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Eastern HIMALAYAS CULTURAL DIVERSITY



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Eastern Himalayas. Cultural Diversity

First Volume

Editors

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An Analysis of Pineapple Production in Eastern Region: A Review

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Abstract

With more than 8% of the world's pineapple production, India is the fifth largest pineapple producer. India stands to benefit greatly from this because of the crop's high level of production and its status as one of the most commercially viable crops. Eight north-eastern states of India including West Bengal, Assam, Meghalaya, Arunachal Pradesh, Manipur, Mizoram, Tripura and Nagaland place a major share in the production of pineapple with West Bengal being at the top spot. This paper aims to analyse the changing prospects in pineapple production over the period of years in terms of allocated area and produce obtained. Through a variety of economic indicators, the paper also demonstrates the shifting picture of trade production, opportunities, and revenue.

Keywords: Livelihood, Socio-economy, Pineapple, DGCSI, AGRICOOP, WBSIDC, Herfindahl-Hirschman index

1. Introduction

According to Food and Agriculture Organization (FAO 2017), India is the fifth largest producer of pineapple in the world. Most of the pineapples produced in India is confined to Himalayan Belt in India. As the population of India is very high, therefore maximum produced pineapple are consumed by Indian people itself and the rest are being exported.

Over the study period, state with highest production was west Bengal and that with the highest productivity among the sample states is also West Bengal. Production of pineapple needs humid climate with temperature ranging between 22 degrees to 32-degree Celsius. Pineapple has a lot of potential to turn into value summation and its taste is accepted by most classes of people as a refreshing drink in summer. Pineapple is one tropical fruit eaten fresh or processed contains many nutrients good for human health(Chaudhary et al.)¹. Pineapple fibre is used for making cloth and also at times combined with silk or

polyester to manufacture textile fabrics, it is also used for table linen, mats and other clothing items (Hazari, Dipshika, et al.)². Considerable international demand for processed pineapple products and also on view level of market concentration of pineapple growing in the northern districts of West Bengal, an Agri-export zone has been set up in this area.

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Pineapples that are grown in India are of different varieties, some of the important varieties cultivated in different states of India are given below:

States	Varieties of Pineapple Grown
Assam & Other North-eastern States	Queen, Kew, Mauritius
West Bengal	Giant, Kew, Queen

Pineapple being a major commercial crop in world market is suitable for better export performance and fetch in the desired foreign reserves. With a potential to development into an international trade for horticulture various government programmes have been implemented for improving credit facilities, irrigation and various production plants have been set up in the region. The growers usually dispose off their produce at the farm gate to the middlemen. Majority of the cultivators sell their crop either through trade agents at village level or commission agents at the market. The average yield is 50-80 tonnes/ha. depending upon spacing and cultural practices (Saloni et al.)³.

II. Objectives

- To analyse the change in productivity of Pineapple production in Eastern Himalayan states as against Rest of India.
- To study the changing pattern in market concentration of Pineapple production over the period of years.

III. Methodology

The study is based on secondary data obtained from various sources such as DGCSI, AGRICOOP, WBSIDC etc. It is an exploratory study conducted for the period between 2015-2021. Following methods have been adopted:

- Since the main focus of study lies in analysing the production of Pineapple in North eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal.
- The data have been obtained particularly for these states particularly and for rest of India to create a comparative analysis.

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- State wise data of area allocated for production of pineapple is used to obtain the productivity which broadly pictures of each state in the production.
- As pineapple is produced in several states of India but the best qualities and a major quantity are obtained from north eastern India. Hence in order to check Market concentration Herfindahl-Hirschman index has been obtained.
- The HHI has been obtained separately for each year to analyse its trend. The tabulations have been done manually using Excel and power point as necessary

IV. Findings

The table (National Horticulture Board, Estimates)⁴ given below shows the productivity per hectare of West Bengal and other North-eastern Himalayas regions taken up for the study purpose namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Table 1: Yearly Productivity per Hectare, Source: National Horticulture Board

Year	West Bengal	Other NE Himalayan States
2015-16	30.01	17.52
2016-17	30.01	16.72
2017-18	30.25	16.56
2018-19	30.48	16.43
2019-20	30.12	16.39
2020-21	29.90	17.04

Yearly Productivity per Hectare

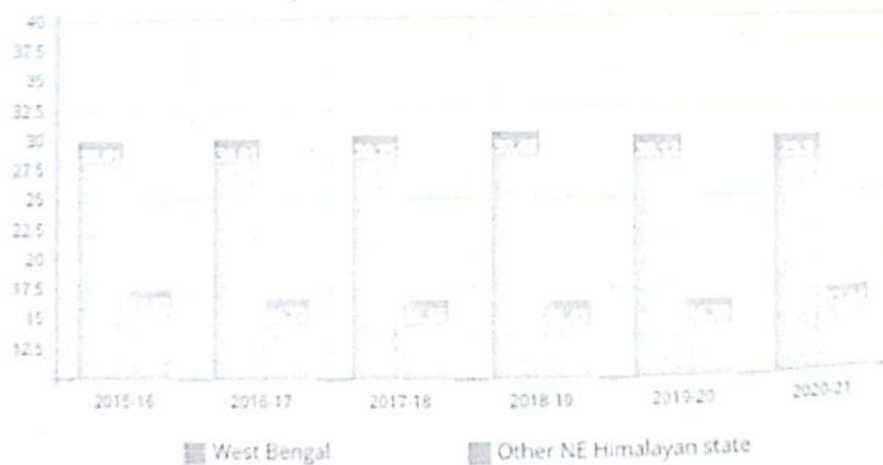


Figure 1: Yearly per Hectare Productivity

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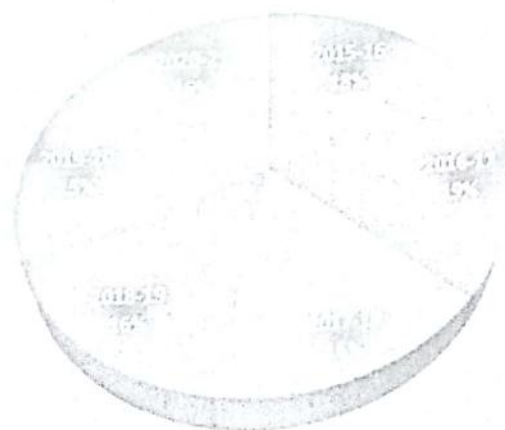
From the analysis of the table, it can be seen that out of the eight states covered for the study, West Bengal produces the major share of Pineapple in India. However, the per hectare productivity of Arunachal Pradesh is the lowest. Analysis of the data published by National Horticulture Board reveals that the average productivity of West Bengal is more than thrice the productivity of India.

Herfindal-Hirschman Index (HHI) is a statistical measure that shows the Market concentration ratio. Table 2 shows the Market concentration ratio of Pineapple production and to obtain this Herfindahl-Hirschman index has been used. The HHI is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. The HHI takes into account the relative size distribution of the firms in a market

Table 2: Herfindal-Hirschman Index

Year	HHI
2015-16	1983.46
2016-17	2138.89
2017-18	1739.55
2018-19	1753.64
2019-2020	1696.35
2020-21	1835.82

Figure 2: Herfindal-Hirschman Index (calculated)



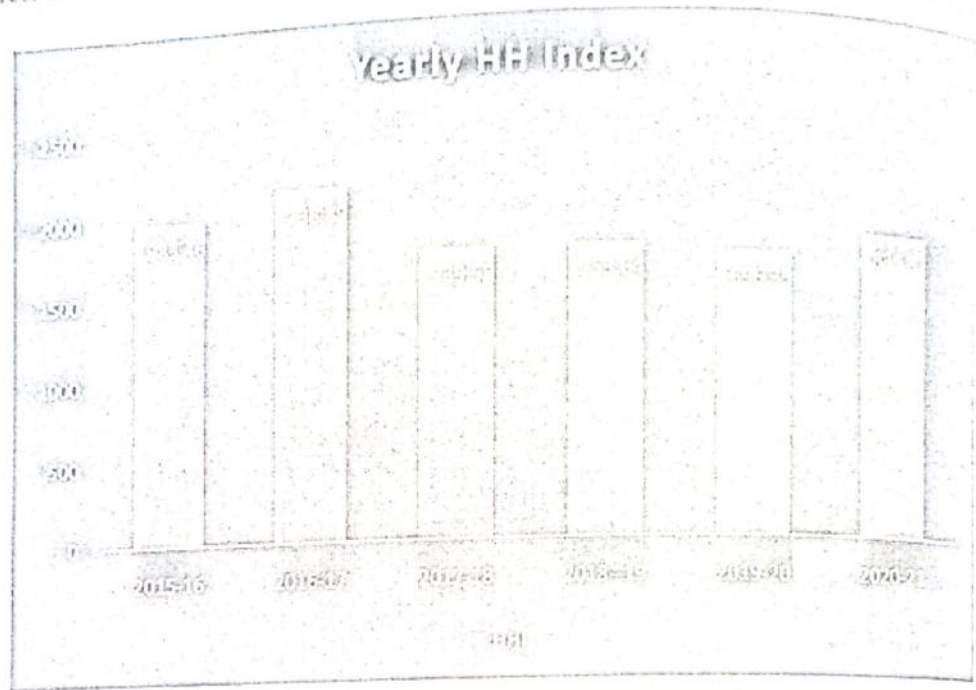
■ 2015-16 ■ 2016-17 ■ 2017-18 ■ 2018-19 ■ 2019-20 ■ 2020-21

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HHI approaches zero when a market is occupied by a large number of relatively equal size and reaches its maximum of 10,000 points when the market is controlled by a single firm. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases. HHI between 1,500 and 2,500 points is moderately concentrated, and markets in which the HHI is in excess of 2,500 points is highly concentrated.



(Figure 3: Yearly Herfindahl-Hirschman Index)

The dataset reveals that HHI was 1983.45 in 2015-16 which subsequently decreased to 1696.34 in 2019-20 and then is currently at 1835.82 in 2020-21. The study shows that the market is moderately concentrated for pineapple production in North Eastern states over the study period.

V. Result and Discussions

The climate and soil being relatively suitable for horticulture the govt of India chose to set up Agri-export zone for pineapple in West Bengal and Tripura. India currently produces approximately 8% of global pineapple and the eight North eastern states have a major share in that production. However, the study reveals that over the period of study the level of productivity for sample states has either declined or have remained constant.

West Bengal has the highest production and productivity among all states in India. However, it's area allocated and the productivity hasn't varied over the period of time. Considering the much-needed boost to the production of

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Pineapple the govt announced it as the state fruit of Tripura in 2018 and made the Agri Export Zone Scheme for the entire North East Region at Tripura. Under this scheme, enhanced international market access would be provided to the farmers besides necessary infrastructure, flow of credit transport assistance and other facilities for promoting agricultural export through pineapple cultivation. Also, the HHI indicates that the market is moderately concentrated however considering the global produce of 8% the eight states have been performing relatively well. The major recommendations as pointed out by researchers (Farid Hossain)⁵ are banning the use and marketing of health hazard unauthorized chemicals such as hormone, pesticide, preservative etc and seizing the unauthorized chemicals, sprayer and imposed fines on guilty people through mobile courts. The pineapple production in the north eastern states can be referred as untapped potential because of the worth it holds in commercial market and the level of productivity these states have. With proper investment and credit schemes, irrigation facilities, warehousing these can be exhausted to some extent. However, the major play in this would be determined by the assured market access facilities as most of the regions is suffered by difficult terrain and restricted transport facilities. Minimum Guaranteed Price and credit availability are also inevitable.

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