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ECONOMIC ANALYSIS OF BANANA CULTIVATION IN TIRUNELVELI DISTRICT

S.MEENAKSHI
PhD Part-Time Research Scholar in Economics**,**
Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli – 627012,
Tamil Nadu, India

Abstract

Banana cultivation has considerable economic importance. India alone contributes 25 per cent of banana production in the world. The export incomes from banana are to the tune of Rs.l8 crores annually. Hence, the current study is an try to analyse the effect of socioeconomic characteristics on the satisfaction of banana cultivation in Tirunelveli district of Tamilnadu.

The followings are the chief objectives of the present study.

1. To study the socio-economic profile of the sample banana cultivating farmers
2. To analyse the area and production of banana in Tamilnadu and Tirunelveli district
3. To examine the motivational factors to choose banana cultivation
4. To find out the average income generated from different varieties of banana cultivatedby the sample farmers and
5. To study the effect of socioeconomic characteristics on the satisfaction of banana cultivation.

The present study is carried out in Tirunelveli district of Tamilnadu, and 120 banana cultivating farmers selected by using simple random sampling method. The averages, standard deviation, compound growth rate, ANOVA, Garret ranking method, and chi-square test are done to inspect the difference between the socioeconomic statuses of banana cultivating farmers. The secondary data collectedwith the help of e-books, magazines, newspapers, research article, research journal, e-journals etc. The field survey was lead by personal interview method during the period from May 2017 to September 2018.The satisfaction of banana cultivationof the respondents and socio-economic characters relationship appliedto the chi-square test. The selected variables only applied to this model. The chi-square analysis reveals that the factors are sex and education are significant at 1% level. Age and varieties of banana cultivatedare significant at 5% level of significance. The banana cultivation price is not significant at 5% level.

Keywords: banana cultivation, agricultural output, export earnings, employment, compound growth rate, ANOVA, Garret ranking method.

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INTRODUCTION

The area under fruit crops is, therefore, increasing day by day[1]. Fresh and dry fruits are thus not only good food but also functional medicine[2]. Banana cultivation has considerable economic importance.India produces large quantities of banana, and there is an outstanding demand for both fresh fruits and processed banana in the world market, but the quality of the Indian banana is not up to the standard.The banana-growing belt of the world is within 30^0latitudes on either side of the equator[3].

Banana is rich in carbohydrates, sugar, vitamins, organic acids and minerals and these ingredients have an essential place in the human dietary system[4]. They are needed for athletic and fitness activity because they fill necessary carbohydrates, glycogen and body fluids burned during exercise[5] — the plant with or without bunches, cut at the base extensively employed for decorative purposes. Its popularity as a decorative plant is evident from its inclusion in the design of the paper currency of India[6].

Despite the vast quantity of production; the export of banana from India is meagre with hardly 1400 tonnes out of 8.1 million tonnes exported annually from other countries[7].

With the extraordinary growth rates in both 2011 and 2012, the Philippines touched the peak of its export recital in 2012 at 2.6 million tonnes, corresponding to 93.9 per cent of

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all exports from Asia[8]. India, Ecuador, Brazil and China alone created half of the total banana production[9].India alone contributes 25 per cent of banana production in the world[10]. The export incomes from banana are to the tune of Rs.l8 crores annually[11].

Banana has switched mango as the number one fruit of the country[12]. The banana fibre industry of Kerala in south India is manufacturing excellent articles such as table mats and screens[13]. The Indian banana grows black blemishes during ripening which makes them unfitting for exports, Chiquita banana does not transmit any blemishes on the skin and vend at around $1200 per ton in the world market[14]. Hence, the current study is an try to analyse the effect of socioeconomic characteristics on the satisfaction of banana cultivation in Tirunelveli district of Tamilnadu.

OBJECTIVES OF THE STUDY

The followings are the chief objectives of the current study.

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5. To study the effect of socioeconomic characteristics on the satisfaction of banana cultivation.

METHODOLOGY

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The present study is carried out in Tirunelveli district of Tamilnadu, and 120 banana cultivating farmers selected by using simple random sampling method. The averages, standard deviation, compound growth rate, ANOVA, Garret ranking method, and chi-square test are done to inspect the difference between the socioeconomic statuses of banana cultivating farmers. The secondary data collectedwith the help of e-books, magazines, newspapers, research article, research journal, e-journals etc. The field survey was lead by personal interview method during the period from May 2017 to September 2018.

Area and production of banana

The details of area and production of banana in Tamilnadu and Tirunelveli district, furnished in Table 1.

TABLE 1
AREA AND PRODUCTION OF BANANA IN TAMIL NADU **AND TIRUNELVELI DISTRICT**

Sl.No.	Year	Tamil Nadu state		Tirunelveli district	
		Area (in hectares)	Production (in tonnes)	Area (in hectares)	Production (in tonnes)
1.	2011-2012	87132	4203560	4163	67132
2.	2012-2013	89856	3599040	4086	320560
3.	2013-2014	85122	3132240	4175	153630
4.	2014-2015	82767	3069540	4152	153983
5.	2015-2016	84542	3543796	3815	267513
6.	2016-2017	76771	2836916	3204	136800
	Mean	84365.00	3397515.33	3932.50	183269.67
	Standard Deviation	4441.49	490699.23	381.63	93090.47
	Compound Growth Rate	-2.09%	-7.56%	-5.10%	15.30%

Source: Season and Crop Report of Tamil Nadu, Department of Economics and Statistics, Chennai-600 006 (Various issues).

From the table, it would be seen that area under banana in Tirunelveli district was 4163 hectares and 3204 hectares in 2011-12 and 2016-17, and the production under banana in Tirunelveli district was 67132 tonnes and 136800 tonnes in 2011-12 and 2016-17. Similarly, the area under banana in Tamilnadu was 87132 hectares and 76771 hectares in 2011-12 and 2016-17, and the production under banana in Tamilnadu was 4203560 tonnes and 2836916 tonnes in 2011-12 and 2016-17.The area under banana in Tirunelveli district had declined from 3204 hectares in 2016-17.

It also inferred from Table 1 that banana production, on an average over a period, was found to be higher than productionrecital of banana in Tirunelveli district. The average area over the period from 2011-12 to 2016-17was 84365 hectares area of banana cultivation

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3397515.33 tonnes production of banana cultivation in Tamilnadu. Similarly, the average area over the period from 2011-12 to 2016-17was 3932.50 hectares area of banana cultivation 183269.67 tonnes production of banana cultivation in Tirunelveli district.

The compound growth of the area of banana cultivation was -2.09 per cent, and compound growth of theproduction of banana cultivation was -7.56 per cent in Tamilnadu. On the other hand, compound growth of the area of banana cultivation was -5.10 per cent, and compound growth of theproduction of banana cultivation was 15.30 per cent in Tirunelveli district respectively.

TABLE 2

SEX–WISE CLASSIFICATION OF THE FARMERS

Sex	No. of Respondents	Percentage
Male	96	80
Female	24	20
Total	**120**	**100**

Source: Primary Data

This table reveals that 80% of the male farmers cultivate banana and 20% of the female farmers cultivate banana.

TABLE 3

AGE OF THE RESPONDENTS

Age (Years)	No. of Respondents	Percentage
20-30	24	20.00
30-40	26	21.60
40-50	35	29.20
50-60	21	17.60
60 & above	14	11.60
Total	**120**	**100**

Source: Primary Data

This table shows that 20% of the respondents belong to the age of 20-30 years, 21.6% of the respondents are 30-40 years, 29.2% of the respondents are 40-50 years, and 17.6% of the respondents are 50-60 years, and 60 and above the age of the respondents are 11.6%.

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TABLE 4

EDUCATION LEVEL OF THE RESPONDENTS

Level of Education	No. of Respondents	Percentage
Primary	13	10.80
High School	29	24.20
H.S.S	46	38.30
College level	22	18.30
Illiterate	10	8.40
Total	**120**	**100**

Source: Primary Data

This table shows that 10.8% and 24.2% of the respondents were completed their primary and high school level of education. 38.3% and 18.3% of the respondents were completed their higher secondary school and college-level respectively, and there were 8.4% of the respondents are illiterate too.

TABLE 5

SIZE OF LAND HOLDINGS

Land	No.of Respondents	Percentage
Below 2 acre	23	19.20
2-4 acre	25	20.80
4-6 acre	36	30.00
6-8 acre	24	20.00
Above 8 acre	12	10.00
Total	**120**	**100**

Source: Primary Data

The above table shows that 19.2% of the respondent having below 2-acre land, 20.8% of the respondents having 2-4 acre of land, 30% of the respondents are having 4-6 acre of land, 20% and 10% of the respondents are having 6-8 acres and above 8 acres respectively.

TABLE 6

VARIETIES OF BANANA CULTIVATED

Varieties of Banana Cultivated	No. of Respondents	Percentage
Nadu	54	45.00
Sakkai	22	18.33
Kathali	27	22.50
Red Banana	17	14.17
Total	**120**	**100**

Source: Primary Data

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Table 5.6 shows that 22.5% of the farmers cultivate kathali, 45% of farmers cultivate Nadu, 14.17% of the farmers cultivate red banana and remaining 18.33% of farmers cultivate sakkai.

TABLE 7

BANANA CULTIVATION

Cultivation (in Rs)	No. of Respondents	Percentage
Rs. 10000-15000	48	40.00
Rs. 15000-20000	56	46.70
Rs. 20000-25000	16	13.30
Total	**120**	**100**

Source: Primary Data

The above table represents cultivation **of** banana for a month (approximately). 39% of the respondents can get their cultivation level for Rs.10000-15000, 47% of the respondents can get their cultivation level for Rs.15000-20000, and 14% of the respondents can get their cultivation level for Rs.20000-25000.

Motivational Factors to Choose banana cultivation

The sample farmers were asked to rank the motivational factors to prefer banana cultivation based on their priority preferences. Table 8 demonstrates the motivational factor in preferring banana cultivation.

TABLE 8

MOTIVATIONAL FACTORS TO PREFER BANANA CULTIVATION

Sl. No.	Motivational factors	Average Score	Rank
1.	Continuous demand	60.43	II
2.	Suitability to land conditions	48.04	VI
3.	Less expenditure	51.58	V
4.	Self-interest	36.14	VIII
5.	To increase the family income	64.57	I
6.	Profitability	54.09	IV
7.	For the better standard of living	59.51	III
8.	Marketability	41.65	VII

Source: Computed from Primary Data

It is evident from Table 8 the prioritised motivational factors for choosing the occupation by the sample respondents in banana cultivation. It is inferred that by using Garrett's score.

The first rank for choosing the occupation was assigned to increase the family income,followed bycontinuous demand. Third and fourth ranks were given to a better standard of living andprofitability,respectively. Less expenditureand Suitability to land

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conditionswere ranked fifth and sixth, respectively — seventh and eighth ranks given to marketability and self-interest.

AVERAGE INCOME GENERATED FROM BANANA CULTIVATION

In order to study the average income generated by differentvarieties of banana cultivatedby the samplefarmers, the ANOVA used.

Null hypothesis: The average income generated from different varieties of banana cultivatedby the sample farmers is the same.

TABLE 9

Results ANOVA (One–way classification)

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	3526791435.601	32	162048301.824	41.052	.000
Within Groups	586132046.387	104	3670241.041		
Total	3642085014.752	119			

From the table it has been cleared that the value of 'F' is statistically significant; therefore the null hypothesis that the average income generated from differentvarieties of banana cultivatedby the sample farmers is the same is rejected, that is, the income generated from different varieties of banana growing is different.

TABLE 10

THE EFFECT OF SOCIOECONOMIC CHARACTERISTICS ON THE SATISFACTION OF OVERALL BANANA CULTIVATIONUSING THE CHI-SQUARE TEST

Factors	**Chi-Square Value**	**Result**
Sex	24.17	Significant**
Age	19.22	Significant*
Educational Qualification	31.01	Significant**
Land Holdings	4.01	Not Significant
Varieties of Banana Cultivated	12.56	Significant*
Banana Cultivation price	6.35	Not Significant

Source: Compiled from Primary Data

The satisfaction of banana cultivationof the respondents and socio-economic characters relationship appliedto the chi-square test. The selected variables only applied to this model. The chi-square analysis reveals that the factors are sex and education are

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significant at 1% level. Age and varieties of banana cultivatedare significant at 5% level of significance. The banana cultivation price is not significant at 5% level.

CONCLUSION

Banana farming was considerably contributing to the household income, which showed the importance of banana enterprise for strengthening the socio-economic conditions of farmers. Although farmers are getting a reasonable price for their production recently, the marketing system is still fledging. There is still more considerable market margin, and farmers are away from the reasonable price of their produces due to lack of market information. The Banana Producers Association, cooperatives need to work to solve various production and marketing problems such as storage, grading, processing, orchard management, disease and pest management procedures to increase farm efficiency of commercial production of banana in Tirunelveli district.