

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 10; October 2024; Page No. 235-238

Received: 05-08-2024
Accepted: 15-09-2024

Indexed Journal
Peer Reviewed Journal

Trends and performances of non-basmati rice export from Tamil Nadu

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DOI: <https://doi.org/10.33545/26180723.2024.v7.i10d.1215>

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Abstract

This study examines the trends, growth, and performance of non-basmati rice exports from Tamil Nadu, a key rice-producing state in India. With India being a leading exporter of non-basmati rice, Tamil Nadu ranks fourth in terms of export volume. The analysis covers a decade from 2010-11 to 2020-21, identifying factors influencing export performance, such as product quality, market information, and export facilitation. Despite fluctuations in export growth, Tamil Nadu has shown resilience, especially during 2020-21, supported by government policies and export promotion initiatives. The findings highlight the potential and challenges in enhancing non-basmati rice exports from the state.

Keywords: Non-basmati rice exports, Tamil Nadu rice production, export growth trends, international market demand, export facilitation policies, compound growth rate

Introduction

India is the leading non-basmati rice exporter as there is a strong demand for Indian rice from the international markets. Tamil Nadu stands fourth place in terms of quantity to the total non-basmati rice exports from India. The country's export rice to over 150 countries in 2021-22, of which 76 countries were sent non-basmati rice worth more than \$1 million in 2021-22. It indicates the diversification of India's rice export over the years. India's non-basmati rice exports surged to \$6.11 billion in 2021-22, which is 109 per cent higher when compared with \$2.92 billion recorded in 2013-14. According to the DGCIS data, India registered a growth of 27% in 2021-22, export of non-basmati rice was the top forex earner among all agri-commodities. The exports of non-basmati have witnessed a growth of 146% in Rupee terms and 137% Dollar terms in 2020-2021. The major rice producing states are West Bengal, Uttar Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Bihar, Chhattisgarh, Odisha, Assam, and Haryana. Increasing demand for non-basmati rice as well as the capacity of producing rice in India, which is supported by export policy have created scope for the export of non-basmati rice from India. Due to price competitiveness, currently, African countries have also changed to Indian non-basmati rice. Non-basmati rice exports to African and Asian countries are undertaken from various ports of India such as Kakinada, Visakhapatnam, Chennai, Mundra and Krishnapatnam. Nepal, Benin, Bangladesh, Senegal, Togo, Cote D'Ivoire, Guinea, Malaysia, Iraq, United Arab Emirates – have a share of 57 per cent in India's total exports of non-Basmati rice in 2020-21 in terms of volume.

Finally, India's non-basmati rice can effectively be fastening in the global market. As per Second Advance Estimates for 2021-22, the rice production in the 2021-22 is estimated at a record 127 MT, which is higher by 11 MT than the last five years' average production of 116 MT Non-basmati rice Production in India. Increased exports of non-basmati rice can be justified since it does not adversely affect domestic food security. Increasing demand for rice as well as the capacity of producing rice in India, which is supported by export policy have created scope for the export of rice from India.

APEDA has promoted rice exports through collaborations with various stakeholders in the value chains. The government has set up the Rice Export Promotion Forum (REPF), under the aegis of the APEDA. REPF has representatives from rice industry, exporters, officials from APEDA, ministry of commerce and directors of agriculture from major rice producing states including West Bengal, Uttar Pradesh, Punjab, Haryana, Telangana, Andhra Pradesh, Assam, Chhattisgarh and Odisha.

Tamil Nadu is one of the major non-basmati rice producing state. Export of non-basmati rice has been increasing over the years. Non-basmati rice varieties like Matta, Sonamasuri, Idly rice, Ponni varieties had grown and exported to major export countries. As per the Ministry of Commerce & Industry (2021), India's non-basmati rice exports of 4.5 MT of patented 'village rice' is enriched with protein, fibre, and a variety of minerals, sourced from Kumbakonam, Thanjavur district, Tamil Nadu to Ghana and Yemen.

Non-basmati rice export from Tamil Nadu is determined by

various factors and therefore, reliable estimates of determinants of export are essential for the formulation of appropriate policies that suit the Indian non-basmati rice export. In this context, the present study aimed to assess the trend, growth and export potential and challenges of non-basmati rice exports from Tamil Nadu.

Objectives

- To assess the trend of non-basmati rice exports from Tamil Nadu
- To identify the factors influencing the export of non-basmati rice from Tamil Nadu.

Data and Methodology

Time series data on export quantity, value and unit value were used in the study, which were collected from different sources for 10 years (2010-11 to 2020-21). Data were collected from Agricultural and Processed Food Products Export Development Authority (APEDA) and The All-India Rice Exporters' Association (AIREA). Purposive sampling method was used to collect the primary data from total of 60 exporters of which 30 exporters from Agribusiness Export Consortium (ABEC) members and 30 from non-members.

Trend Analysis

Time series data on export quantity, value and unit value were used in the study, which were collected from different sources for 10 years (2010-11 to 2020-21). For trend analysis, Considering the current position of non-basmati rice export trend analysis will be done for the period of 2010-11 to 2020-21. Further, the study period will be divided into two sub-periods; 2011-15 (period I) and 2016-21 (period II) corresponding periods respectively. Compound growth rate analysis will be done using the following formula

$$Y_t = abt^t U_t$$

Where, Y_t = Dependent variable for which growth rate will be estimated (export quantity and value in year 't');

a =Intercept.

b =Regression coefficient.

t =Year which takes values 1, 2, ..., n ;

U_t = Disturbance term in year 't'.

The equation is transformed into log-linear and written as

$$\ln Y_t = a + t \ln b + U_t$$

Where $\ln Y$ is natural logarithm of Y , a and $\ln b$ are similarly defined.

Compound growth rate

The compound growth rate was computed by using the relationship

$$CGR = \{ \text{Exp}(b) - 1 \} \times 100$$

The significance of the regression coefficient was tested using the student's 't' test. The export markets for non-basmati rice are highly unstable and there is a year to year fluctuation in export markets (Anup Adhikari *et al.*, 2011)^[2]. So, the present study compound growth rate analysis will be done for two the two periods (2011-15) to (2016-21).

Results and Discussion

India's non-basmati rice has been exporting from 2010-11 to 2021-22 to various parts of the world. Total quantity of rice exported from India was 39.97 lakh tonnes in 2010-11, which increased to 64.64 million tonnes in 2015-16. In terms of value, the rice export was of Rs.8, 660 crores in 2010-11, which increased to Rs. 15, 480 crores in 2015-16. It shows the increasing trend of non-basmati rice exports in the first period of 2011-15. In Tamil Nadu, the exports of rice increased from 1.18 lakh tonnes from 2010-11 to 1.80 lakh tonnes and in terms of value of exports at Rs. 480 crores in 2010-11 and increased to Rs. 570 crores in 2015-16. The trend Analysis was reveals that the increasing trend of non-basmati exports from Tamil Nadu both in relations to production and in terms of value in the period I (2011-2015). It could be seen from Table 1 that during period I, the quantity of non-basmati rice export recorded a positive growth rate. India's export trend in period II (2016-2021) shows an increasing trend except in the year 2019-2020 and reached a higher export of 130.95 lakh tonnes in 2020-21. From table 1, Tamil Nadu, export trend shows that during 2015-16 to 2019-20 had a downfall compared with 2011-15 and it was increased in 2020-21 of 4.62 lakh tonnes and valued Rs. 1430 crore. The higher growth rate was mainly due to the increase in export unit value driven by higher demand and incidence of COVID-19 outbreak (Figure.1).

Table 1: Non-basmati Export Trend in India and Tamil Nadu

Year	Qty (in MT)	Value (Rs in Millions)	% Growth	Qty (in MT)	(Rs in Millions)
2011-2012	3997	0.866	-50.76	118	0.048
2012-2013	6688	1.445	-13.8	152	0.056
2013-2014	7133	1.775	21.71	217	0.071
2014-2015	8274	2.043	4.52	161	0.055
2015-2016	6464	1.548	-27.99	180	0.057
2016-2017	6770	1.693	13.78	631	0.181
2017-2018	8648	2.297	6.24	356	0.1
2018-2019	7599	2.119	40.22	288	0.075
2019-2020	5040	1.436	74.81	186	0.053
2020-2021	13, 095	3.548	61.5	462	0.143

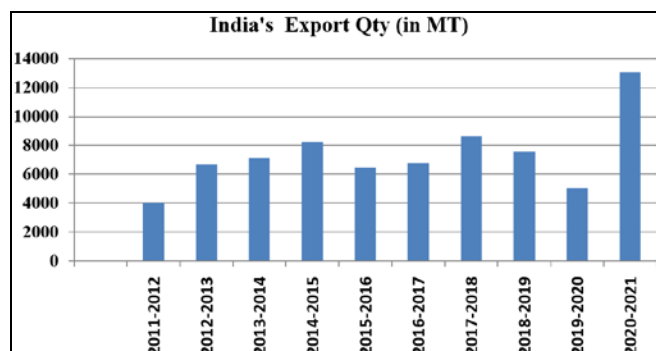


Fig 1: Non-basmati Export Trend in India

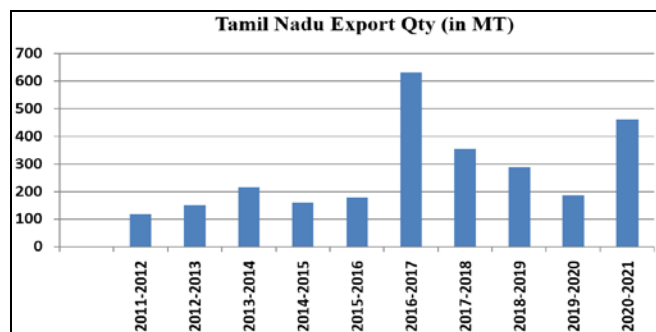


Fig 2: Non-basmati Export Trend in Tamil Nadu

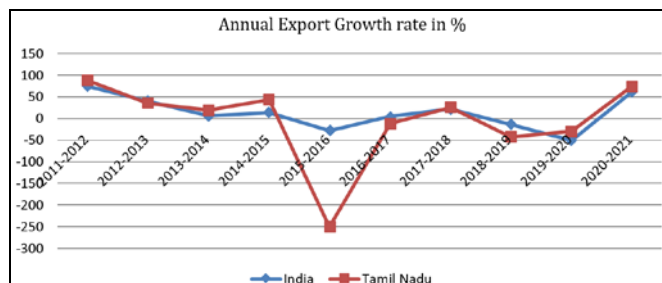


Fig 3: Annual growth rate of non-basmati export from Tamil Nadu

Instability in export of non-basmati rice

From 2011-2012 to 2013-2014, there was a steep decline in growth, reaching a negative 50.76% in 2011-2012. However, the following years saw some recovery, with a noticeable growth of 21.71% in 2013-2014 and a gradual increase thereafter. The instability is evident with sudden drops, such as in 2015-2016, where the quantity dropped by 27.99%, followed by a recovery in subsequent years. The highest growth was recorded in 2019-2020 (74.81%) and

Growth rate in export of non-basmati rice

Growth rate non-basmati export from India and Tamil Nadu were revealed in table 2 and Figure 2. In India, a significant compound growth rate was observed in the quantity of non-basmati rice export (17.9%) in period II (2016-21) compared with 12.8% in period I (2011-15). Gangwar and Rai (1995) [3] and Shende *et al.* (1999) [5] also found a significant and positive growth rate of rice export in terms of quantity and value. In Tamil Nadu, the higher compound growth rate was observed in Period II (2016-21) of 26.6% compared with period I (2011-15). The country's overall compound growth rate of non-basmati rice export was 14.09% and 10.6% in Tamil Nadu during the study period of 2011- 2021. Due to bumper production of rice during 2011-12, the government removed the export ban on non-basmati rice, and India during 2012 became the leading exporter in global markets. WTO had removed export barriers on non-basmati rice, major boost in export of rice occurred during the same period.

Table 2: Compound Growth Rate of Non-basmati rice Export

Year	All India CGR (%)	Tamil Nadu CGR (%)
2011-2015	12.8	1.8
2016- 2021	17.9	26.6
2011-2021	14.09	10.6

2020-2021 (61.5%), reflecting a strong rebound in exports. These fluctuations could be attributed to factors like information on product such as quality parameter information from importing countries like non-basmati rice variety, quantity, color, length of grain and moisture content requirements play a vital role in increasing exports (Table 1).

Instability in rice production

Table 2: Trend Rice production

Year	India		Tamilnadu	
	Area (Hectares)	Production (Tonnes)	Total Area (Hectares)	Total Production (Tonnes)
2011-2012	44, 501, 000	105, 310, 000	2, 007, 186	7, 232, 567
2012-2013	44, 822, 000	105, 240, 000	1, 839, 593	6, 831, 159
2013-2014	44, 144, 000	106, 650, 000	2, 070, 612	9, 694, 784
2014-2015	43, 860, 000	105, 480, 000	2, 101, 518	8, 679, 922
2015-2016	43, 390, 000	104, 410, 000	2, 116, 945	7, 297, 226
2016-2017	44, 100, 000	109, 700, 000	1, 651, 692	4, 994, 639
2017-2018	43, 780, 000	112, 760, 000	1, 916, 626	7, 237, 597
2018-2019	43, 780, 000	116, 420, 000	1, 846, 564	7, 214, 008
2019-2020	44, 550, 000	118, 870, 000	1, 834, 510	7, 409, 849
2020-2021	44, 700, 000	120, 970, 000	2, 118, 796	6, 044, 391
2021-2022	44, 900, 000	124, 370, 000	2, 187, 220	8, 741, 300

The trend for India and Tamil Nadu's rice production from 2011 to 2022 reveals fluctuations in both the area under rice cultivation and total production. Across India, the area of rice cultivation remained relatively stable, ranging from 43.39 million to 44.9 million hectares over this period. However, production saw a steady increase from 105.31 million tonnes in 2011-2012 to 124.37 million tonnes in 2021-2022, indicating a consistent improvement in yield and productivity. In contrast, Tamil Nadu experienced more significant fluctuations in both area and production. The state's total area under rice cultivation showed a sharp decrease in 2016-2017, dropping to 1.65 million hectares, reflecting adverse climatic conditions or agricultural challenges that year. However, this was followed by gradual recovery, with the area increasing to 2.18 million hectares by 2021-2022.

Tamil Nadu's rice production also saw notable variability, peaking at 9.69 million tonnes in 2013-2014 before dropping to a low of 4.99 million tonnes in 2016-2017. Despite this, the state managed to recover, reaching 8.74 million tonnes by 2021-2022. These fluctuations suggest that Tamil Nadu's rice production is more vulnerable to external factors such as climate and water availability compared to India as a whole, which showed more stable growth in both area and production. Overall, while India's rice production has steadily increased with minimal fluctuations, Tamil Nadu has experienced periods of instability, reflecting regional agricultural challenges. Despite this, both the state and the country show a long-term trend towards improving rice productivity, particularly in recent years.

Factors influencing the export of non-basmati rice from Tamil Nadu

Factors like information on product such as quality parameter information from importing countries like non-basmati rice variety, quantity, color, length of grain and moisture content requirements play a vital role in increasing exports.

Information on markets like availability of export quality oriented non-basmati rice varieties in local markets, time of accessibility, distance and price are very useful for exporters for purchase of rice for exports.

Information on timely export facilitation from the government is a very important role in increasing a state's export in the long run.

Information on finance facilities for exports, loans and subsidy for logistics and infrastructure development facility funds play a vital role for forward direction of non-basmati exports from Tamil Nadu.

The four important factors for export of non-basmati rice information was collected from pre-scheduled questionnaires from exporters of Tamil Nadu and the results were narrated from the following,

Product information

- 72% of exporters felt the need for Government facilitation for product information and sourcing.

Market information

- 93% exporters are relying on online portals and associations website for market information.

Export Facilitation

- 91% of exporters requested for more support for facilitation like logistics, certification etc., from the Government.

Financial information

- 82% of exporters requested more easier ways to access the financial information.

Conclusions

The study has shown that Indian rice export performance during the study period from 2010-11 to 2021-21. India's overall export compound growth rate was 14.09% and it was 10.6% in Tamil Nadu during the selected study period. It has registered positive growth rates in terms of quantity, value and unit value for non-basmati rice in India and Tamil Nadu, which is confirmed through increasing growth in non-basmati rice export in 2020-21 and also having stability in non-basmati rice in the international markets. Non-basmati rice exporters requested for more support for facilitation like logistics, certification etc., from the Government. Hence a suitable non-basmati rice export effect like to ensure representations from our Tamil Nadu state as one of the prominent members of the Rice Export Promotion Forum (REPF) for taking our native rice varieties to exports. Government to conduct more exhibitions and field days to expose the native and traditional non-basmati rice varieties to the exporters and traders. Government may be taken to adopt easier strategies to provide product and market information to the exporters with the constitute policy support to favor the non-basmati rice export from Tamil Nadu.

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