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A STUDY ON PRODUCTION OF BANANA WITH SPECIAL REFERENCE TO TIRUCHENDUR AND SRIVAIKUNDAM TALUKS OF TUTICORIN DISTRICT-TAMILADU

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Abstract
Banana is the most widely consumed fruit, and is an attractive perennial fruit crop for small farmers. This is due to its high economic gains throughout the year compared to other crops like rice and wheat. Among 29 districts of Tamil Nadu, Thoothukudi district ranks first in exporting banana. So Thoothukudi district is selected for the present study. The overall objective of the study was to examine production and marketing aspects in banana with some specific objectives. The agricultural development policy in the times of yore has intensified the interclass inequalities. Apart from the imputed value of family effort, the other effects like cost of production, on the whole income etc., are not favorable to the small farmers. This should be measured by the government. The government can pay notice by providing transport convenience, uphold good roads and providing finance assistance for suckers and fertilizers, so that the small and average farmers may be gained , which will enable the farmers to get a superior yield of banana.

In the vicinity of the study, two-third of the agriculturists are cultivating banana. Their agricultural lands depend on torrential rains. The greater parts of the lands are rain-fed areas. If the monsoon fails, then the farmers will be in hitch. In these circumstances, the government should shore up the agriculturists by granting financial assistance. The crop insurance is unwrapped for the measured recommended that has to be comprehensive to all the farmers. Different strategies should be adopted to reduce the losses taking place out of high humid content of the banana. The banana is also fatally affected by some ailment. Therefore, an enduring research station may be elevated to protect the banana from various syndromes. By examining various research results as one; the government generates awareness among the farmers concerning banana cultivation and may push more farmers to cultivate this precious food, which is greatly vital in our habitual diet system.

INTRODUCTION

Banana is one of the oldest fruits cultivated by man from pre-historic times. A reference to the banana in India frequently occurs in the Vedic literature, where mention is made of its use in religious rituals. Today, it is the leading tropical fruit in the world market with a highly organized and developed industry.

The English word 'banana' seems to have come from the term used for it in the languages of Guinea coast of West Africa and was probably made well known by the Portuguese navigators and explorers.About 691.2 lakh tones of banana are produced in the world annually and India is the largest producer of banana. It is cultivated in about 5, 53,000 hectares in India and the annual production is 16 million tones, Banana has replaced mango as the number one fruit of the country.[1]

India is one of the world's largest producers of farm commodities, and the second largest producer of fruits and vegetables. Agriculture accounts for about 14.7 percent of the country's total export earnings. It also has one of the world's largest agricultural research systems and relatively well-developed base for research and development and extension. In past four decades, India has become self sufficient in food grains and now has a surplus. Food grain production increased from 89.4 million tons in 1964-65 to 2.3 million tons in 2001 – 2002 with dissemination and adoption of green revolution technology.[2]

Uses of Banana

Part	Domestic uses	Industrial Uses
1. Fruits Pulp	Chips, Powder, Flour, Jam, Puree, Flakes, Jelly, Spread, Figs, Fritters, Juice, Beer, Wine and Animal Feed	Ethyl Alcohol
2. Peel	Jelly, Marmalade and Animal Feed	Ethyl Alcohol, Dye, Biogas, Shoe-polish and paste
3. Flower	Vegetable and Fry flower Arrangements	
4. Rhizome	Vegetable, Starch and Animal Feed	Medicines, paper and Dye
5. Pseudo stem Core	Vegetable, Starch and Animal Feed	Fiber
6. Leaves	Eating plates, Wrapping, Material, Medicinal and Animal feed	Fiber

Sources: Indian Horticulture, July – September, 1997, pp.27.

From the above table, it could be understood its uses. In addition to the above, Banana pulp is used for making chips, powder, flour, jam, puree, flakes, jelly etc. and also used for making Ethyl Alcohol. The peel can be used to remove the bad smell in palmolein oil. The flower of the banana plant is used in Southeast Asian, Telugu, Tamil, and Bengali, either raw or steamed with dips or cooked in soups and curries. Both the fleshy part of the petals and the heart are edible. The tender core of the banana plant's trunk is also used in Telugu, Bengali and Kerala cooking. Banana leaves are large, flexible, and waterproof. They are often used as ecologically friendly disposable food containers or as "plates" in South Asia and several Southeast Asian countries. Steamed with dishes they impart a sweet flavor. They often serve as a wrapping for grilling food. The leaves contain the juices, protect food from burning and add a subtle flavor. Along with other fruits and vegetables, consumption of banana is associated with a reduced risk of colorectal cancer and in women breast cancer and carcinoma. Individuals with a latex allergy may experience a reaction to bananas. The juice extract prepared from the tender core treats kidney stones and pressure. Bananas contain considerable amounts of vitamin B_6, vitamin C, and potassium. The latter makes them of particular interest to athletes who use them to quickly replenish their electrolytes. The banana plant has long been a source of fiber for high quality textiles. The banana shoots produce fibers of varying degrees of softness, yielding yarns and textiles with differing qualities for specific uses. For example, the outermost fibers of the shoots are the coarsest, and are suitable for tablecloths. Banana fiber is used in the production of banana paper. Banana paper is used in two different senses: to refer to a paper made from the bark of the banana plant, mainly used for artistic purposes, or paper made from banana fiber, obtained with an industrialized process from the stem and the non-usable fruits. The paper itself can be either hand-made or in industrial processes. Banana juice is extremely sticky and can be used as a practical adhesive. Sap can be obtained from the pseudo stem, from the peelings, or from the flesh. They have many uses, including as umbrellas.

PROBLEM FOCUS

From both literature and statistics, it is clear that Bananas are considered to be good for the Health. Bananas and plantains act as an aid to digestion. Consumers are becoming increasingly aware of the health and nutritive benefits of eating more fresh fruit like banana. The potential for banana consumption increases based on health reasons. Bananas are the main fruit in international trade and the most popular one in the world. Bananas are very delicate commodity on economic, social, environmental and political grounds. The share of banana trade in world banana production increased slightly in the last decades (from around 18% in the sixties and seventies to over 22% in the 1990s and 2000s). The banana industry is a very important source of income, employment and export earnings for major banana exporting countries, mainly in developing countries. To cope up with the increasing demand the area of banana cultivation is also expanding. In this situation it is necessary to study the prevailing banana economy in the study area and efficiency level of banana production .It was also found that growers face some specific problems in marketing. Hence, it was felt that it would be appropriate to make an in-depth study on banana, with the general objective is to examine the production and marketing aspects of banana which would pave way for the development of the same in Thoothukudi district.

OBJECTIVES OF THE STUDY

With the above generalization, the present study is formulated with the following specific objectives:

1. To identify the various reasons for cultivating banana and the satisfaction level of farmers in cultivating banana.
2. To analyze the production of banana.
3. To examine the problems faced by the farmers in cultivation of banana.

LIMITATIONS OF THE STUDY

This study is based on primary data collected from sample farmers and the market intermediaries by survey method. As many of the farmers have not maintained proper records about farming operations, they furnished the required information from their memory and experience and hence the collected data are subjected to recall bias. However, efforts have been taken to minimize the bias by including in the interview schedule, the questions that would facilitate cross checking. Hence, the findings of the study may be considered appropriate for the situations prevailing in the study area and extra care should be taken while generalizing the results.

SELECTION OF STUDY AREA

Among 29 districts of Tamil Nadu, Thoothukudi district ranks first in exporting banana. So this district was selected for the present study to study the production and marketing aspects. Thoothukudi district is divided into 8 taluks for administration purpose and 12 revenue blocks for rural and urban developments. Since the present study is on production of banana, two taluks namely Srivaikundam and Tiruchendur were selected for the study.

SELECTION OF FARMERS

For collecting the primary data one Revenue block from Srivaikundam taluk viz., Srivaikundam and one Revenue block from

Tiruchendur taluk viz., Tiruchendur were selected randomly. In total, 200 farmers were selected, 100 farmers from each blocks mentioned above. The distributions of sample farmers are given in the Table

DISTRIBUTION OF FARMERS IN THE STUDY AREA

S. No.	Taluk	Revenue Block	Number of farmers
1.	Srivaikundam	Srivaikundam	**100**
2	Tiruchendur	Tiruchendur	**100**
		Total	**200**

PERIOD OF STUDY

Collection of data was done during April to September of the year 2015 and the field enquiries were conducted during June to October of the year 2015.

METHODS OF COLLECTION OF DATA

In order to get an insight into physical and economic environments of the blocks, a reconnaissance survey of the blocks was undertaken. The primary data required for the study were collected through personal interview with the help of pre-tested comprehensive interview schedule. The schedule for the farmers covered aspects such as family size, educational status, occupation, cropping pattern, availability of land, both irrigated and rain fed, cost of cultivation, net returns from the crops, problem in production etc.

To understand the basic characteristics of this research in the study area, data about banana, its uses, cropping pattern, its features and other available facilities were collected from published and unpublished records available in various sources.

METHODS OF ANALYSIS

The data collected in the schedules were tabulated for subsequent analysis. Keeping in view the objectives of the study, appropriate methods of analysis were employed to the collected data by using SPSS and the results were discussed.

TOOLS USED FOR THE STUDY

The following statistical tools and representation were used:

1. Percentage method
2. Frequency tabular column method
3. Mean and deviation
4. Pie chart
5. Bar chart

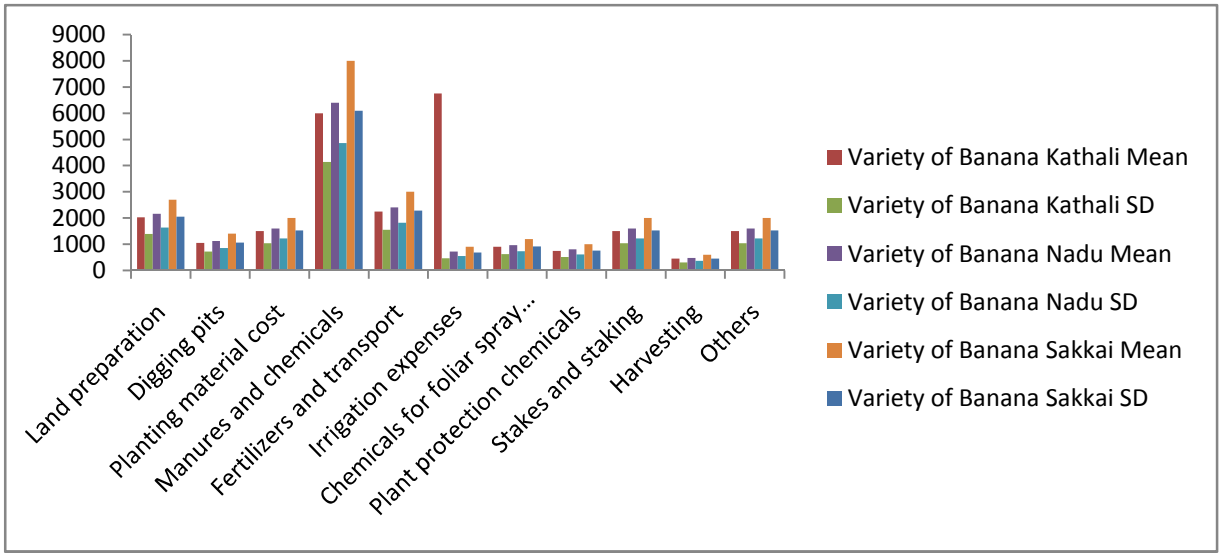
Frequency Distribution of farmers based on reason for cultivating banana

Reason for cultivating banana	Frequency	Percentage
Suitability to land conditions	102	51.0
Less expenditure	44	22.0
Profitability	12	6.0
Continuous demand	30	15.0
Marketability	12	6.0
Total	200	100.0

Frequency Distribution of farmers based on satisfaction level in cultivating banana

Level of satisfaction	Frequency	Percentage
Highly Dissatisfied	6	3.0
Dissatisfied	26	13.0
Partially satisfied	100	50.0
Satisfied	52	26.0
Highly satisfied	16	8.0
Total	200	100.0

Mean and SD of Cultivation Cost and variety of banana (in Rs)



Frequency Distribution of farmers based on problems faced in banana cultivation

Problems faced in Cultivation	Frequency	Percentage
Wind / Rain vicissitude	40	20.0
Root knot nematode	78	39.0
Leaf spot disease	82	41.0
Total	200	100.0

Findings

It can be observed that, 51% of the farmers cultivate banana because the land and soil is suitable for it and 22% of the farmers cultivate banana because it is less expenditure, 6% of the farmers cultivate banana because it yields more Profit, 15% of the farmers cultivate banana because it has Continuous demand and 6% of the farmers cultivate banana due to marketability. Compare to all other reasons most of the farmers prefer banana cultivation because the land and soil texture is suitable for it.

It can be noted that, 3% of the farmers are Highly Dissatisfied and 13% of the farmers are dissatisfied, 50% of the farmers are partially satisfied, 26% of the farmers are satisfied and 16% of the farmers are highly satisfied in cultivating banana. In total, most of the farmers are satisfied.

land preparation is 2025 with standard deviation 1396.01; mean value of nadu land preparation is 2160 with standard deviation Mean value of kathali 1642.2; mean value of sakkai land preparation is 2700 with standard deviation 2055.80 and mean value of total of land preparation 2160 with standard deviation 1581.2; mean value of kathali digging pits is 1050 with standard deviation 723.86.

Mean value of nadu digging pits is 1120 with standard deviation 851.47; mean value of sakkai digging pits is 1400 with standard deviation 1065.97 and mean value of total of digging pits is 1120 with standard deviation 819.88.

Mean value of kathali planting material cost is 1500 with standard deviation 1034.08; mean value of nadu planting material cost is 1600 with standard deviation 1216.38; mean value of sakkai planting material cost is 2000 with standard deviation 1522.81 and mean value of total planting material cost is 1600 with standard deviation 1171.26

Mean value of kathali manures and chemicals is 6000 with standard deviation 4136.33; mean value of nadu manures and chemicals is 6400 with standard deviation 4865.54; mean value of sakkai manures and chemicals is 8000 with standard deviation 6091.26 and mean value of total manures and chemicals is 6400 with standard deviation 4685.06

Mean value of kathali fertilizers and transport is 2250 with standard deviation 1551.12; mean value of nadu fertilizers and transport is 2400 with standard deviation 1824.58; mean value of sakkai fertilizers and transport is 3000 with standard deviation 2284.22 and mean value of total fertilizers and transport is 2400 with standard deviation 1756.90.

Mean value of kathali irrigation expenses is 675 with standard deviation 465.34; mean value of nadu irrigation expenses is 720 with standard deviation 547.37; mean value of sakkai irrigation expenses is 900 with standard deviation 685.27 and mean value of total irrigation expenses is 720 with standard deviation 527.07

Mean value of kathali chemicals for foliar spray + transportation is 900 with standard deviation 620.45; mean value of nadu chemicals for foliar spray + transportation is 960 with standard deviation 729.83; mean value of sakkai chemicals for foliar spray + transportation is 1200 with standard deviation 913.69 and mean value of total of chemicals for foliar spray + transportation is 960 with standard deviation 702.76.

Mean value of kathali plant protection chemicals is 750 with standard deviation 517.04; mean value of Nadu Plant protection chemicals is 800 with standard deviation 608.19; mean value of sakkai plant protection chemicals is 1000 with standard deviation 761.41 and mean value of total plant protection chemicals is 800 with standard deviation 585.63

Mean value of kathali stakes and staking is 1500 with standard deviation 1034.08; mean value of nadu stakes and staking is 1600 with standard deviation 1216.38; mean value of sakkai stakes and staking is 2000 with standard deviation 1522.81 and mean value of total stakes and staking is 1600 with standard deviation 1171.26

Mean value of kathali harvesting is 450 with standard deviation 310.22; mean value of nadu harvesting is 480 with standard deviation 364.92; mean value of sakkai harvesting is 600 with standard deviation 456.84 and mean value of total Harvesting of mean is 480 with standard deviation 351.38;

Mean value of kathali other cost is 1500 with standard deviation 1034.08; mean value of nadu other cost is 1600 with standard deviation 1216.38; mean value of sakkai other cost is 2000 with standard deviation 1522.81 and mean value of total other cost is 1600 with standard deviation 1171.26.

Mean value of kathali total cost of cultivation is 18600 with standard deviation 12822.63; mean value of nadu total cost of cultivation is 19840 with standard deviation 15083.17; mean value of sakkai total cost of cultivation is 24800 with standard deviation 18882.91 and mean value of total cost of cultivation is 19840 with standard deviation 14523.67.

It can be understood that 20 per cent of the farmers belong to wind/ rain vicissitude, 39 per cent of farmers belong to root knot nematode and 41 per cent of farmers belong to leaf spot disease. It can be noted that most of the farmers had problems in cultivation are root knot nematode and leaf spot disease.

CONCLUSION

The agricultural development policy in the times of yore has intensified the interclass inequalities. Apart from the imputed value of family effort, the other effects like cost of production, on the whole income etc., are not favorable to the small farmers. This should be measured by the government. In the vicinity of the study, two-third of the agriculturists are cultivating banana. Their agricultural lands depend on torrential rains. The greater parts of the lands are rain-fed areas. If the monsoon fails, then the farmers will be in hitch. In these circumstances, the government should shore up the agriculturists by granting financial assistance. The crop insurance is unwrapped for the measured recommended that has to be comprehensive to all the farmers. Different strategies should be adopted to reduce the losses taking place out of high humid content of the banana. The banana is also fatally affected by some ailment. Therefore, an enduring research station may be elevated to protect the banana from various syndromes.

By examining various research results as one, the government generates awareness among the farmers concerning banana cultivation and may push more farmers to cultivate this precious food, which is greatly vital in our habitual diet system.

SUGGESTIONS

Bananas and plantains are the second largest fruit crop and a very important staple food commodity around the world. In India it has got great socio economic significance. With the projected requirement of 25 million tones of banana of our

country by the year 2020, concerted efforts should be taken up to increase the production and productivity of banana, which calls for application of high tech methods in banana production such as micro propagation, high density planting, drip irrigation, integrated pest and disease management. Apart from the above mentioned points, care should be given to farmers who cultivate banana crop in areas like storage, utilizing the agricultural university resources to increase productivity in unit area, thereby reducing labour cost for matt management and increase the efficiency of utilization of inputs such as fertilizers and water.

By executing the following suggestions, would help them to promote the production of banana and thus lead to get better income and satisfaction of farmers. .

1. They may be encouraged to form an association only for Banana cultivators so that they can focus on the issues regarding banana cultivation
2. Training can be imparted to the farmers to adopt cultivating technology in order to get more yield
3. This training should teach them about deadly diseases which may damage the crop and the pesticides to eradicate them.
4. Journals should be released by the agricultural department in a simple language which will provide the in formations viz., updated technology, Manure, simple statistics, export policy, interstate marketing etc.
5. Small scale research centers may be formed in various places

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