

Growth Performance of the Coconut Sector in India: An Analysis of Area, Production, and Productivity Trends

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Abstract

The coconut sector plays a vital role in India's agricultural economy by supporting rural livelihoods, generating employment, and contributing to agro-based industries and export earnings. This study examines the growth performance of coconut cultivation in India by analysing trends in area, production, and productivity at the national level, with a comparative assessment of Kerala, Tamil Nadu, and Karnataka. The findings reveal that during 1950-51 to 2024-25, the area, production and productivity increased, indicating that technological improvements and better cultivation practices contributed significantly to production growth. However, the recent period (2015–16 to 2024–25) presents a contrasting scenario, with national production and productivity registering negative growth rates and state-level analysis shows a gradual decline in Kerala's area, production, and productivity, reflecting challenges such as urbanisation, labour shortages, pest and disease incidence, ageing plantations, and changing land-use patterns. In contrast, Tamil Nadu and Karnataka recorded positive growth in cultivated area and production, supported by improved irrigation, adoption of high-yielding varieties, and modern agronomic practices.

Keywords: Coconut cultivation, Area, Production, Productivity.

1. Introduction

Agriculture continues to be a cornerstone of the Indian economy, contributing significantly to national income, employment, and rural livelihoods. The agriculture and allied sectors account for nearly 18 per cent of India's Gross Domestic Product (GDP) and provide a primary source of livelihood for millions of people. Within this broad agricultural framework, plantation crops occupy an important position, among which coconut cultivation is one of the most economically and socially significant. Coconut tree is unique that it is cultivated both in homestead gardens and commercial plantations, making it an integral component of the rural production system. Owing to its long productive lifespan and relatively low maintenance requirements, coconut cultivation provides farmers with a stable and sustainable source of income.

Often referred to as *Kalpavriksha* or the "Tree of Life," the coconut palm derives this distinction from the remarkable diversity of its uses and economic value. Virtually every part of the tree has commercial importance. Coconut kernels are processed into copra, edible oil, desiccated coconut, and a wide range

of value-added products, while tender coconut water has emerged as a popular health beverage in both domestic and international markets. The husk supports the coir industry, producing ropes, mats, carpets, and geotextiles, whereas shells, leaves, and timber are utilized in the manufacture of handicrafts, furniture, biofuel, organic fertilizers, and construction materials. These diverse industrial applications make coconut an environmentally sustainable and economically valuable plantation crop that contributes substantially to India's agro-based industries, employment generation, export earnings, and rural development. In recent years, technological innovations and product diversification have further enhanced the value addition potential of the coconut sector.

2. Review of Literature

Kaviyazhagan R. and Saravanan A. (2026) supported the economic viability of coconut farming in the Salem District of Tamil Nadu. It was identified that despite high fixed costs, the enterprise remains profitable due to substantial gross returns. The prevalence of low standard of education and income levels highlights the need to provide specific extension and financial aid.

Athira S. and Guledagudda. S. S. (2024) analysed the growth trends and magnitude of variations in area, production and productivity of coconut in India, Kerala and in coconut growing districts of Kozhikode and Malappuram in Kerala. The entire study period was 2000-01 to 2019-20 divided into 2 sub periods and growth rate analysis indicated that the highest growth rate was observed in production followed by productivity and area at one percent level of significance in the overall period in India

Raghuramreddy Yeswanth, Pramod Nayak and Suman K. M. (2024) examined the economics of production and cultivation of coconut in Southern districts of Karnataka. The study concluded that among the significant variables, labour, manure, pesticides, fertilizer and irrigation were more important input resources for the growers in the study area. Labour cost had a greater influence on the productivity of coconut compared to all other variables.

Sudhalakshmi, C., Latha, P., Maheswarappa, H. P. & Bhat R. (2023) conducted a SWOT analysis for the prospects of coconut cultivation in the Tamil Nadu and revealed that climatic factors, low labour requirement in comparison to other crops and access to technologies is a positive note. Tropical cyclones hitting coastal districts of the state, monsoon failure, price fluctuations of copra, lack of producer-centric market knowledge are the major weakness for coconut cultivation

3. Significance of the Study

Coconut cultivation has a multifaceted role in Indian economy and is the life and livelihood of many. Diverse products are made from coconut trees which promote various agro based and food processing industries which are currently the lifeline of the nation. Exports have also increased over the years which gained precious foreign exchange to the Country. Kerala which had the largest area under cultivation is having a declining trend in area, production and productivity which is a concern. Currently there has been a shift in coconut cultivation to various parts of country and there is considerable increase in productivity in new areas. As all parts of coconut tree can be put into productive use it is of advantage to the economy to support and promote coconut cultivation. By integrating a long-term national perspective with a recent state-level analysis, the study offers a comprehensive evaluation of the changing growth patterns in India's coconut sector. Such an approach enables the identification of

historical trends alongside current regional disparities, thereby providing valuable evidence for designing policies and strategies aimed at enhancing productivity, strengthening the resilience of coconut farming, and promoting the sustainable development of the sector.

4. Objectives of the Study

- To examine the trends in area, production and productivity of coconut cultivation in India
- To compare the trends in area, production and productivity of coconut cultivation in Kerala, Tamil Nadu and Karnataka

5. Methodology:

The study is both analytical and descriptive and relies on secondary data collected from various published sources. The study considers three South Indian States – Kerala, Karnataka and Tamil Nadu selected on basis of area under coconut cultivation in the Country. Time-series data on the area under cultivation, production, and productivity of coconut were compiled from various publications and websites like Economics Survey, Coconut Development Board, Indian Brand Equity Foundation and Press Information Bureau. The analysis covers the period from 2015–16 to 2024–25 for the inter-state comparison, while long-term national trends are examined using data from 1950–51 to 2024–25. Descriptive statistical techniques were employed to examine temporal trends and interstate variations. The growth performance of area, production, and productivity was assessed using the Compound Annual Growth Rate (CAGR), which measures the average annual rate of change over the study period.

Coconut Cultivation in India:

Coconut cultivation in India is concentrated primarily in the tropical and coastal regions of the southern peninsula, where it constitutes a vital component of the horticultural economy. Kerala, Tamil Nadu, and Karnataka have traditionally dominated the sector in terms of cultivated area and production, although coconut cultivation has expanded steadily to several other states in recent decades. The historical and cultural association between Kerala and coconut is reflected in the popular belief that the state's name is derived from *ker*a (coconut tree) and *alam* (land), signifying the "Land of Coconuts." The industry supports approximately 10 million farming households and provides livelihoods to nearly 30 million people across the country, highlighting its substantial socio-economic significance.

India is one of the world's leading coconut-producing nations, consistently ranking among the top three producers and currently occupying the second position globally. The country accounts for approximately 22.44 percent of global coconut production and nearly 19.32 percent of the world's coconut-growing area. According to the Coconut Development Board, global coconut production reached 67,617 million nuts in 2023, with India, Indonesia, and the Philippines together contributing nearly 74 percent of global production and accounting for approximately 75 per cent of the cultivated area. Within India, Kerala has the largest area under coconut cultivation, covering about 7.54 lakh hectares and producing approximately 35.44 lakh tonnes, while Tamil Nadu leads the country in overall coconut production. In addition to meeting substantial domestic demand, the coconut sector contributes significantly to India's agricultural exports and foreign exchange earnings. With its growing emphasis on value addition, processing technologies, and export-oriented products, the sector continues to strengthen its role in promoting sustainable agricultural development and enhancing rural livelihoods.

Plantation Sector which plays a vital role in Indian agriculture is a strong contributor to Indian economy. Coconut cultivation is not new to India specifically as the tropical climate is suitable for the crop. Traditionally coconuts are grown in Southern part of the Country and now have been shifting to other parts of the India including North East. There has been a paradigm shift in area, production and productivity of coconut cultivation in India

Area, Production and Productivity of Coconut Cultivation in India - Over the years, India had recorded considerable growth in area under cultivation. More States have started into coconut cultivation in the recent years. The availability of new climate resilient varieties coupled with increased demand for the coconut based products across the globe has led to their entry.

Table – 1

Area, Production and Productivity of Coconuts in India

Years	Area	Production	Productivity
1950-51	626.5	3281.7	5238
1960-61	717.4	4639.1	6466
1970-71	1045.5	6075	5811
1980-81	1083.3	5942	5485
1990-91	1513.9	9700	6407
2000-01	1823.9	12678.4	6951
2010-11	1895.9	16942.9	8937
2020-21	1856.2	20736.1	9430
2024-25	1860.32	20301.2	9249
CAGR	1.48%	2.49%	0.77%

Source: coconutboard.gov.in

During the period from 1950–51 to 2024–25, the area under coconut cultivation in India registered a compound annual growth rate of 1.48 per cent, while production increased at a higher rate of 2.49 per cent per annum. Productivity recorded a comparatively lower CAGR of 0.77 per cent per annum. The relatively faster growth in production than in cultivated area indicates that, besides area expansion, improvements in productivity and technological interventions have contributed to the growth of the coconut sector. Study reveals that there is fluctuation over the years which call for increased interference through policies for financial support, mechanisation and innovative agricultural practices.

Leading states in coconut cultivation - The South Indian states of Kerala, Tamil Nadu and Karnataka, Andhra Pradesh constitutes around 90 per cent of cultivation. Kerala which was a predominant cultivator of coconuts with large production currently has a declining trend in terms of area and productivity. With farmers shifting to other crops for better profits and with constraints of labour, attack of pest and increased real estate influence coconut cultivation has considerable negative impact.

Table -2

Top Five States in Area, Production and Productivity of Coconuts in India

Area	Production	Productivity
Kerala	Tamil Nadu	Andhra Pradesh
Karnataka	Karnataka	West Bengal
Tamil Nadu	Kerala	Tamil Nadu

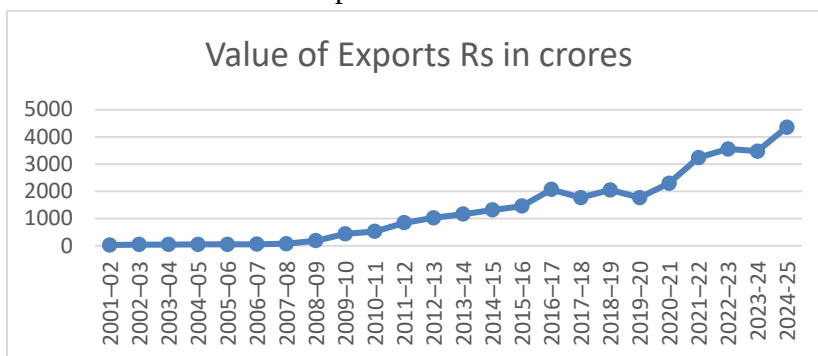
Andhra Pradesh	Andhra Pradesh	Gujarat
Odisha	Odisha	Nagaland

Source: coconutboard.gov.in

States of Tamil Nadu and Karnataka are marching ahead in area under cultivation and in terms of yield. States of Kerala and Karnataka have more area under cultivation they lag behind in terms of productivity and are below National average. Andhra Pradesh has the highest productivity of Coconuts (16002 nuts/Ha) in the country followed by West Bengal (12694Nuts/ Ha) Tamil Nadu (12367 Nuts/ Ha) and Gujarat (9257 nuts/Ha). All these states have productivity higher than National average.

Exports from India - India exports of coconut products to more than 140 countries. The major importers of coconut from India are Vietnam, the UAE, Bangladesh, Malaysia and the USA which accounted for around 66 per cent of total exports from India. Export value of coconut products from India in terms of Rupees in crores increased from 25.30 in 2001-02 to 43.65 in 2005-06, 432.38 in 2009-10 to 1450.24 in 2015-16 to 3469.44 in 2023-24. In 2024-25, exports of coconut and coconut-based products reached Rs.4, 349.03 crore with a 25 per cent increase from 2023-24.

Figure – 1
Exports from India



Source: coconutboard.gov.in

Table - 3
Area under Coconut Production

Years	Kerala	Tamil Nadu	Karnataka	India
2015-16	770.62	459.74	526.38	2088.47
2016-17	770.79	461.06	513.85	2082.11
2017-18	807.13	441.49	518.39	2096.72
2018-19	760.95	436.94	619.78	2150.89
2019-20	760.78	437.57	624.03	2173.28
2020-21	768.81	444.92	642.47	2198.98
2021-22	765.44	446.15	604.23	2153.74
2022-23	760.35	472.71	705.11	2277.18
2023-24	765.84	492.61	564.62	2165.2
2024-25	754	505.53	600.79	2194.92
CAGR	-0.24%	1.06%	1.48%	0.55%

Source: coconutboard.gov.in

The compound annual growth rate analysis of the area under coconut cultivation during 2015–16 to 2024–25 reveals considerable inter-state variation. Karnataka recorded the highest growth rate of 1.48 per cent per annum, followed by Tamil Nadu 1.06 per cent. In contrast, Kerala registered a marginal decline of –0.24 per cent, indicating a gradual reduction in the area under coconut cultivation over the study period. This is attributed to large scale urbanization, increasing cost of labour, shortage of labour and low profits. Moreover people have migrated to neighbouring States in search of low priced land and labour and initiated cultivation there for better markets and prices. At the national level, the area under coconut cultivation expanded at a modest rate of 0.55 per cent per annum, reflecting overall stability with moderate expansion in the coconut growing area.

Table - 4
Trends in Coconut Production

Years	Kerala	Tamil Nadu	Karnataka	India
2015-16	7429.39	6171.06	5128.84	22167.45
2016-17	7448.65	6570.63	6773.05	23904.1
2017-18	8452.05	6020.41	6273.79	23798.23
2018-19	7683.55	5370.39	4947.74	21288.29
2019-20	6980.3	5373.21	4300.69	20308.7
2020-21	6942.6	5439.33	4918.51	20736.12
2021-22	5522.66	5091.83	5177.63	19309.9
2022-23	5628.42	5421.76	5949.46	20535.88
2023-24	5522.71	6091.98	6151	21373.62
2024-25	5149.87	6251.94	5488.4	20301.22
CAGR	–4.03%	0.14%	0.75%	–0.97%

Source: coconutboard.gov.in

A decline in production is noted at National level. India's overall coconut production registered a negative compound annual growth rate of 0.97 per cent per annum, reflecting fluctuations in production and the declining contribution from Kerala during the study period. Karnataka recorded the highest positive growth of 0.75 per cent per annum, followed by Tamil Nadu 0.14 per cent, whereas Kerala experienced a significant decline of –4.03 per cent per annum. The decline in area under cultivation and disease and pest outbreaks on crops has adversely affected the production in Kerala. The mechanized system of irrigation, adoption of high yielding hybrids and use of advanced agronomic practices has enhanced the yield in Karnataka and Tamil Nadu.

Table - 5
Trends in productivity

Years	Kerala	Tamil Nadu	Karnataka	India
2015-16	9641	13423	9744	10614
2016-17	9664	13423	13181	11481
2017-18	10472	13637	12102	11350
2018-19	10097	12291	7983	9897

2019-20	9175	12280	6892	9345
2020-21	9030	12225	7656	9430
2021-22	7215	11413	8569	8966
2022-23	7402	11469	8438	9018
2023-24	7211	12367	10894	9871
2024-25	6830	12367	9135	9249
CAGR	-3.77%	-0.91%	-0.71%	-1.51%

Source: coconutboard.gov.in

All the three states and country as a whole have marked a decrease in productivity from 2014-15 to 2024-25. Kerala recorded the sharpest decline of -3.77 per cent per annum, followed by Tamil Nadu -0.91 per cent and Karnataka -0.71 per cent. Consequently, the national productivity also declined at -1.51 per cent per annum, indicating that fluctuations in climatic conditions, ageing plantations, pest incidence, and other production constraints may have adversely affected coconut yields during the study period.

6. Conclusion

The present study examined the growth performance of the coconut sector in India, with special emphasis on the major producing states of Kerala, Tamil Nadu, and Karnataka. The analysis indicates that while the area under coconut cultivation has remained relatively stable or expanded moderately in some states; improvements in production have not been matched by sustained gains in productivity. The compound annual growth rate analysis revealed a declining trend in productivity across all the major coconut-growing states during the study period. Kerala recorded the steepest decline of -3.77 per cent per annum, followed by Tamil Nadu -0.91 per cent and Karnataka -0.71 per cent, resulting in an overall national decline of -1.51 per cent per annum. These findings suggest that the growth of the coconut sector is increasingly constrained by factors such as climate variability, ageing plantations, pest and disease incidence, fragmented holdings, and inadequate adoption of improved production technologies. The observed decline in productivity has important implications for the sustainability and competitiveness of India's coconut economy. Given the crop's significant contribution to rural livelihoods, employment generation, value-added industries, and export earnings, enhancing productivity should be a priority for policymakers and stakeholders. This calls for a comprehensive strategy encompassing the rejuvenation and replanting of senile palms, promotion of high-yielding and climate-resilient varieties, improved irrigation and nutrient management, integrated pest and disease management, mechanisation of farm operations, and strengthened extension services to facilitate technology adoption at the farm level. Thus ensuring the long-term sustainability of the coconut sector requires a shift in focus from area expansion to productivity enhancement. Greater investment in research and development, climate-resilient production systems, value chain strengthening, and market-oriented interventions will be essential for improving farm incomes, increasing production efficiency, and maintaining India's leading position in the global coconut industry. Such policy measures will not only enhance the resilience of coconut farming but also contribute to inclusive agricultural growth and sustainable rural development.

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