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An Economic Analysis on Production of Banana Cultivation in Erode District of Tamil Nadu

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Abstract

Banana production is a premier horticulture crop in India. It has peculiar cultivation process and trade practices have been made by all type of farmers (small, medium, large size) in India. Bananas are the fifth largest agricultural commodity in world trade after cereals, sugar, coffee and cocoa. Bananas are grown in more than 150 countries, producing 105 million tonnes of fruit per year. Banana is a significant food crop and it has greater economic importance among the food crops, since it is one of the leading commodities in agricultural exports. Hence, the production performance of the crop is importance in improving the efficient use of resources. The cost of production and net returns obtained per unit would determine the profitability of the crop. The study is predominantly descriptive based on empirical in nature. The primary data was collected from various categories of Banana Cultivators. Secondary data was gathered from published documents. Suitable statistical tools have been used for analyzing the primary data. Gobichettipalayam, and Sathyamangalam Talucks in Erode district were randomly selected for the study. The nature of farmer's category also decided for productivity in terms of volume of acres they cultivated. The small growers who cultivated various type of varieties with less labour cost. Whereas, larger growers who spent more labour cost for all type of works which relates to the planting and maintenance, but they have potential, milch animals and tractors. Disk cutting plough equipment. According to the data analysis maintenance, planting cost are equal to small growers and large size farmers.

Key words : Production and productivity of banana cultivation.

I. INTRODUCTION

Banana production is a premier horticulture crop in India. It has peculiar cultivation process and trade practices have been made by all type of farmers (small, medium, large size) in India, mostly they belonged to fertile land. It involves a large number of operational activities at the beginning stage to harvesting stage, such as sugarcane and spices. The features of banana cultivation is periodical stages have accessed various maintenance works. The fruits variety has grown with suitability on seasonal geographical and soil type. The productivity and economical will be adoptable for banana growers on the basis of farm size, nature of maintenance, market feasibility band seasonal support (or) atmosphere where suitable with cultivation practices. besides, cost control with maintenance where belonged to organic in nature, timely cutting for matured fruits.

World Scenario of Banana Cultivation

The geographical area of agro-climatic niches in the different states and within the state exert a strong influence in the production of horticultural crops especially the banana. Being from tropical climate, bananas are available through out the year and can be harvested green and still ripen satisfactorily. Industrialized countries of northern hemisphere developed such a taste for improved bananas that they became the most valuable fresh fruit in the world, a position they held from the late nineteenth century.

Indian Scenario of Banana Production

Bananas are the fifth largest agricultural commodity in world trade after cereals, sugar, coffee and cocoa. Bananas are grown in more than 150 countries, producing 105 million tonnes of fruit per year. The global production of banana is around 102028.17 thousand tons of which India contributes 29.19%. Banana has an estimated production of 27.58 million tons in India which is highest in the world. An extent of 99.95% of this production is consumed within the country itself and only 0.05% production is exported. Major banana producing states in the country are Maharashtra, Gujarat, West Bengal and almost all the southern states.

Review of Literature

Ajay.A.R. et al (2018) have compared the Socio-economic impact of tissue culture banana with non tissue culture banana in Kenya. They found that, tissue culture banana production was relatively more capital intensive than sucker propagated banana production. However, tissue culture banana production was found to more profitable (yield from sucker propagated banana production was only 60% of that of yield from tissue culture banana production) compared to non sucker banana production.

Begum et.al (2019) stated that the average net profit per acre on banana cultivation was high in the case of medium size growers and medium to large size growers and low in the case of small size growers. Country capitalizes the opportunity in increasing the production of banana and productivity of banana can also be enhanced with scientific production technique.

Chavan et.al. (2020) examined that the majority of the farmers have cultivating banana had horticulture as their main source of income. The reason stated for non-enrolment in insurance was not lack of awareness or high premium rate but cumbersome administrative procedures and financial difficulty to pay premium at the pre-gestation

stages of cultivation. Even the farmers who had adequate financial resources were reluctant to pay premium in bulk, out of their own sources. Linking of a credit facility with crop insurance programme is found to be an inevitable condition for its success.

Kumar.L (2023) studied the performance of banana plantations in northern Karnataka. The study revealed as perceived by the farmers the major problems in cultivation of banana were severe incidence of *Musa servospora* disease in all the districts of northern Karnataka, the disease lead to heavy crop losses. Erratic onset of monsoon was another problem in Belgaum district affecting banana plantations.

Department of Horticulture Data base (2023) narrates that Australia regulations and programs have been put in place to improve the sustainability of the banana sector by modifying production systems and protecting the plant system and the environment in the process. Meanwhile, other countries such as India have started to promote the development of export markets and may thus be expected to become more active in supplying the voluntary sustainability standard market in the coming years.

Objectives of the Study

Under these circumstances the study was conducted with the following major objectives:

- (i) To study the Socio-economic background of banana farmers in the study area.
- (ii) To estimate the cost of cultivation and productivity of banana.

Statement of the Problem

Banana is a significant food crop and it has greater economic importance among the food crops, since it is one of the leading commodities in agricultural exports. Hence, the production performance of the crop is importance in improving the efficient use of resources. The cost of production and net returns obtained per unit would determine the profitability of the crop. The profitability of farmer depends upon the efficient use of the resource in production(cultivation).Therefore, factors have supporting to cultivation and marketing and expenditure practices are influenced by them or affecting by them in order to attain productivity, What are the inputs have supporting for productivity of Banana by the various categories of banana growers? Is there any relevance with utilization of resources and expenses towards cultivation? How for it associate with marketing practices and strategies of banana Grower's in order to increase productivity. Hence, this study makes an attempt to find the solutions towards increase of productivity of banana growers in Erode district.

Methodology

1. Data Collection

The study is predominantly descriptive based on empirical in nature. The primary data was collected from various categories of Banana Cultivators. Secondary data was gathered from published documents. Suitable statistical tools have been used for analyzing the primary data.

2. Area Of The Study

Gobichettipalayam, and Sathyamangalam Talucks in Erode district were randomly selected for the study.

3. **Sampling Techniques**

A four stage procedure was followed to select sample farmers. In the first stage, Erode district were selected. In the next stage, two blocks namely Gobichettipalayam and Sathyamangalam were randomly selected. In the third stage, 10 villages from each selected blocks were randomly selected. In the final stage, 25 farmers were randomly selected from each village.

Data Analysis and Interpretation

Socio Economic Background of Banana Farmers

The demographic factors have influenced for the part of economical growth among the agrarian community in India. The banana growers who have pertains to the horticulture and cash crop categories in they belonged to agricultural activities. The economic analysis on banana production and productivity have determined with their socio- economic background and indications of growth by the respondents the socio- economic background which is determined and influenced factor they have had experienced and chain promoters of commercial involvement and under knowledge about cultivation practise and environment, seasonal variation awareness marketing constraints, logistic and supply chain from various stake holders.

Block wise Distribution of Respondents

S. No	Selected Blocks	Respondents	Per cent
1	Gobi	199	40.9
2	Sathi	288	59.1
	Total	487	100

Source: Primary Data

Erode district has unique in cultivation of banana which is located in western parts of Tamil nadu state and nearest to the Western Ghats. These zone is familiar and suitable for banana cultivation either farmers effort and interest and soil condition, water source. In particularly, the variety of poovan, kedali and red banana are specialized which comes under domestic use (consumption) and export trade. These are the various reasons for selected blocks from this district namely satyamanagalam and gobichettipalayam. In particular, these regions are familiar for continuous production, practice of leaf cutting and fruit sales next to Tuticorin, Kanyakumari and Theni district. Table shows 59 percent of the respondents from sathyamangalam and 41 per cent of them from Gobichettipalayam.

Main occupation of the respondents

S. No	Main occupation	Respondents	Per cent
1	Banana Cultivation	306	62.8
2	Banana Cultivation is Substitute crop	115	23.6
3	Other Crops	66	13.6
	Total	487	100.0

Source: Primary Data

Farming activities and structure in India has several kinds of practice. Basically, Indian agriculture is heterogeneous type of work practices. In this context, main occupation which is engaged by the farmers who carry out the particular crops or only

cultivating any crops. The occupation which are relating to allied activity of agriculture (Poultry, Sericulture, Dairy farm etc.) Sometimes, they can engaged other than agriculture related work which is support for their survival. They are small business, service sector jobs etc., The determinants and influence of subsidiary occupation which contribute for banana productivity. There is a direct and indirect cost benefit analysis for agriculture allied activities. The input related expenses may be varied from allied agriculture activities. They are organic manure, less carriage charge for fertilizers. The bulk quantity sales may be differs from allied activities income. But productivity is meant for labour supply input cost, cultivation period depends on seasonal variation. Table shows that 62 percent of the respondents who engaged banana cultivation is a major occupation. The substitute crop for banana is 23 of the respondents, 13 percent of them are having other crops are substitute banana is major crop.

Distribution of Farm size

S. No	Particulars	Respondents	Per cent
1	Below 1 acre	34	7.0
2	2-5 acre	264	54.2
3	6-10 acre	172	35.3
4	11 and above	17	3.5
	Total	487	100.0

Source: Primary Data

Farm size is deciding factor on volume of production and yield by the farmers. But the support of modernized equipment and appropriate distribution of water management, we can have cultivated mass production in the limited areas of land. Mostly small farmers are engaged the banana cultivation in this study area. A very few of them are belonged the large size farmers. Even if, some of the farmers who cultivated their leased land (land lord or some others ownership). Thus, cultivation per acre is one of the major components for the determinant of productivity and maintenance of crops and land water management. Table shows that 57 percent of the respondents are cultivated up to 3 to 5 acres and 54 percent of the farmers have 2 to 5 acres of land. About 30 percent of the respondents are cultivated up to 2 acres only. Merely 12 percent of them are cultivated 6 to 10 acres.

Position of Land

S. No	Own and Lease	Respondents	Per cent
1	Own land	404	83.0
2	Lease	68	14.0
3	Both-Own land and lease	15	3.0
	Total	487	100.0

Source: Primary Data

One of the most crucial components of India's post-Independence land reforms initiatives was to impose restrictions on renting agricultural land, as this practice was seen as a remnant of the feudal system, which encouraged exploitation of small farmers and agricultural labourer by big landlords. While the imposition of such restrictions was considered progressive, it didn't provide a feasible alternative around how the landless or the small and marginal farmers would either own or have access to

agricultural land. Unfortunately, “land to the tiller” was merely limited to a catchy and ballot spinning slogan. With limited or negligible success of ceiling laws and Bhoodan in terms of providing land to the poor, under cover land leasing continued, in the absence of any other option for the poor to access land for cultivation.

Irrigation type

S.No	Soil type	Respondents	Per cent
1	Canal from river water	43	8.8
2	Bore well	138	28.3
3	Well	203	41.7
4	River water with motor	103	21.2
5	pump		
	Total	487	100

Source: Primary Data

Irrigation supply is deciding major input and elements of agriculture. If irrigation is canal and river based water supply which leads to less expenditure with abnormal supply of water distribution for banana cultivation. Table shows that 41 percent of them are having well-irrigation.

Labor cost with average price

Average price Labour cost	Rs 20 -30	Rs 31-40	Rs 41-50	Total
Men – Rs 350 Women Rs 170	15(100)	0(0)	0(0)	15(100)
Men – Rs 400 Women Rs 250	49(42.2)	17(14.7)	18(15.5)	116(100)
Total	156(32.0)	117(24.0)	214(43.9)	487(100)

Source: Primary Data

Labour cost per day is one of the determinant factors of productivity on banana. The price is differs from variety of banana and its duration of yield which covers labour cost. The labour cost is remain same with every variety of banana. But the deliverance of yield and preparation which requires may be extended or reduced on the basis of variety of banana.

Preference of varieties cultivated

S.No	Varieties	Respondents	Per cent
1	Poovan	15	3.1
2	Rasthali	116	23.8
3	Nendran	34	7.0
4	Kadhali	167	34.3
5	Red banana	119	24.4
6	poovan banana	18	3.7
7	Poovan Kadhali + Red banana	18	3.7
	Total	487	100.0

Source: Primary Data

The western Ghat region is renowned and familiar for banana cultivation. The suitability of soil, water supply, Geographical components for wind, seasonal variation and farmer's hard work. Therefore, several varieties have cultivated and supply to various domestic market and export also. Table shows that 34 percent of the respondents who preferred Kadhali varieties and 24 per cent of them are preferred red banana and 23 percent of them are preferred Rastali. The variety of pooven itself preferred merely 3 percent of the respondents. The variety of pooven and kadhali, red banana are preferred by the respondents upto 3 percent.

Summary of the Findings and Conclusion

Findings

1. It is noted that 59 percent of the respondents from sathyamangalam and 41 per cent of them from Gobichettipalayam.
2. Regarding age, 44 percent of the respondents who belonged to the age group of above 51 years and 36 percent of them are belonged to 41-50 years.
3. More than half of (62 per cent of them are engaged as a main occupation is banana cultivation
4. Regarding size of the farm , 57 percent of the respondents are cultivated upto 3 to 5 acres and 54 percent of the farmers have 2 to 5 acres of land. About 30 percent of the respondents are cultivated upto 2 acres only. A Meagre level (12 percent) of them are cultivated 6 to 10 acres.
5. Majority (83 percent) of the respondents have own land. Merely 14 percent of them are using others land as per lease agreement.
6. Regarding Awareness of horticulture, the farm size is upto 2-5 acre holders who aware about this subsidy scheme is 12 per cent and the category on 6 to 10 acre holders who aware about this scheme is 43 percent.
7. Regarding training and promotional activities by horticulture, 73 per cent of the respondents are participated training where conducted by the horticulture department. It is noted that 73 per cent of the respondents who joined as a member in Agri Business Consortium for facilitating their cultivation practices and marketing activities.
8. It is mentioned that , below half of the respondents who are using Well type irrigation (41 percent)Next to, 28 per cent of the are using Bore well water and 21 per cent of them are using River water. It is noted that 50 per cent of the respondents land soil type is Glay. It is noted that 78 percent of the respondent's preference of plant seed is traditional route system.
9. It is noted that 47 percent of the respondents are using organic manures and pesticides and 52 percent of them are using both organic and chemical pesticides, manures. It is mentioned that below half of (43 percent) the respondents who prepared their own farm. Remaining 27 percent of them are processed from nearby farmer's farm.
10. It is mentioned that the average price of "Pooven" variety banana and its labour cost per day for man Rs 450 and women Rs.170 covers the average price for Rs. 41-50 is at 45 percent and Rs. 20-30 is 28 percent. More than 25 per cent and below half of the per cent of the respondents who preferred to cultivate the variety of banana are Kedeli, Red banana, Pooven.

II. CONCLUSION

The determinants of economic analysis for production which pertaining to their operational cost (planting, maintenance, harvest related) and output deliverance (yield) from their effort. The nature of farmer's category also decided for productivity in terms of volume of acres they cultivated. The small growers who cultivated various type of varieties with less labour cost. Whereas, larger growers who spent more labour cost for all type of works which relates to the planting and maintenance, but they have potential, milch animals and tractors. Disk cutting plough equipment. According to the data analysis maintenance, planting cost are equal to small growers and large size farmers. The labour charge and nature of sales practices have differs from the category of farmers (farm size, irrigation usage, leaf sales). The logistic approaches and functions have maintained by the large size farmers in order to domestic sales and export sales, regarding, horticulture department intervention have facilitated and promote for overall cultivation input related support where access by the larger growers. Thus small quantum of operational activities which are lead by banana growers with various varieties and leaf sale also maintained with profitability and economic parameters of productivity. If they engaged only bulk quantity of (volume of output) similar variety, they will have faced constraints for periodical expenditure with their family survival (because, the net income from banana is getting after 10 months from the planting. Therefore, production and productivity of banana by the small growers and larger farmers are balanced expenditure during maintenance and margin of profit earned during harvesting.

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