Manuscript ID:
TIJCMBLIR-2025-020604

Volume: 2

Issue: 6

Month: December

Year: 2025

E-ISSN: 3065-9191

Submitted: 05 Nov 2025

Revised: 20 Nov 2025

Accepted: 10 Dec 2025

Published: 31 Dec 2025

Address for correspondence:
Sonali Bharat Khalate
Research Scholar
Email:
sonaliyashwant@gmail.com

DOI: 10.5281/zenodo.18197070

DOI Link:
https://doi.org/10.5281/zenodo.18197070

Agriculture Market Committees: A Data-Driven Analysis

Sonali Bharat Khalate[1]Dr.Sunil D. Zagade[2]
[1]Research Scholar
[2]Research Guide

Abstract

Agricultural markets play a vital role in supporting farmers, yet many question whether Agriculture Produce Market Committees (APMCs) are functioning as efficiently as intended. To better understand their performance, this study evaluates secondary data from selected APMCs, focusing on how well these markets manage pricing transparency, handle market turnover, and make use of available infrastructure. The findings show that the level of operational efficiency differs widely among committees, making it clear that improvements and updated policies are needed to strengthen market systems. By presenting evidence-based insights, this research offers practical guidance that can help government bodies, industry participants, and academics enhance the functioning of agricultural markets and promote a more sustainable value chain for farmers.

Keywords: *Agriculture Produce Market Committees (APMCs), Operational Performance, Secondary Data Analysis, Market Efficiency, Agricultural Trade, Pricing Trends, and Sustainable Agri-Markets.*

Introduction:

Agricultural markets depend greatly on Agriculture Produce Market Committees (APMCs), which were created through state regulations to help farmers sell their produce in a fair and transparent environment. These committees oversee organized marketplaces where pricing can be discovered openly and where both farmers and consumers are meant to be protected. However, despite their intended purpose, concerns have grown over the years about whether they are operating efficiently. Challenges such as outdated procedures, insufficient infrastructure, and inconsistent service delivery often raise doubts about their true effectiveness.

To better understand their real contribution to the agricultural economy, this study analyzes secondary data related to how these markets function. Key performance elements — including how much produce is traded, how prices fluctuate, and how well market facilities are utilized — are examined to assess their role in supporting farmers' income and ensuring fair trade. The findings expose noticeable gaps in operational performance across different committees, indicating that meaningful reforms and modernization are urgently needed. By presenting a data-driven evaluation, the research aims to help government authorities, market managers, and other stakeholders develop policies that strengthen APMC performance and create a more equitable and sustainable marketing system for the farming community.

Objectives of the study:

1. To study how well APMCs are functioning by analyzing factors such as trade volume, price movements, and how effectively market facilities are used.
2. To uncover areas where APMCs may be struggling or performing unevenly through the interpretation of existing data.
3. To suggest meaningful reforms and improvements that can help create more efficient and farmer-friendly agricultural markets.

Methodology of the study:

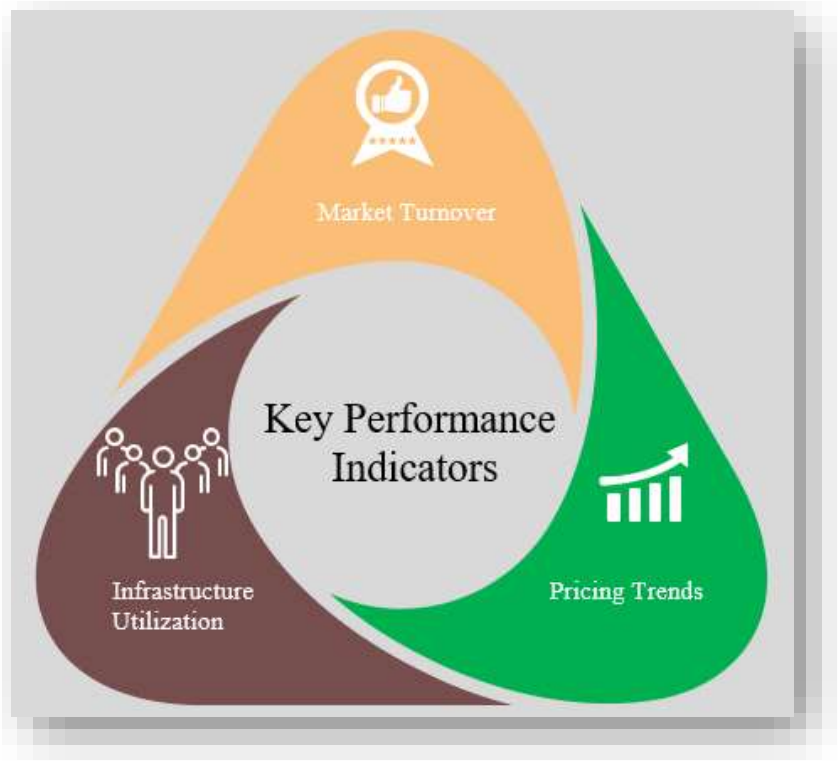
This study adopts a secondary data–driven approach to examine how efficiently Agriculture Produce Market Committees (APMCs) function. Rather than collecting primary data from field surveys, the research relies on information already available from trusted sources such as government reports, academic publications, APMC annual performance records, and recognized agricultural databases. Using this data, the study investigates essential indicators—including pricing behaviors, market transaction volumes, and the usage of market infrastructure—to assess the operational performance of the selected committees.

How to Cite this Article:
Khalate, S. B., & Zagade, S. D. (2025). Agriculture Market Committees: A Data-Driven Analysis. The International Journal of Commerce Management and Business Law in International Research, 2(6), 17–21. https://doi.org/10.5281/zenodo.18197070

To interpret the collected data, basic statistical methods were applied to identify notable trends, fluctuations, and operational gaps across different APMCs. Alongside numerical analysis, insights from relevant literature and policy frameworks were reviewed to build a deeper understanding of the findings and explain their impacts on market efficiency and farmer welfare.

Although the study leverages reliable published materials, the analysis is influenced by the limitations of available secondary data, particularly in cases where detailed or recent records are scarce. Care was taken to verify the authenticity of the information to maintain accuracy and relevance. Despite these constraints, this methodological design remains cost-effective and comprehensive, providing a strong foundation for recognizing strengths and improvement opportunities in the functioning of APMCs.

Theoretical Framework
Definitions of Key Concepts
Key Performance Indicators



To assess the operational efficiency of Agriculture, Produce Market Committees (APMCs), the following key performance indicators (KPIs) have been established:

1. Market Turnover:

This measure reflects the overall financial value of crops and produce traded in an APMC during a specific period. A higher turnover suggests a more active marketplace capable of supporting strong trading activity and contributing significantly to the agricultural economy.

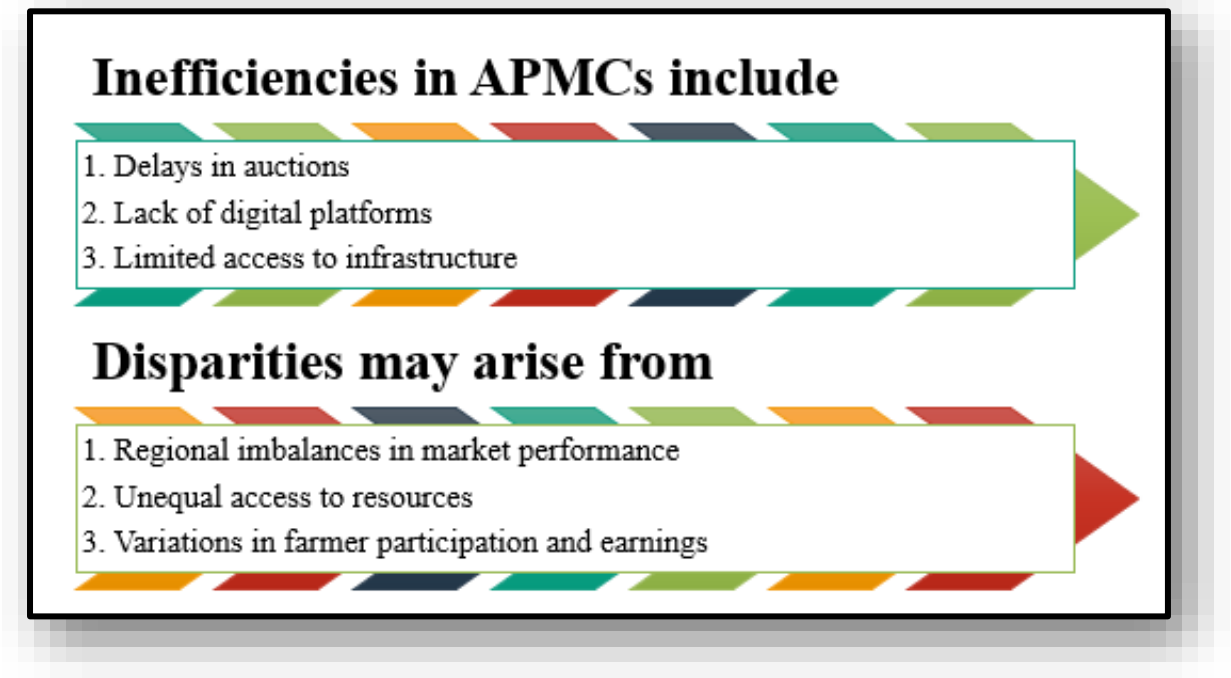
2. Pricing Trends:

Tracking changes in product prices over time helps determine whether farmers are receiving fair compensation for their goods. Stable and transparent pricing signals that the market is functioning well, while sudden price drops or volatility may point to structural issues or inefficiencies within the trading system.

3. Infrastructure Utilization:

This indicator looks at how effectively the physical facilities—such as storage units, auction areas, and transport networks—are being used. When infrastructure is modern, well-maintained, and accessible, it enhances operational flow, reduces losses, and ultimately improves the marketing experience for both farmers and buyers.

Inefficiencies and Disparities



Operational challenges within APMCs often emerge in several forms, such as slow auction processes, outdated or inadequate use of technology, and insufficient availability of essential market facilities. Additionally, noticeable differences in performance across regions can result from unequal resource distribution, varying levels of infrastructure development, and inconsistent farmer involvement. These disparities also influence the income farmers are able to generate, highlighting ongoing issues that limit the overall efficiency and inclusiveness of APMC operations.

Relationship Between Operational Performance and Key KPIs

The efficiency of APMCs can be understood through their key performance indicators, as each one reflects how well the market system is functioning. When market turnover is high, it suggests that trading is active and that the committee is effectively supporting agricultural transactions. Likewise, pricing that remains fair and consistent demonstrates transparency in the system and helps build confidence among farmers, buyers, and other stakeholders. Well-maintained infrastructure that is regularly utilized contributes to smooth day-to-day operations, reduces post-harvest losses, and increases the market's ability to handle larger volumes. However, when weaknesses appear in these performance measures—whether in pricing mechanisms, trade volume, or infrastructure use—they signal operational shortcomings and reinforce the need for upgrades and policy improvements to strengthen the APMC framework.

Examples of Terms in Indian Market:

1. Market Turnover

A clear example of strong trading performance can be seen in Delhi's Azadpur Mandi, one of the country's largest hubs for fruit and vegetable distribution. Its substantial market turnover demonstrates its capacity to handle high transaction volumes and efficiently facilitate trade on a large scale. In contrast, many smaller markets in rural areas record much lower turnover, often due to fewer traders, limited farmer access, and operational constraints that hinder smooth market functioning.

2. Pricing Trends

A well-known example of price instability can be observed in the Lasalgaon market of Maharashtra, Asia's largest onion trading center. When there is an abundant supply, onion prices often drop sharply, while during shortages they rise steeply. Such fluctuations indicate shortcomings in maintaining fair and steady pricing mechanisms, ultimately harming farmers through reduced income and burdening consumers with sudden cost increases.

3. Infrastructure Utilization

Poor utilization of market infrastructure can be seen clearly in Uttar Pradesh, where large numbers of cold storage units remain unused. Since many farmers either lack awareness of these facilities or find the rental charges too high to afford, they rarely take advantage of them. As a result, perishable commodities like fruits and vegetables often deteriorate before reaching the market, causing significant post-harvest losses and lowering farmers' earnings.

4. Delays in Auctions

Inefficient trading procedures are evident in many APMCs of Karnataka, where buyers and sellers still depend heavily on traditional, manual auction systems. Because these auctions take longer to complete, farmers are often required to remain in the market far beyond the intended timeline. This delay not only affects their productivity but also slows down trading activity, ultimately reducing overall market

turnover and increasing transaction-related expenses for all participants.

5. Lack of Digital Platforms

While the National Agriculture Market (e-NAM) has advanced online trading for farmers, many smaller APMCs across the country are still functioning without digital tools. This absence of technology limits information flow, reduces transparency in price discovery, and slows down market processes, ultimately preventing these local markets from operating efficiently.

6. Limited Access to Infrastructure

The absence of crucial market facilities like sorting and grading units is a major concern in several APMCs across Bihar. Because these services are either unavailable or inadequate, farmers struggle to present their produce in a value-enhanced form, making it difficult for them to negotiate higher prices. Consequently, the overall competitiveness of these markets remains weak compared to better-equipped regions.

7. Regional Imbalances in Market Performance

A clear contrast can be observed when comparing different regions in India. In states such as Maharashtra and Gujarat, APMCs operate with stronger infrastructure and record higher trading volumes. Meanwhile, markets in northeastern states like Nagaland and Manipur continue to face difficulties due to restricted access and inadequate facilities, which significantly hinders their growth and overall efficiency.

8. Regional Disparities in Market Performance

There is a noticeable regional divide in the functioning of APMCs across India. Markets in states like Maharashtra and Gujarat tend to perform more efficiently, supported by well-developed infrastructure and a strong volume of trade. On the other hand, several northeastern states, including Nagaland and Manipur, continue to face challenges due to poor connectivity and insufficient market facilities, which limits their ability to compete and slows their overall progress.

9. Disparities in Resource Accessibility

A comparison of agricultural conditions across states shows clear disparities in the support available to farmers. In Punjab, well-established irrigation networks and subsidized input provisions help farmers maintain productive cultivation. However, growers in states such as Odisha often struggle due to unreliable water availability and limited government support, which negatively affects their farming outcomes.

10. Differences in Farmer Engagement and Income

Proximity to major urban centers plays a crucial role in determining farmers' earnings. Those trading in APMCs positioned near cities such as Pune or Bengaluru benefit from stronger market demand and better transportation links, enabling them to secure higher returns for their produce. In contrast, farmers operating in remote rural areas, including parts of Jharkhand, often face limited bargaining opportunities and challenges in reaching markets, which ultimately leads to lower income levels and reduced participation in trade activities.

Alignment of the above discussion with the objectives of the study:

By drawing on real-world illustrations, the discussion effectively highlights both the difficulties and the potential within APMC operations, ensuring a strong connection to the key objectives of the research.

Objective 1: Performance Evaluation Through KPIs

By focusing on indicators such as trade volume, price behavior, and infrastructure usage, the study establishes a practical lens for measuring how well APMCs operate. Examples like the strong trading activity at Azadpur Mandi, the unstable onion prices in Lasalgaon, and the limited uptake of cold storage facilities in Uttar Pradesh clearly demonstrate how these indicators reflect real-world market efficiency. These observations reinforce the relevance of analyzing KPIs to judge the effectiveness of agricultural market systems.

Objective 2: Identifying Operational Gaps and Regional Variations

The study also brings attention to systemic issues, including slow manual auctions, lack of digital support, and inadequate physical facilities — all of which hinder smooth market functioning. Moreover, differences in resources and accessibility across regions reveal why some markets perform better than others. Highlighting such inequalities strengthens the objective of exposing performance gaps that affect farmers' experiences and market outcomes in different parts of the country.

Objective 3: Pathways for Improvement and Sustainable Development

Insights into farmers' income levels and participation across locations help pinpoint where reforms are most needed. Encouraging technology adoption (like wider integration of e-NAM), improving market infrastructure, and reducing regional disadvantages emerge as practical strategies for improving APMC efficiency. These directions align closely with the goal of generating constructive recommendations that can lead to more resilient and equitable agricultural marketing practices.

Conclusion:

This analysis emphasizes the crucial role APMCs play in supporting smooth and equitable agricultural marketing, while also revealing the persistent operational gaps that hinder their impact. Variations in key indicators—such as trade volume, pricing stability, and the utilization of market infrastructure—make it clear that performance differs significantly from one region to another. These inconsistencies point to a pressing need for modernization and a more balanced allocation of resources.

Challenges including slow auction systems, limited adoption of digital trading platforms, and inadequate facilities continue to restrict farmers from receiving fair market prices and benefiting fully from the system. Moreover, unequal infrastructural access and regional imbalances further widen the gap in market efficiency and farmer outcomes. These concerns collectively highlight the importance of

targeted policy reforms aimed at enhancing transparency, boosting infrastructure capacity, and ensuring that benefits reach farmers across all parts of the country.

Futuristic Approach:

Ensuring that APMCs operate more efficiently and sustainably will require a comprehensive transformation in the way they function. Expanding digital connectivity through systems like e-NAM can streamline trading processes and improve transparency for farmers and buyers alike. At the same time, investing in better market infrastructure—particularly storage, transportation, and facilities for sorting and grading—will reduce losses and enhance product quality. Addressing regional challenges with tailored policy measures is equally important so that farmers in less-developed areas are not left behind.

Advanced technologies such as artificial intelligence and data analytics also offer valuable tools for predicting price movements, improving market coordination, and supporting informed decision-making. Progress in this sector will depend heavily on strong cooperation between government agencies, private partners, and farming communities. By working together, these groups can shape APMCs into more inclusive, modern, and responsive institutions that better serve agricultural stakeholders.

Acknowledgment

The authors would like to express their sincere gratitude to all those who have contributed, directly or indirectly, to the completion of this research paper titled "Agriculture Market Committees: A Data-Driven Analysis."

We are deeply thankful to our respective institutions for providing a supportive academic environment and access to necessary resources that facilitated this study. Special appreciation is extended to Dr. Sunil D. Zagade, Research Guide, for his valuable guidance, constant encouragement, and insightful suggestions throughout the course of this research. His academic support played a crucial role in shaping the analytical framework and overall quality of the study.

We also acknowledge the contributions of various government departments, agricultural market authorities, and research organizations whose reports, databases, and published materials formed the backbone of the secondary data used in this research. The insights drawn from journals, books, and official websites have significantly enriched the analysis and interpretation.

Finally, we express our heartfelt thanks to our family members, colleagues, and well-wishers for their continuous moral support, motivation, and patience during the research process.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

Section A Book:

1. Sarkar, Tanmoy & Kundu, Suprabuddha & Sengupta, Sudip & Chatterjee, Avishek. (2023). Modern Facets of Agriculture in India. 10.62715/trp.2024.
2. Panotra, Narinder & Salgotra, Romesh & Sharma, Manmohan & Gupta, Vinod & Sharma, Magdeshwar. (2024). Agriculture and Horticulture in India (Edition 1).
3. M.syed, Ibrahim. (2024). Performance Evaluation of Regional Rural Banks in India. International Business Research.

Section B Websites:

1. www.google.com. [Online]
2. https://dmi.gov.in. [Online]
3. https://agmarknet.gov.in
4. https://www.nafed-india.com
5. https://agriwelfare.gov.in
6. https://www.agrilmktg.in

Section C Journals and Articles:

1. Rajyalakshmi, Palla & Nayak, Dr.V.. (2024). E-Agriculture and Rural Development in India. Educational Administration: Theory and Practice.
2. Debnath, Subhankar & Kumari, Sakshi & Giri, Himadri & Sadangi, Soumya. (2024). Pathways to Sustainable Agriculture: Strategies for a Developed India.
3. Tripathy, Saikiran. (2024). DIGITAL AGRICULTURE: Dawn of innovation in agriculture in India.