

e-NAM: Transforming Agricultural Marketing through Digital Innovation in India

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ABSTRACT

The Electronic National Agriculture Market (e-NAM) is a major digital initiative aimed at transforming agricultural marketing in India. Launched in 2016, the platform integrates Agricultural Produce Market Committee (APMC) mandis through a unified online trading system, promoting transparent price discovery, wider market access and efficient agricultural trade. Over the years, e-NAM has expanded significantly, connecting more than 1,650 mandis and facilitating trade worth over ₹4.82 lakh crore. The platform has benefited farmers, traders and Farmer Producer Organizations (FPOs) by reducing information asymmetry and improving marketing efficiency. Studies conducted in different states have reported positive impacts on commodity prices, market arrivals and farmers' income. However, challenges such as inadequate infrastructure, limited awareness and digital literacy continue to affect its adoption. This article highlights the growth, achievements, challenges and future prospects of e-NAM and discusses its role in promoting a transparent and integrated agricultural marketing system in India.

INTRODUCTION

Agriculture stands as a cornerstone of India's economy, crucially employing a significant portion of the population and making substantial contribution to the nation's economy. Agriculture plays a key role in the Indian economy, contributing about 16 per cent to the Gross Domestic Product (GDP) and supporting nearly 46 per cent of the population (Press Information Bureau, GOI, 2025).

Agricultural marketing plays a crucial role in determining the income of farmers and the overall efficiency of the agricultural sector. Traditionally, Indian farmers have sold their produce through local mandis where they often face challenges such as limited market access, inadequate price information, multiple intermediaries and delayed payments. These issues frequently reduce farmers' bargaining power and affect their profitability. To address these concerns and create a unified national market for agricultural commodities, the Government of India launched the National Agriculture Market (e-NAM) on 14 April 2016.

e-NAM is a pan-India electronic trading portal that integrates Agricultural Produce Market Committee (APMC) mandis across the country through a common online platform. The scheme is implemented by the Small Farmers Agribusiness Consortium (SFAC) under the Ministry of Agriculture and Farmers' Welfare. The vision of e-NAM is to promote transparency in agricultural marketing, improve price discovery and provide farmers with wider market access beyond their local mandis (e-NAM Portal, 2026).

Growth and Expansion of e-NAM in India

Since its launch in 2016, e-NAM has witnessed remarkable growth. Initially started with only 21 mandis in eight states, the

platform has expanded rapidly and emerged as one of the world's largest digital agricultural marketing networks. As per the latest available information, e-NAM covers 27 States and Union Territories (23 States and 4 UTs) and has integrated 1,656 mandis across India. More than 1.80 crore farmers and 2.72 lakh traders have been registered on the platform. Additionally, over 4,700 Farmer Producer Organizations (FPOs) have been onboarded, strengthening collective marketing and improving farmers' bargaining power (e-NAM Portal, 2026).

Table 1. Major Achievements of e-NAM in India (2025–26)

Particulars	Achievement
States and Union Territories Covered	27
Integrated Mandis	1,656
Registered Farmers	More than 1.80 Crore
Registered Traders	More than 2.72 Lakh
Registered Farmer Producer Organizations (FPOs)	More than 4,700
Commodities Traded	More than 247
Quantity Traded	13.22 Crore Metric Tonnes
Cumulative Trade Value	₹ 4.82 Lakh Crore
Integrated Mandis in Rajasthan	173
Registered Farmers in Rajasthan	15.54 Lakh
Trade Value in Rajasthan	₹ 1.30 Lakh Crore

Source: e-NAM Portal and Ministry of Agriculture & Farmers Welfare, Government of India (2025–26).

The trading performance of e-NAM has also been impressive. More than 13.22 crore metric tonnes of agricultural commodities have been traded through the platform with a cumulative trade value exceeding ₹4.82 lakh crore. At present, over 247 commodities, including

cereals, pulses, oilseeds, fruits, vegetables and spices, are traded through e-NAM. These achievements demonstrate the increasing acceptance of digital agricultural marketing among farmers, traders and agribusiness stakeholders (e-NAM Portal, 2026).

Among the states, Rajasthan has emerged as one of the leading adopters of e-NAM. A total of 173 mandis have been integrated with the platform in the state (e-NAM Portal, 2026). More than 15.54 lakh farmers have registered on e-NAM in Rajasthan, while the cumulative value of trade has exceeded ₹1.30 lakh crore. These figures indicate the growing role of digital marketing platforms in strengthening agricultural trade and improving market access for farmers in the state.

The expansion of e-NAM has taken place in several phases. After the pilot phase in 2016, the number of integrated markets gradually increased, reaching 1,000 mandis by 2020 and over 1,650 mandis by 2025–26. This rapid expansion reflects the Government's commitment to promoting the concept of "One Nation, One Market" in the agricultural sector. The platform has significantly contributed to reducing geographical barriers in agricultural trade and creating a more competitive marketing environment for farmers (PIB, 2025).

Benefits of e-NAM for Farmers and Other Stakeholders

One of the most important advantages of e-NAM is transparent price discovery. Through online bidding and electronic auctions, farmers receive prices based on actual market demand and supply conditions. This reduces the possibility of price manipulation and improves competition among buyers. Farmers can access real-time information regarding arrivals, prevailing prices and market trends, enabling them to make informed marketing decisions (CCS NIAM, 2020).

The platform also facilitates direct online payment, ensuring that sale proceeds are transferred directly to farmers' bank accounts. This reduces delays in payment and strengthens financial security. By minimizing the role of unnecessary intermediaries, e-NAM helps farmers receive a larger share of the consumer's rupee.

Farmer Producer Organizations (FPOs) have particularly benefited from the platform. FPOs can aggregate produce from their member farmers and sell larger quantities through e-trading. This collective marketing approach improves bargaining power and enables farmers to access wider markets. The government has further strengthened FPO participation by supporting grading, sorting, packaging and collection facilities. Personalized dashboards and real-time market information also assist FPOs in making better marketing decisions.

Traders and buyers also gain significant benefits from e-NAM. The platform allows them to access a larger pool of sellers across different states, improving procurement opportunities. Real-time information regarding commodity arrivals, quality and prices helps traders make efficient purchasing decisions. Online banking and digital payment facilities further simplify transactions and reduce transaction costs. Similarly, mandi boards benefit through automation of trade records, better market intelligence and improved monitoring of trading activities.

Evidence of Impact: Research Findings from India

Several studies conducted across India indicate that e-NAM has positively influenced agricultural marketing performance. A study conducted in Fatehnagar APMC of Udaipur district, Rajasthan, compared crop arrivals and prices before and after e-NAM implementation. The results showed that wheat

arrivals increased by 21.03 per cent, maize arrivals by 27.84 per cent and rapeseed-mustard arrivals by 23.52 per cent during the post-e-NAM period. Significant improvements in market prices were also observed. Wheat prices increased by 40.90 per cent, maize prices by 44.85 per cent and rapeseed-mustard prices by 39.62 per cent. These findings clearly indicate that e-NAM contributed to improved market participation and better price realization for farmers (Sharma, 2024).

Another study conducted in Sirsa APMC, Haryana, revealed a substantial increase in average commodity prices following the introduction of e-NAM. Wheat prices increased by nearly 30 per cent, mustard prices by approximately 24 per cent and cotton prices by over 21 per cent. The study concluded that digital marketing platforms have enhanced transparency and strengthened market efficiency (Singh *et al.*, 2023).

The Performance Evaluation Study conducted by CCS NIAM, Jaipur, also reported encouraging results. Farmers marketing their produce through e-NAM mandis in Rajasthan received higher prices compared to traditional markets. Garlic farmers received approximately ₹293 per quintal more, mustard farmers received ₹240 per quintal more and wheat farmers obtained about ₹127 per quintal additional price through e-NAM transactions. These findings demonstrate the positive impact of digital marketing on farmers' income (CCS NIAM, 2020).

A Success Story of e-NAM

The practical benefits of e-NAM can be understood through the experience of Kiran Khalkho, a marginal farmer from Jharkhand. During the COVID-19 pandemic, she successfully sold 15 quintals of watermelon directly from her farm through the e-NAM platform. Through online bidding, her produce was purchased at ₹8 per kilogram by a

company located in Jamshedpur. The total transaction value amounted to ₹12,000 and payment was directly transferred to her bank account through the digital payment gateway. This example demonstrates how e-NAM can connect farmers directly with buyers while ensuring transparency and timely payment (IFAD, 2021).

Challenges in the Adoption of e-NAM

Despite its remarkable progress, e-NAM continues to face several operational and infrastructural challenges. Although the platform provides digital access to agricultural markets, physical market operations still play an important role in the trading process. Activities such as produce arrival, quality assessment, weighing, storage and transportation continue to depend on local market infrastructure. Therefore, deficiencies in physical infrastructure often limit the full benefits of digital trading.

Research studies have identified several constraints faced by farmers while participating in e-NAM. A study conducted in Fatehnagar APMC, Udaipur, revealed that prolonged e-auction procedures were perceived as the most serious constraint by farmers. Lack of knowledge regarding quality parameters, high transportation costs, poor road connectivity and distant market locations were also reported as important challenges. Many small and marginal farmers still possess limited awareness of digital marketing platforms, restricting their effective participation in online trading (Sharma, 2024).

Another major concern is the inadequate availability of assaying facilities. Quality-based trading is one of the key features of e-NAM, but several mandis still lack sufficient infrastructure for scientific quality testing and grading. In addition, transportation and logistics support between sellers and buyers requires further strengthening to facilitate



seamless interstate trade. The digital divide, particularly in rural areas, also remains a challenge as many farmers have limited access to smartphones, internet connectivity and digital literacy (Kumar *et al.*, 2024).

Government Support and Institutional Initiatives

Recognizing these challenges, the Government of India has introduced several complementary initiatives to strengthen the e-NAM ecosystem. The platform has been integrated with agri-logistics service providers such as BlackBuck, Rivigo, Truck Suvidha and ElasticRun to improve transportation and supply chain efficiency. These partnerships help farmers and traders access reliable logistics services and reduce marketing bottlenecks (PIB, 2025).

The government has also promoted integration between e-NAM and other agricultural support systems, including AGMARKNET, Agriculture Infrastructure Fund and Kisan Rath. These initiatives improve market information dissemination, storage infrastructure, transportation facilities and digital connectivity. Such convergence enhances the effectiveness of e-NAM and contributes to the development of a more efficient agricultural marketing system.

Private digital platforms such as AgriBazaar, StarAgri and other agribusiness service providers have further strengthened the digital agricultural ecosystem by offering warehousing, market intelligence, assaying and value-chain services. These institutional efforts collectively support the broader objective of creating a transparent, integrated and farmer-centric agricultural marketing system in India.

Future Prospects of e-NAM

The future of e-NAM appears highly promising as India moves towards greater digitalization of agriculture. Expansion of

digital infrastructure, wider adoption of smartphones and increasing internet penetration in rural areas are expected to accelerate farmer participation in online agricultural marketing. Integration of artificial intelligence, real-time market intelligence and advanced logistics management systems can further improve the efficiency of agricultural trade.

Strengthening Farmer Producer Organizations (FPOs) can also enhance the effectiveness of e-NAM. FPOs can aggregate produce, improve quality management and facilitate large-scale participation of small and marginal farmers. Greater emphasis on farmer training, digital literacy programmes and awareness campaigns will be essential for ensuring inclusive participation in the platform.

With continuous policy support and technological innovation, e-NAM has the potential to evolve into a fully integrated national agricultural marketplace that provides seamless trading opportunities across states and commodities. Such transformation can significantly contribute to improving market efficiency, reducing transaction costs and enhancing farmers' income.

CONCLUSION

The National Agriculture Market (e-NAM) has emerged as one of the most significant agricultural marketing reforms in India. Since its launch in 2016, the platform has expanded rapidly, connecting more than 1,650 mandis and facilitating agricultural trade worth over ₹4.82 lakh crore. By promoting transparent price discovery, wider market access and direct digital payments, e-NAM has strengthened the marketing environment for farmers and improved the efficiency of agricultural trade.

Empirical evidence from Rajasthan, Haryana and other parts of India indicates that e-NAM has positively influenced commodity prices,

market arrivals and farmers' returns. The platform has also created new opportunities for Farmer Producer Organizations and agribusiness enterprises to participate in digital marketing systems. However, challenges related to awareness, infrastructure, logistics and digital literacy still require attention.

Overall, e-NAM represents a major step towards achieving the vision of "One Nation, One Market" in Indian agriculture. Continued investment in infrastructure, capacity building and technological innovation will be essential for maximizing its benefits and ensuring sustainable agricultural marketing in the years ahead.

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