(RESEARCH ARTICLE)

Marketing of agricultural products through e-NAM in Tamil Nadu state

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Abstract

Integrating technology in agricultural marketing has marked a transformative milestone in Tamil Nadu, where agriculture is a cornerstone of the economy. The National Agriculture Market (e-NAM) has redefined traditional methods, creating a unified national market for agricultural commodities. This study focuses on marketing selected agricultural products through e-NAM in Tamil Nadu, analyzing trade records from 2017 to 2021, and forecasting up to 2025-2026. Focusing on efficiency and transparency, the study explores the impact of e-NAM on the agricultural trade market. Secondary data spanning 2017-2021 from the Department of Agriculture, Cooperation & Farmers Welfare, and the National Agricultural Market were collected and analyzed using charts and forecasting methods. Trade records for arrived and traded lots, quantities, and values in Tamil Nadu displayed consistent growth. The arrival of lots increased steadily, reflecting potential market expansion. Traded lots and quantities showcased dynamic growth, indicating an expanding trade market. Forecasted values predict a positive trajectory with continuous growth up to 2025-2026. The study underscores the transformative impact of e-NAM in Tamil Nadu. The positive trade quantity and value trends reveal a dynamic and expanding market. Forecasted projections suggest sustained growth, emphasizing the role of the platform in enhancing market efficiency and economic development. While optimistic, acknowledging external factors is crucial for stakeholders to navigate potential challenges. The success of e-NAM exemplifies technologies transformative power in fostering sustainable development in the Tamil Nadu agrarian sector.

Keywords: Digital; Marketing; Agricultural; Products; e-Nam; Trade.

1. Introduction

In the vibrant landscape of Tamil Nadu, where agriculture has been a cornerstone of the economy and livelihoods for centuries, integrating technology in agricultural marketing is a transformative milestone(C et al., 2017). The National Agriculture Market (E-Nam) has ushered in a new era, redefining the traditional methods of buying and selling agricultural produce(YOGANANDHAM, 2023). E-NAM is a transformative initiative launched by the Government of India to revolutionize the agricultural marketing landscape in the country. Introduced in April 2016, e-NAM is a pan-India electronic trading platform designed to create a unified national market for agricultural commodities(Selvaraj, 2013). The primary objective of e-NAM is to connect agricultural produce market committees (APMCs) across the nation, promoting a seamless and transparent trade ecosystem for farmers and other stakeholders(Gautam et al., 2023). As the fourth-largest contributor to India's gross domestic product (GDP), agriculture in Tamil Nadu plays a pivotal role in sustaining the agrarian fabric of the state(Manimannan et al., 2017). In recent years, adopting digital platforms for agricultural transactions has gained momentum, with E-Nam emerging as a critical catalyst for streamlining the marketing process(Divakaran et al., 2021). This study focuses on marketing selected agricultural products through the Electronic National Agriculture Market (e-Nam) in the dynamic state of Tamil Nadu. The research is grounded in a comprehensive analysis of trade records spanning five crucial years, from 2017 to 2021, sourced from the Annual Report of the Department of Agriculture, Cooperation & Farmers Welfare of India and the National Agricultural Market.

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The primary methodology employed involves collecting and utilizing secondary data to forecast for the upcoming years up to 2025-2026 and analyze the growth of trade records in e-Nam, Tamil Nadu. The meticulous examination of this data involves charts and forecasting analysis, providing a detailed insight into the trends and patterns shaping the agricultural trade market in the Tamil Nadu state. Integrating technology into agricultural marketing enhances efficiency and opens up new avenues for farmers to connect with a broader market.

2. Methodology

Secondary data have been collected and used to forecast and analyze the growth of Trade records in e-Nam, Tamil Nadu. The data was collected for the period of five years, from 2017 to 2021, from the Annual Report of the Department of Agriculture, Cooperation & Farmers Welfare of India, National Agricultural Market Head office in Chennai District. The collected data are analyzed by using charts and forecasting analysis.

3. Result and discussion

The data analysis has been split into two sections. The first section deals with the growth of the Trade records under the electronic national agriculture market (e-Nam) in the Tamil Nadu state. The estimate of Trade records of e-Nam in Tamil Nadu growth up to the year 2026 is analyzed in the second section.

Table 1 Growth of trade quantity and value in Tamil Nadu (2017-2022)

	Arrived Lots	Arrived Qty (MT)	Traded Lots	Traded Qty (MT)	Traded Value (Rs)
Trade Value (2017-2018) in Tamil Nadu	7828	107056.2	6860	95448.98	161205139
Trade Value (2018-2019) in Tamil Nadu	90255	1204374	86513	1243403	2113618473
Growth	10.53	10.25	11.61	12.03	12.11
Trade Value (2019-2020) in Tamil Nadu	135783	1743717	130256	1641749	2828503767
Growth	0.5	0.45	0.51	0.32	0.34
Trade Value (2020-2021) in Tamil Nadu	167674	2691288	162304	2406020	3491113987
Growth	0.23	0.54	0.25	0.47	0.23
Trade Value (2021-2022) in Tamil Nadu	209011	3862751	202170	3805043	4714822190
Growth	0.25	0.44	0.25	0.58	0.35

Source: department of agricultural marketing and agri-business, chennai, compiled by author

The table revealed the trade value for arrived lots in Tamil Nadu experienced steady growth. The number of arrived lots increased from 7828 in 2017-2018 to 90255 in 2018-2019, marking a significant growth of 10.53 per cent. This trend continued with further increases in the subsequent years, reaching 135783 arrived lots in 2019-2020 with 0.50 per cent growth, followed by 167674 arrived lots in 2020-2021with 0.23 per cent growth, and 209011 arrived lots in 2021-2022 with 0.25 per cent growth. This table revealed a consistent positive trajectory in the arrival of lots, indicating a potentially expanding market or increased demand. The trade quantity for arrived items exhibited a similar upward trend. Starting at 107056.17 arrived in quantity in 2017-2018, there was a notable growth of 10.25 per cent in 2018-2019 with 1204373.52 arriving in quantity. The subsequent years saw continuous increases, with quantities reaching 1743716.55 arrived quantity in 2019-2020 with 0.45 per cent growth, followed by 2691287.94 arrived quantity in 2020-2021 with 0.54 per cent of growth, and 3862750.55 arrived quantity in 2021-2022 with 0.44 per cent of growth. This table indicates a consistent and substantial rise in the trade quantity of arrived items, reflecting potential economic expansion. The trade value for traded lots also displayed positive growth. Starting at 6860 traded lots in 2017-2018, it increased by 11.61 per cent in 2018-2019 with 86513 traded lots. Subsequent years showed further growth, reaching 130256 traded lots in 2019-2020 with 0.51 per cent growth, followed by 162304 traded lots in 2020-2021 with 0.25

per cent of growth, and 202170 traded lots in 2021-2022 with 0.25 per cent growth. This consistent growth in traded lots suggests a dynamic and expanding trade market in Tamil Nadu. The trade quantity for traded items witnessed substantial growth, starting at 95448.98 traded quantity in 2017-2018, and it grew by 12.03 per cent in 2018-2019 to reach 1243403.45 traded quantity.

The subsequent years saw continuous growth; it reached 1641749.33 traded quantity in 2019-2020 with 0.32 per cent of growth, followed by 2406019.92 traded quantity in 2020-2021 with 0.47 per cent of growth, and 3805042.77 traded quantity in 2021-2022 with 0.58 per cent of growth. This table indicates a robust and expanding trade environment in terms of traded quantity. The traded value in Tamil Nadu experienced notable growth. Starting at Rs.161205139 in 2017-2018, it grew by 12.11 per cent in 2018-2019 and it reached Rs.2113618473. The subsequent years showed continuous growth, and it reached Rs.2828503767 in 2019-2020, followed by Rs.3491113987 in 2020-2021 with 0.23 per cent of growth, and Rs.4714822190 in 2021-2022 with 0.35 per cent of growth. This table revealed a positive economic environment, with an increasing value of traded goods, possibly driven by factors such as market demand and economic development.

Table 2 Forecast of trade lots, quantity and value in Tamil Nadu e-NAM (2023-2026)

	Arrived Lots	Arrived Qty (MT)	Traded Lots	Traded Qty (MT)	Traded Value (Rs)
Trade Value in Tamil Nadu 2017-2018	7828	107056.2	6860	95448.98	161205139.48
Trade Value in Tamil Nadu 2018-2019	90255	1204374	86513	1243403	2113618473.00
Trade Value in Tamil Nadu 2019-2020	135783	1743717	130256	1641749	2828503766.92
Trade Value in Tamil Nadu 2020-2021	167674	2691288	162304	2406020	3491113987.10
Trade Value in Tamil Nadu 2021-2022	209011	3862751	202170	3805043	4714822189.95
Forecast of Trade Value in Tamil Nadu 2022-2023	266045.7	4621328	257543.9	4412874	5807271595.80
Forecast of Trade Value in Tamil Nadu 2023-2024	314024.2	5521158	304185	5271055	6855744557.31
Forecast of Trade Value in Tamil Nadu 2024-2025	362002.7	6420989	350826.1	6129235	7904217518.81
Forecast of Trade Value in Tamil Nadu 2025-2026	409981.2	7320819	397467.2	6987415	8952690480.31

Source: department of agricultural marketing and agri-business, Chennai, compiled by author

The number of arrived lots is projected to increase steadily from 7,828 in 2017-2018 to 209,011 in 2021-2022. The forecast indicates continued growth, and it will reach up to 409,981.2 lots by the year of 2025-2026. The quantity of arrived goods in metric tons is expected to grow from 107,056.17 MT in 2017-2018 to 7,320,818.854 MT by 2025-2026. The forecasted quantities show a consistent upward trend. The number of traded lots is projected to increase from 6,860 lots in the year of 2017-2018 to 202,170 lots in the year of 2021-2022. The forecast suggests continuous growth, and it will be reaching 397,467.2 lots by the year of 2025-2026. The traded quantity is expected to increase from 95,448.98 MT in the year of 2017-2018 to 6,987,415.32 MT by the year of 2025-2026. The forecasted quantities exhibit a positive trend, indicating an expanding trade volume. The traded value in terms of Rupees is projected to grow significantly from Rs.16,12,05139.48 in 2017-2018 to 8,95,26,90,480.31 by the year of 2025-2026. The forecasted values show substantial growth, reflecting the increasing value of traded goods. Both arrived and traded lots, and their respective quantities are expected to experience continuous growth over the forecasted years up to 2025-2026. The trade value in Tamil Nadu is anticipated to increase substantially, reflecting a positive outlook for trade and economic activity in Tamil Nadu. These forecasts revealed a robust and expanding trade scenario in Tamil Nadu, with increasing quantities and values across the mentioned years of 2025-2026.

Table 3 Growth of trade value in Tamil Nadu e-NAM (2017- 2021)

	Volume of transaction Quantity (MT)	Quantity Value (Rs.)
Trader Volume in Tamil Nadu 2017-2018	95448.98	16120513948
Trader Volume in Tamil Nadu 2018-2019	1243403	211361847300
Growth Rate	12.03	12.11
Trader Volume in Tamil Nadu 2019-2020	1641749	282850376692
Growth Rate	0.32	0.34
Trader Volume in Tamil Nadu 2020-2021	2406020	349111398710
Growth Rate	0.47	0.23

Source: DEPARTMENT OF AGRICULTURAL MARKETING AND AGRI-BUSINESS, CHENNAI, COMPILED BY AUTHOR

The trader volume in Tamil Nadu E-Nam increased consistently from 2017-2018 to 2020-2021. The growth rate in trader volume was 12.03 per cent from 2017-2018 to 2018-2019. While there was a moderate growth of 0.32 per cent from 2018-2019 to 2019-2020, a substantial increase of 0.47 per cent occurred from 2019-2020 to 2020-2021. The quantity of traded agricultural products, measured in metric tons (MT), has experienced substantial growth over the years. The quantity increased from 95,448.98 MT in 2017-2018 to 2,406,019.92 MT in 2020-2021. The growth varied, with a notable 12.03 per cent increase from 2017-2018 to 2018-2019, followed by a 0.32 per cent growth in the subsequent year and a more significant 0.47 per cent growth in the latest period of 2020 – 2021. The value of traded agricultural products also witnessed substantial growth over the years. The value increased from Rs. 16,120,513,948 in 2017-2018 to Rs. 349,111,398,710 in 2020-2021. Similar to the quantity growth, the value growth rates varied, with a significant 12.11 per cent increase from 2017-2018 to 2018-2019, followed by a 0.34 per cent growth in the subsequent year and a more modest 0.23 per cent growth in the latest period of 2020-2021. The consistent growth in trader volume, quantity, and value of transactions over the years indicates a positive trend in adopting and utilizing the E-NAM platform in Tamil Nadu. The substantial growth in quantity and value indicates increased participation and transactions in the agricultural market, potentially benefiting both farmers and traders. The varying growth over the years may be influenced by factors such as market conditions, government policies, and the overall economic environment. This table indicated a positive trajectory in trading agricultural products through E-NAM in Tamil Nadu, highlighting increased volumes and values of transactions over the specified period.

Table 4 Forecast analysis for traded volume and value of agricultural products in Tamil Nadu e-NAM (2016-2026)

		Volume of transaction Quantity (MT)	Value (Rs.)
2017-2018 Value		95448.98	161205139.48
2018-2019 Value		1243403	2113618473
2019-2020 Value		1641749	2828503766.92
2020-2021 Value		2406020	3491113987.10
2021-2022 Value		3179170	482476330082
2022-2023	Forecast Value	3912176	589522448450
2023-2024	Forecast Value	4645182	696568566818
2024-2025	Forecast Value	5378188	803614685185
2025-2026	Forecast Value	6111194	910660803553.2

SOURCE: DEPARTMENT OF AGRICULTURAL MARKETING AND AGRI-BUSINESS, CHENNAI, COMPILED BY AUTHOR

The forecast analysis identifies the significant growth in the quantity of traded agricultural products from up to 2026. The volume of transaction quantity is expected to reach 61,11,193.575 MT by the year of 2025-2026. The increasing trend suggests a positive outlook for the traded volume of agricultural products, potentially driven by factors such as market efficiency, increased adoption of electronic platforms, and enhanced market accessibility. The forecast predicts a substantial growth in the value of traded agricultural products. Compared to 2017 – 2018, the quantity value is expected to reach Rs. 9,10,66,08,03,553.2 by 2025-2026. The consistent increase in the forecasted values indicates a positive trajectory for the monetary value of traded agricultural goods, suggesting potential economic development and

market expansion in Tamil Nadu. The forecast analysis revealed an optimistic picture of agricultural products traded value in the Tamil Nadu E-NAM platform. The projected growth in both quantity and value implies a robust and expanding market, possibly driven by advancements in technology, increased participation from farmers and traders, and a more efficient agricultural trading system. The positive trajectory aligns with the broader trends in digital transformation within the agriculture sector, fostering economic growth and improving market dynamics. However, as with any forecast, external factors and potential uncertainties could impact the actual outcomes, so continuous monitoring and adjustment of strategies may be necessary for stakeholders in the agricultural market.

4. Conclusion

The integration of technology, particularly through the e-NAM, has significantly reshaped the agricultural marketing landscape in Tamil Nadu. The study, based on a comprehensive analysis of trade records spanning from 2017 to 2021 and forecasting up to 2025-2026, provides a detailed insight into the transformative impact of e-NAM on the trade of agricultural products in the state. This study revealed a consistent and substantial growth in the trade quantity and value for both arrived and traded lots. The positive trajectory observed in the arrival of lots, traded quantity, and traded value indicates a dynamic and expanding agricultural trade market in Tamil Nadu. The forecast analysis further strengthens this perspective, projecting a steady increase in the number of arrived and traded lots and their respective quantities and values up to the year 2025 to 2026.

The growth in trader volume, quantity, and value of transactions over the years showcases a positive trend in adopting and utilizing the e-NAM platform. This signifies increased participation and transactions in the agricultural market, potentially benefiting both farmers and traders. The forecast analysis anticipates significant growth in both the quantity and value of traded agricultural products, reflecting a positive outlook for market efficiency and economic development in Tamil Nadu. While the forecast presents an optimistic picture, it is essential to acknowledge that external factors and potential uncertainties could impact actual outcomes. Continuous monitoring and adjustment of strategies may be necessary for stakeholders in the agricultural market to navigate any unforeseen challenges. The success of e-NAM in Tamil Nadu exemplifies the transformative power of technology in enhancing transparency, accessibility, and competitiveness in the agricultural trade ecosystem, contributing to the sustainable development of the state's agrarian sector.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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