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Research Paper Marketing

Productivity Trend of Guava

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ABSTRACT

Guava production was vital for the over all growth of Horticulture as it contributed to nearly 4 per cent of the total fruit production. Each part of the Guava tree possessed much of economic value. Being rich in folic acid, dietary fiber, potassium and in dietary minerals, Guavas had often been included among the various super fruits. Even though India had been the leading producer of Guava in the world, the productivity of Guava in India had been the lowest among the Guava producing countries. The study area namely the Dindigul district had been very famous for the Guava Cultivation. More especially the Blocks around the Dindigul District had been contributing the maximum quantity of Guava to the Dindigul Market. Aayakudi village had been famous in Tamil Nadu for the Guava production. Considering the vital role that Guava had in the economy of India, there was a need to analyse the area, yield and production of Guava in India, Tamil Nadu and Dindigul district.

KEYWORDS: Productivity growth trend of Guava

1. Introduction

The Horticultural sub-sector, comprising of fruits, vegetables, flowers, medicinal and aromatic crops, plantation crops, spices, coconut and cashew had emerged as a key prime mover of growth for the Agricultural Sector and for the Indian economy over the last two decades. The sector's potential for enhancing agricultural production, employment generation and value addition had been well recognized. Horticultural crops had been the important sources for earning Foreign Exchange for the country. These crops provide the nation's nutritional requirements and also meet the demand for the protective foods due to the changing preferences of the consumers due to their changing lifestyles.

According to the National Horticulture Mission, 2005, Agriculture had contributed to about 12 per cent of the State Gross Domestic Product, while the share of Horticulture to the State Gross Domestic Product had been estimated to be 3.5 per cent. The Area under Horticulture was 8.24 lakh Hectares and it had emerged as a core sector in Agriculture passing through the various phases, with a coverage of nearly 20.1 Million Hectares having an annual production of 214 Million Tonnes.

A large variety of fruits are grown in India, and among them mango, banana, citrus, Guava, grape, pineapple and apple had been the major ones. Fruits and vegetables were rich sources of vitamins, minerals, proteins and carbohydrates, which were essential for human nutrition. India produced 40 per cent of the tropical fruits, against Asia's production of 90 per cent. The Total Production and Area of fruits had been estimated at 43.1 Million Tonnes and 4.01 Million Hectares respectively, which had accounted for 10 per cent of the Total world's production of fruits which was Second only to that of Brazil.

The emphasis on Horticulture was a recognition of the need for attaining nutritional security and for earning a sustainable income. Healthier diets improved the learning capacity of the children and the working capacity of the adults, leading to higher incomes and a reduction in poverty levels. According to Professor Chacha and others, the number of calories available in 100 grams of fruits, of dates had been numbered as 281; in avocado pear as 190; in banana as 95; mango as 70, apple as 56, grapes as 45, orange as 53, and Guava as 66.

2. Statement of the Problem

India, the fruit basket of the world had been the first leading producer of Guava, having a 45 per cent share of its production in the World. Guava production was vital for the over all growth of Horticulture as it contributed to nearly 4 per cent of the total fruit production. According to IDF Diabetes Atlas, 4th edition, India had the second largest number of people with diabetes next to Europe. One in 8 among Indian adults either had or had a high risk of Diabetes. It was a well known fact that Guava fruit as well as its leaves had acted as agents in controlling blood sugar.

Each part of the Guava tree possessed much of economic value. An extensive survey had revealed that Guava had a long history for its traditional use as a cure for a wide range of diseases. According to Baby Joseph, the leaf, the fruit, bark, root, seed and twigs of Guava tree all had medicinal properties. Being rich in folic acid, dietary fiber, potassium and in dietary minerals, Guavas had often been included among the various super fruits. Guava was available at a very moderate price in the markets and even from the street-vendors till the recent past. It was sold in numbers till recently but, at present, it is weighed and sold. Now, it has got an "honorable place" along with apples, oranges, grapes and bananas in the sophisticated fruit shops. Quite naturally, its price had also gone up in recent times.

Even though India had been the leading producer of Guava in the world, the productivity of Guava in India had been the lowest among the Guava producing countries. The study area namely the Dindigul district had been very famous for the Guava Cultivation. More especially the Blocks around the Dindigul District had been contributing the maximum quantity of Guava to the Dindigul Market. Aayakudi village had been famous in Tamil Nadu for the Guava production. Considering the vital role that Guava had in the economy of India, there was a need to analyse the area, yield and production of Guava in India, Tamil Nadu and Dindigul district.

3. Review of Literature

A Review of the research studies carried out in the past related to the present study had been presented in this section. Studies conducted on Guava had been very few in their numbers as it was one of the minor fruit crops. Therefore the studies on an economic analysis of the other fruit crops had also been included in the review.

Shivanand in his study entitled, "Performance of Banana Plantation in North Karnataka-An Economic Analysis", had highlighted the growth rates in Area, Production and Productivity of Banana in North Karnataka. The Growth rates in Area (6.69%) in the Karnataka State between 1980 and 2000 had been found to be substantially greater than all the other major banana growing States as also that of the all India average.

Chinnappa in his study on "Marketing of Guava in Karnataka: An Analysis of Problems and Costs", had analysed the information obtained from 60 producers in the Devanhalli and the Bangalore taluks (30 from each taluk) in the Bangalore District, Karnataka, India. The Total Marketing Costs incurred by producers was ` 168 per Metric ton of which the commission charges had accounted for 45 per cent. It had been concluded that the present marketing system had not been efficient as evidenced by the high marketing costs and the many problems faced by the growers. Market regulations and the minimum price support mechanism were thus needed to safeguard the interests of the growers.

Malar Mathi and Pandey in their study entitled "Marketing of Guava in Allahabad District, Uttar Pradesh" had found that the marketing of Guava to the processing units and then in its due turn to the customer was done mainly through the five channels; namely,

- Producer PHC WS/CA Processor Consumer Channel;
- Producer PHC Processor Retailer Consumer Channel;

- Producer PHC Processor CA Consumer Channel;
- Producer PHC WS Processor WS Consumer Channel; and the
- Producer PHC WS Processor WS Retailer Consumer Channel

He had also added that the Channel I was found to be more efficient than the rest of the channels, as the product had directly reached the customers in that Channel.

4. Objectives of the study

- ★ To know the Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in India,
- ★ Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in Tamil Nadu and
- ★ Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in Dindigul District of Tamil Nadu

5. Sampling Design

The overall objective of the study had been to understand the Production and the Marketing of Guava and hence the selection of the area had been made around the major production and the marketing centres of Guava. From the Horticultural stand point of view, the Dindigul District had numerous special features, of which, the first and the foremost one was the prevalence of Three distinct climates, namely, the Temperate, the Subtropical and the Tropical climates. No other Districts in the Tamil Nadu State had such unique agro climatic zones within the same District. Accordingly, the Dindigul District had been selected as it stood First in the cultivation of Guava with an area of 1229 Hectares during the year 2009-2010 in Tamil Nadu. The Dindigul District comprised of 7 taluks. Guava was mainly cultivated in the Ottanchathiram and the Natham taluks while in Kodaikanal, Nilakottai and the Dindigul Taluks Guava was cultivated here and there and in negligible proportions. In the Vedasandhur and the Palani taluks Guava was not at all grown. Hence the selection of the sample villages had been restricted to the 2 taluks only.

In both these taluks, there is no organizational cultivation of Guava as such. No association of cultivators either in the form of the co-operative societies or in the form of local welfare cartels exit in the study area. Therefore no data was readily available about the exact number of farmers cultivating Guava. However, large numbers of cluster farming approaches were found which were almost equally distributed in both these taluks. According to the Reports of NABARD any sample size of between 300 and 500 was suitable for studying the issues related to agricultural farming, particularly about the fruit crops. Hence, in consultation with the Officials of the Horticultural Department and the experts in the fields of Food and Fruit crops the Researcher had decided to select 400 Guava cultivators; 200 each from the respective Two Taluks of Oddanchathiram and Natham. The chosen cultivators were then classified into Marginal farmers and Small farmers based on their land holdings. Farmers holding less than 2.5 Acres under Guava Cultivation were classified as Marginal Farmers and those who held between 2.5 Acres and 5 Acres were classified as small farmers. Accordingly 107 marginal and 92 small farmers from the Oddanchatram Taluk and 103 Marginal and 98 Small farmers from the Natham Taluk making a total of 400 Guava Farmers had formed part of the Sample Size.

6. Methodology

The study is primarily based on secondary data. The data were collected from various journals, books and Guava statistics published by the National Horticulture Board, Directorate of Horticulture, Chennai, the Indian institute of horticultural Research, Bangalore and Agricultural University in Tamil Nadu and also from websites

7. Analysis of the study

The study aims to analyse the trend, growth and variability position of guava in India, Tamil Nadu and in particular Dindigul District, the study area. The study analysed the situation from area, production and productivity point of view.

Guava Cultivation in India

Guava had been produced in all parts of the Nation since a very long period of time. As it was an agricultural crop with a high potential for maintaining Health, every State had been taking active steps to cultivate Guava in the areas most suitable for its propagation. The Total area under Guava Cultivation in India had increased quite significantly from the Mid-Nineties.

I Compound Growth Rate and the Magnitude of Variability

The Annual Compound Growth Rate in the Area, Production and the Productivity of Guava and the Co-efficients of variation in India had been presented in the Table 1.

TABLE 1
Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in India from 2000-01 to 2009-10

Particulars	Semi-log		R^2	CGR (per cent/per annum)	CV (per cent)
	Constant	Regression co-efficient			
Area	5.144 (0.013)	0.016 (0.002)	0.890	3.75	12.70
Production	6.380 (0.179)	–0.037 (0.029)	0.172	–8.81	31.78
Productivity	4.236 (0.187)	–0.054 (0.030)	0.196	–13.24	12.70

CGR – Compound Growth Rate.

CV – Co-efficient of Variation.

A. Growth Rate

It could be seen from the Table 1 that the Guava production in India had been reduced heavily to the tune of 8.81 per cent per annum during the period of 2000-01 to 2009-10. The Area had increased significantly at the Compound Growth Rate of 3.75 per cent per annum and Productivity had decreased at the Compound Growth Rate of 13.24 per cent per annum respectively. Thus, it could be observed that the decrease in Production had occurred and it might be due to the Guava Wilt Disease and the poor storage facilities that were available.

B. Magnitude of Variability

It could also been seen from the Table 1 that the Guava Production in India had experienced a considerable variation of about12.70 per cent during the Period under Study. The variation in Productivity was found to be 31.78 per cent whereas it was 12.70 per cent in case of the Area under Guava Cultivation.

II The Compound Growth Rate and the Magnitude of Variability of Guava in Tamil Nadu

The Compound Growth Rate and the Magnitude of Variability of the Area, Production and Productivity of Guava in Tamil Nadu had been presented in the Table 2

TABLE 2
Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in Tamil Nadu from 2000-01 to 2009-10

Particulars	Semi-log		R^2	CGR (per cent per Annum)	CV (per cent)
	Constant	Regression co-efficient			
Area	9.119 (0.063)	–0.005NS (0.010)	0.024	–1.158	8.80
Production	10.670 (0.098)	0.096** (0.016)	0.822	24.738	30.59
Productivity	8.459 (0.117)	0.100* (0.019)	0.780	25.892	31.04

*Significant at the Five per cent level.

**Significant at the One per cent level.

NS–Not Significant.

A. Growth Rate

It could be seen from the Table 2 that during the period under study 2000-01 to 2009-10 the Area under Guava Cultivation had decreased by 1.158 per cent and the Productivity had increased by 25.892 per cent per annum. There had been an increase in the output of Guava during the study period under Review by 24.738 per cent per annum.

B. Magnitude of variability

It could also be observed from the Table 2 that the Guava production during the period under study had recorded a considerable variation to the extent of nearly 30.59 per cent. For the same period, the rate of variation in Productivity was found to be 31.04 per cent and for the Area it was found to be 8.80 per cent.

III Compound Growth Rate and the Magnitude of Variability in the Dindigul District of Tamil Nadu

The Annual Compound Growth Rate in the Area, Production and Pro-

ductivity of Guava in the Dindigul District in Tamil Nadu and their Magnitudes of variability had been furnished in the Table 3

TABLE 3
Trend, Growth Rates and the Magnitudes of Variability of Guava Cultivation in the Dindigul District of Tamil Nadu from 2000-01 to 2009-10

Particulars	Semi-log		R^2	CGR (per cent per annum)	CV (per cent)
	Constant	Regression co-efficient			
Area	7.377 (0.145)	-0.052NS (0.023)	0.379	-12.720	26.97
Production	8.931 (0.127)	0.048* (0.020)	0.413	11.686	21.97
Productivity	8.461 (0.118)	0.100* (0.019)	0.775	25.892	31.03

*Significant at the Five per cent level.

NS–Not Significant.

A. Growth Rate
It could be observed from the Table 3 that over the period of 2000-01 to 2009-10 under Study, the Production of Guava had increased at the Annual Compound Growth Rate of 11.686 per cent per annum. It could also be found that the Area under the Guava Cultivation had decreased at the Compound Growth Rate of 12.720 per cent per annum, whereas the Productivity had increased at the Compound Growth Rate of 25.892 per cent per annum. Thus it could be observed that, the reason for the increase in production might have been due to the good adaptability of the Guava for a wide range of climatic conditions.

B. Magnitude of variability
From the Table 3, it could also be observed that the Dindigul District had recorded a variation of 21.97 per cent in respect of production; 26.97 per cent in respect of the Area and a 31.03 per cent variation in the case of the Productivity of Guava.

8.Suggestions
The results of the study shows that the overall growth rate of Guava in the national level -area wise, production wise and productivity wise show poor performance. Hence the government should provide good storage facility at nominal rate to producers of Guava, transport facility for marketing, collection centers at prominent places for produce and should ensure fair rate to increase the productiviy.

9. Conclusion
The position of Dindigul, the study area, shows a favourable position in production, productivity and area under cultivation. The Tamil Nadu government should maintain and improve the same also.

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