considered as significant factors. In order to study the factors influencing the factors of cultivators towards the cultivation of coconut in Tenkasi taluk, the researcher has formulated 20 statements qualified by using Likert's five point scale.

The five point scale consists of highly agree, agree, neither agree or disagree, disagree and highly disagree. The score of each statement in the point scale if five, four, three, two and one respectively. The statistics of sphercity is Kaiser – Meyer – Oklin [KMO] test of sampling adequacy.Generally, a value is desired to be greater than 0.5. The correlation matrix was examined carefully and the two tests namely Bartlett's test of sphercity and Kaiser – Meyer – Oklin test were undertaken to test if it was judicious to proceed with factor analysis in the present study. The computed results are given in table.

TABLE 2
MEASURES OF SAMPLING IN ADEQUACIES

Measures		Estimated value
KMO Measures of sampling adequacy		0.63573
Bartlett's Test of Sphericity	Appropriate Chi-square	964.80164
	Significance	0.00000

From table 2, it has been observed that the Bartlett's test was significant with p=0.000, being less than 0.05 level. Sampling adequacy measured using the KMO of 0.63573 was taken as

acceptable. Thus the factor analysis may be considered an appropriate technique for analyzing the data. Result and interpretation for the factors of cultivators towards the cultivation of coconut in the study is given in table 3.

TABLE 3

ROTATED FACTOR MATRIX FOR GENERAL FATORS OF CULTIVATORS

Sl. No	Factors	Rotated Factor loading							h^2
		F1	F2	F3	F4	F5	F6	F7	
1	Incurring Marketing cost	0.77656	0.09813	0.19247	-0.19083	0.22772	0.06716	-0.03231	0.74355
2	Entry of heirs	0.73989	-0.04603	0.00025	0.07800	-0.09188	0.01594	-0.04895	0.56673
3	Interest charged by lenders	-0.54139	-0.12225	0.06811	0.52308	0.04913	-0.20922	0.11399	0.64548
4	Availability of Market Information	0.52351	-0.04427	0.24647	-0.26021	0.06035	0.40916	0.09589	0.58472
5	Loss of Plants by Pests	-0.10056	-0.70466	-0.08693	-0.07861	-0.15281	0.23085	-0.03342	0.59815
6	Help rendered by Agriculture dept.	-0.08656	-0.69157	-0.07182	0.20264	0.14802	0.00174	-0.09294	0.56253
7	Protection of Plants	-0.32962	0.59739	-0.16625	0.08472	0.66427	0.19325	-0.05544	0.54489
8	Conflict among Traders	-0.03699	0.55734	0.36755	-0.41047	-0.26215	-0.01764	0.04922	0.68703
9	Help rendered by Coconut Board	0.07791	-0.49752	0.45108	0.06993	0.12585	0.08232	-0.00191	0.48458
10	Availability of Packing Material	-0.01223	0.04127	0.89041	-0.04140	0.12241	-0.01011	0.04925	0.81157
11	Weighing Procedure	0.21742	0.03357	0.87684	-0.11072	0.06355	-0.07518	0.09382	0.84801

TABLE 3 – CONTD.

Sl. No	Factors	Rotated Factor loading							h^2
		F1	F2	F3	F4	F5	F6	F7	
12	Method of Price Fixation	-0.12651	-0.01477	-0.10851	0.75839	-0.09110	0.03616	-0.01081	0.61288
13	Availability of Labourers	0.15819	0.47759	-0.11817	0.64423	-0.06564	0.10740	-0.26771	0.76963
14	Existing infrastructure for Export	-0.02143	-0.06179	0.00749	058283	-0.10329	-0.05627	0.16290	0.38439
15	Commission Charged	0.15652	0.02820	0.00658	-0.12314	0.79060	0.10191	0.19861	0.71538
16	Price availability	0.10887	0.14736	-0.28255	0.14694	-0.71120	0.15704	0.16775	0.69361
17	Satisfaction through Govt. Scheme	0.19314	0.17240	0.07268	-0.06384	-0.01261	-0.76498	0.03641	0.66306
18	Existing Finance facilities	-0.50346	0.31371	-0.00667	-0.20291	-0.11425	0.53106	-0.07148	0.69329
19	Existing Transport facilities	-0.12295	-0.02647	-0.25149	0.05587	0.05306	0.13907	-0.77174	0.69992
20	Methods of Fertilizers distribution	-0.25918	0.05742	-0.12843	0.24801	0.15053	0.111685	0.66822	0.63130
	Eigen value	3.42240	2.34838	2.07048	1.68066	1.16493	1.15545	1.09840	
	% of variance	17.1	11.7	10.4	8.4	5.8	5.8	5.5	
	Cumulative percentage	17.1	28.9	39.2	47.6	53.4	59.2	64.7	

*Significance at 5 percent level.

The factors are designed on the basis of loaded variable, thus variables such as ‘Heir’s entry and Marketing’, ‘Plant protection and Help rendering’, ‘Packing and Weighing’, ‘Export and Labours’, ‘Commission and Price’, ‘Satisfaction and Finance’ and ‘Transport and Fertilizing’. Some variables in this category are important with high factor loading. It indicates

that among the various factors and that are identified as an important factors to influence the coconut cultivators towards cultivation of coconut.

Findings

Summary of Findings with Regard Percentage Analysis

- The study depicts that 88.3 per cent of samples agreed, that they are getting the average price for coconut.
- Out of sample cultivators, 63.3 per cent of samples have agreed and they are accepted existing finance facilities.
- The study observes that 67.8 per cent of samples have agreed that they are meet loss of plants by pests.
- The study reveals that 48.3 per cent each of samples agreed and disagreed, that they are equals satisfied and not satisfied through government scheme.
- The study discloses that 87.6 per cent of samples have agreed, that they are charged more commission by intermediaries.

Summary of Findings with Regard Factor Analysis

With regard to cultivation of coconut in Tenkasi taluks, twenty variables are converted into seven factors. The following factors are extracted to amplify the cultivation of cultivators in the study area are:

- Heir entry and marketing
- Plant protection and Help rendering
- Packing and Weighing
- Labours and Export
- Commission and Price
- Satisfaction and Finance
- Transport and Fertilizing

Suggestions

- Cultivators should be educated to screw the selling produce at right price, right way and store their produce till the situation is favorable to enjoy benefits.

- It is depicts from analysis that labour problem exist. This has been eliminated by introduce new scheme to labourers and that scheme explain their wages and working time. Also, continuously it provide labour to cultivators and it try to break off the unavailability of labourers through self help groups and rural employment scheme.
- Agriculture department should contact adequate awareness program for protective the plantation from pest and must prevent to rodent for creating rescue from cultivators.

Conclusion

The crop production is the major source of income for all farmers. But, they are engaged various sectors for improving their livelihood. Very rarely heirs of cultivator are involved in agriculture. But, the cultivators are encouraged.

Agriculture requires the support of farmer's society, agriculture product development board and government and it promote to help the economic growth of our country. Farmers are always facing problems for their produce. It is clear that cultivation's factors of coconut cultivators and their attitudes are considered to be the major factors to decide the research.

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