



# A STUDY ON DYNAMICS OF AREA AND PRODUCTION OF COTTON IN TAMILNADU

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**Abstract:** Cotton is one of the major crop in India which plays a dominant role in both industrial and agricultural sector of the country. It provides direct livelihood to 6 million farmers in the economy and about 40 to 50 million people are directly employed in cotton production and trading. The Central zone of the country which includes the states such as Gujarat, Maharashtra and Madhya Pradesh was the biggest producer of cotton in India and the Southern Zone which includes the states like Telangana, Andhra Pradesh, Karnataka and Tamilnadu is the second largest producer of Cotton in India. According to the records all Indian cottons in the 13<sup>th</sup> century were perennials and they are cultivated recently. The bushy perennial forms are grown in remote villages of Rajasthan, Uttar Pradesh and Andhra Pradesh. The Rozi cotton belonging to G.arborrem was supposed to the ancient commercial type. Further the perennial Nadan cotton of the southern most part of Tamilnadu is in all probability, the progenitor of Karunganni variety. On this background the study focus on the cotton cultivation and yield in Tamilnadu. it is concluded that the cultivation of cotton and production of cotton has a negative growth rate. The coefficient of variation of the area was low compared to the production of cotton in Tamilnadu.

**Index Terms -** Area, Commercial crop, Cotton, Area, Production, Yield, Tamilnadu.

## I. INTRODUCTION

Cotton is one of the most important commercial crops and India is the largest cultivator of cotton. Out of total global cotton production India accounts to about 23 percent of cotton production. Until the period 2023 – 2024 India's total cotton production was about 31.6 million bales. The Central zone of the country which includes the states such as Gujarat, Maharashtra and Madhya Pradesh was the biggest producer of cotton in India and the Southern Zone which includes the states like Telangana, Andhra Pradesh, Karnataka and Tamilnadu is the second largest producer of Cotton in India. In India around 67 percent of cotton is cultivated in rain fed areas and 33 percent on irrigated areas. Moreover due to its economic impact in the country, the crop is considered as "White Gold". However in recent period, the cotton production and yields

has declined significantly due to certain challenges faced by agriculture and textile sectors. India is ranked first in cotton area production.

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## Review of Literature

**Angmuthu., (2018),** has analysed the area, production and yield of cotton in Tamilnadu and the results revealed that, during the study period about 2.01 percent and 0.52 million of 480 lb bales was produced on a average every year. The study also resulted that India yields decline continuously on an average every year.

**Ashok.K.R., Uma., et.al.,(2012),** the present study addresses the issues in India like increase in yield and income, reduction in pesticide use, profitability and environmental consequences of Bt cotton technology in India. Through analysis of variance model the yield, usage of pesticide and profitability was estimated. The mean difference in yield ranged to nearly 338 Kgs per hectare in Maharastra to 874 Kg per hectare in Andhra Pradesh.

**Sanjay., (2016),** cotton is one of the principal cash crops of India and it plays an important role in the economic growth of the country. The crop is cultivated in three different agro-ecological zones such as Punjab, Haryana and Rajasthan in North zone, Madhya Pradesh, Maharashtra and Gujarat in Central Zone, Andhra Pradesh, Karnataka and Tamilnadu in South zone. Maharashtra is the second largest cotton producer and it plays an important role in socio economic development. Further the study stated that Khandesh is the second largest producer of cotton in Maharashtra. In Maharashtra raw cotton production was sold through Government marketing channels and private marketing channels.

**Ankita Rajput., (2023),** has conducted to calculate growth rate and variability in area, production and productivity of cotton crop in India. The results revealed that there is significant growth in area about 1.51 percent, production 4.74 percent and productivity 3.17 percent was observed for the study period 1980-2019. The highest variability was found in production which was about 59.57 percent followed by productivity 40.74 percent and area 21.11 percent during the period 1980 to 2019.

## Research Methodology

The study was based on secondary data related to area, production and productivity which was obtained from agriculture statistics. The study period was from 2013-2022. The statistical tools used in the study such as Compound Annual Growth Rate, and to analyse the degree of dispersion mean, coefficient of variation and standard deviation was used analyse the data.

## Analysis and Interpretation

**Table: I**

**Table Showing the Area of Cotton Production in Tamilnadu for the Period 2013-2014 to 2022-2023**

Year	Area Cultivated
2013-2014	136
2014-2015	133
2015-2016	151
2016-2017	187
2017-2018	148
2018-2019	148
2019-2020	182
2020-2021	135
2021-2022	169
2022-2023	112
<b>CAGR</b>	<b>-91.76</b>
<b>Mean</b>	<b>150</b>
<b>Standard Deviation</b>	<b>23.37</b>
<b>Coefficient Variation</b>	<b>15.57</b>

**Source: computed**

During 2013-2014 to 2022-2023 has decreased by -97.45 percent. It was observed that during the period 2014-2015, 2017-2018, 2019-2020 and 2022-2023 the area of cotton production has increased to about 133 hectare, 151 hectare, 187 hectare and 112 hectare. Tamilnadu is the lowest cotton producing which indicated a growth rate of 15.23 percent in 2021-2022. The state accounts for a share of 3 percent in the southern zone and 1 percent in the total cotton production of India. Out of total Bt cotton production 69 percent by south zone. About 64 percent in Tamilnadu. The area of cotton cultivation in Tamilnadu increased by 23.21 percent to 1.38 lakh hectare but the productivity decreased by 6.48 percent with a yield of 344.93 kilograms per hectare.

Chart: I

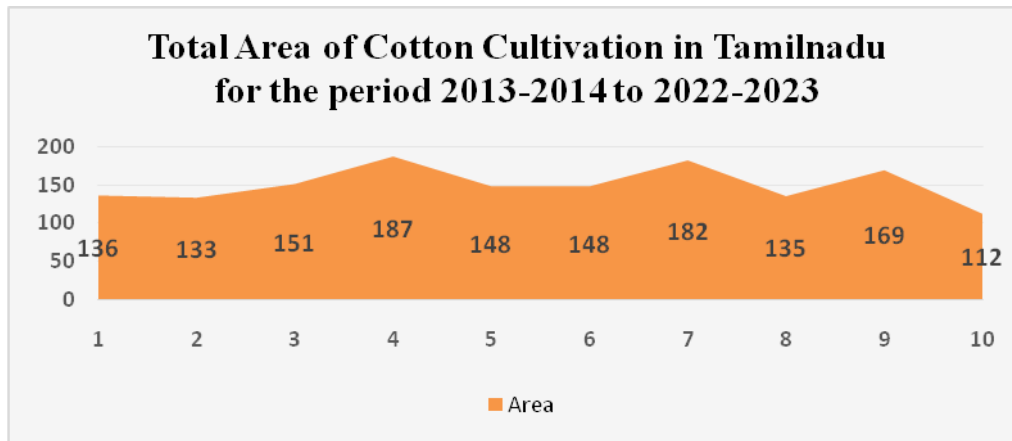


Table: II

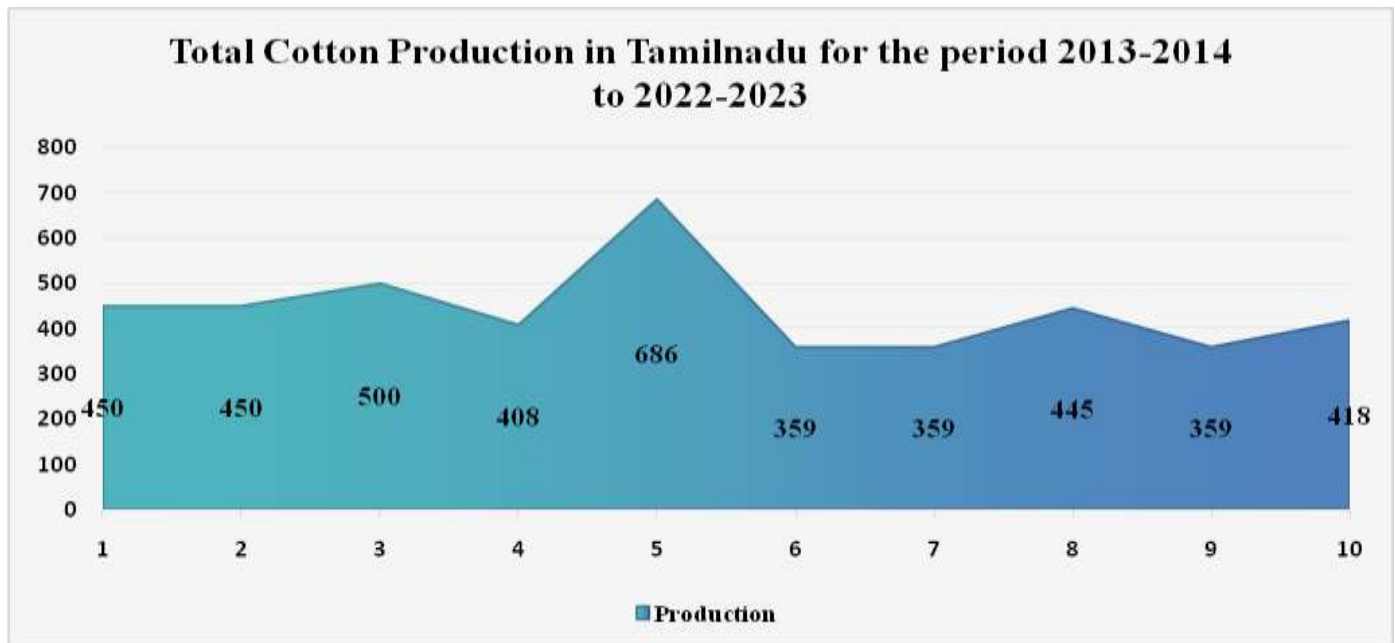
Table Showing the Cotton Production in Tamilnadu for the Period 2013-2014 to 2022-2023

Year	Production
2013-2014	450
2014-2015	450
2015-2016	500
2016-2017	408
2017-2018	686
2018-2019	359
2019-2020	359
2020-2021	445
2021-2022	359
2022-2023	418
<b>CAGR</b>	<b>-90.71</b>
<b>Mean</b>	<b>443.4</b>
<b>Standard Deviation</b>	<b>97.42</b>
<b>Coefficient Variation</b>	<b>21.97</b>

Source: computed

The above table shows the production of cotton in Tamilnadu for the study period 2013-2014 to 2022-2023. In the southern Zone the decrease in cotton production was also notable as compared to study period. The production of cotton in Tamilnadu was 450 lakh bales in 2013-2014 which decreased to 418 lakh bales in 2022-2023. Bt cotton.

**Chart: II**



Hence from the discussion it is concluded that the cultivation of cotton and production of cotton has a negative growth rate. The coefficient of variation of the area was low compared to the production of cotton in Tamilnadu. It was clear that there was gradual increase in area of cultivation of cotton during the period 2013-2014 to 2016-2017. Further during the study it was witnessed there is fluctuating trend on the growth of area of cultivation of cotton crops. On the otherhand the yield of cotton production during the study period has sharply increased during the period 2017-2018 and on the subsequent years the yield was moderately higher from 359 lakh Bt to 418 lakh Bt.

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