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An analysis of logistics and transport availability among rice exporters in Telangana and Andhra Pradesh

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Abstract

Efficient logistics and transport systems play a crucial role in helping rice exporters reduce costs, deliver consignments on time, and stay competitive in global markets. This study examines the availability of logistics and transport facilities among rice exporters in Telangana and Andhra Pradesh. A total of 80 exporters (40 from each state) were purposively selected and studied using an ex post facto research design. The analysis highlights noticeable differences in how exporters from the two states experience and perceive various logistics components. The findings show that most exporters are reasonably satisfied with certain basic facilities. A majority perceived procurement of harvested produce as good (70.00% in Telangana and 62.50% in Andhra Pradesh). Truck availability was also viewed positively by 62.50 per cent of exporters in Telangana and 52.50 per cent in Andhra Pradesh. Half of the exporters in Telangana (50.00%) and slightly more in Andhra Pradesh (52.50%) felt that customs regulations and documentation procedures were functioning well. Handling, loading, and unloading facilities were considered good by 45.00 per cent of Telangana exporters and 55.00 per cent of those in Andhra Pradesh. Similarly, container availability was rated as good by around half of the exporters in both states. Despite these positive aspects, access to port facilities emerged as a major challenge, particularly for exporters in Telangana. A significant 80.00 per cent of Telangana exporters rated port access as poor, compared to 52.50 per cent in Andhra Pradesh. This clearly reflects the geographical and infrastructural disadvantages faced by exporters in the landlocked state. When overall logistics and transport availability was assessed, more than half (52.50%) of Telangana exporters fell under the low category, while only 12.50 per cent reported high availability. In contrast, most exporters in Andhra Pradesh (45.00%) reported medium availability, and a comparatively higher proportion (25.00%) fell under the high category. Taken together, 41.25 per cent of exporters from both states experienced low logistics availability, 40.00 per cent medium, and only 18.75 per cent high. This suggests that although essential logistics systems exist, they are not consistently efficient or equally accessible. In conclusion, the study indicates the need for focused improvements in port connectivity, container access, handling infrastructure, and customs procedures. Strengthening coordination between government agencies and private logistics providers and investing in better infrastructure can significantly enhance export performance. By addressing these constraints, rice exporters in Telangana and Andhra Pradesh can improve reliability, reduce uncertainties, and achieve more sustainable growth in international markets.

Keywords: Rice, exporters, logistics, transport

Introduction

Logistics and transport infrastructure play a vital role in determining how effectively countries participate in global trade. This is especially true for agricultural exports, where products are highly perishable and time-sensitive. Fresh produce, processed foods and other agricultural commodities require efficient procurement, storage, transportation, and documentation systems to reach international markets in good condition. When logistics systems function smoothly, exporters can reduce delays, minimize losses, and compete more effectively in global markets. However, when transport facilities are inadequate or poorly coordinated, exporters face higher costs, longer lead times, and reduced profitability.

In India, the logistics sector has undergone significant transformation in recent years. Investments in multimodal connectivity, digital documentation systems, infrastructure

modernization, and policy reforms have aimed to lower logistics costs and strengthen export competitiveness (Ken Research, 2025; Logistics Insider, 2024) ^[3, 4]. Government initiatives such as the National Logistics Policy (Government of India, 2022) and the PM Gati Shakti Master Plan reflect a growing recognition that efficient logistics is central to economic growth and trade expansion. Improvements in tracking systems, infrastructure integration, and regulatory processes have helped improve India's performance in global logistics assessments (World Bank, 2023) ^[8]. Despite these developments, challenges persist, particularly in agricultural supply chains where infrastructure gaps and operational inefficiencies continue to affect exporters.

The importance of logistics in determining export performance has been widely acknowledged in both national and international research. Efficient logistics systems influence transaction costs, reliability of deliveries, and overall supply chain performance (World Bank, 2018) ^[8]. When transport networks are well connected and documentation processes are streamlined, exporters can meet international standards more easily and respond quickly to market demands. Conversely, high logistics costs and infrastructure bottlenecks reduce competitiveness. Although India has made measurable progress in reducing logistics costs, they remain relatively high compared to global benchmarks. Recent estimates suggest that logistics costs account for nearly 7–8% of India's GDP (Economic Times, 2025) ^[1]. Heavy dependence on road transport, inconsistent rail connectivity, port congestion, and uneven access to container services contribute to these elevated costs.

Agricultural exports face additional complexities. India is one of the world's largest producers of agricultural commodities, yet a relatively small proportion of this output successfully reaches high-value international markets. One of the primary reasons is the weakness in cold chain infrastructure and storage facilities. Inadequate refrigeration, fragmented supply chains, and insufficient handling facilities often result in significant post-harvest losses (Journal of Supply Chain, 2025) ^[2]. For perishable goods, even minor delays in transport or customs clearance can lead to deterioration in quality and financial loss. While technological advancements and digital logistics platforms are emerging to address these challenges, small and medium exporters often struggle to access such solutions due to financial and structural constraints (Logistics Insider, 2024) ^[4].

Regional differences further shape the experience of exporters. Telangana and Andhra Pradesh provide an important comparative context. Andhra Pradesh, with its long coastline and access to multiple ports, benefits from strategic port development initiatives aimed at strengthening export infrastructure (Times of India, 2026) ^[7]. These advantages can reduce transport time and costs for exporters located near port facilities. In contrast, exporters in Telangana, being landlocked, may depend heavily on road transport to access coastal ports. This reliance can increase transportation distance, handling charges, and logistical uncertainty. Such regional disparities highlight the importance of examining logistics availability at the state level rather than relying solely on national averages.

It is also important to recognize that infrastructure development alone does not guarantee efficiency. Availability, reliability, and quality of services are equally critical. Exporters frequently report issues such as limited truck availability during peak seasons, delays in documentation procedures, shortage of

containers, and inadequate loading and unloading facilities. These operational constraints not only increase costs but also create uncertainty in delivery schedules. In international trade, where buyers prioritize reliability and consistency, such uncertainties can weaken long-term trade relationships (World Bank, 2023) ^[8].

Therefore, understanding logistics and transport availability in a detailed, category-wise manner becomes essential. Examining aspects such as procurement facilities, truck availability, container access, handling infrastructure, port connectivity, and documentation procedures allows for a clearer identification of existing gaps. By focusing specifically on rice exporters in Telangana and Andhra Pradesh, this study aims to provide region-specific insights into logistical strengths and weaknesses. Such an analysis can support policymakers, infrastructure planners, and logistics service providers in designing targeted interventions that improve export efficiency and competitiveness.

Objective of the study: To analyse the logistics and transport availability among rice exporters in Telangana and Andhra Pradesh.

Methodology

Research design: Ex post - facto research design was adopted for the investigation.

Locale of the study: This study was conducted in the Nizamabad and Nalgonda districts of Telangana, East Godavari and West Godavari districts of Andhra Pradesh in rice export regions, which are among the top rice exporting districts of their respective states, two states were selected to study the difference among logistics and transport availability among rice exporters in Telangana and Andhra Pradesh.

Sampling procedure:

40 exporters from each state were selected purposively, with good experience in rice exports, making a total of 160 exporters from Telangana and Andhra Pradesh states.

Data collection method: The Data collection was done with the use of a well-structured interview schedule and Questionnaire.

Results and Discussion

From the Table. 1., it can be inferred that the facility for procurement of harvested produce was perceived as good by majority (70.00%) of exporters in Telangana and 62.50 per cent of the exporters in Andhra Pradesh. Followed by the availability of trucks, with 62.50 per cent of exporters in Telangana and 52.50 per cent in Andhra Pradesh considered it as good. The customs regulations and documentation procedures were considered as good by 50.00 per cent of exporters in Telangana and 52.50 per cent in Andhra Pradesh. The availability of proper handling, loading, and unloading facilities was perceived as good by 45.00 per cent of exporters in Telangana and 55.00 per cent in Andhra Pradesh. The availability of containers was considered as good by 50.00 per cent of exporters in Telangana and 52.50 per cent in Andhra Pradesh. In case of the access to port facilities 80.00 per cent of exporters in Telangana considered it poor, compared to 52.50 per cent in Andhra Pradesh.

Table 1: Distribution of exporters according to category wise logistics and transport availability

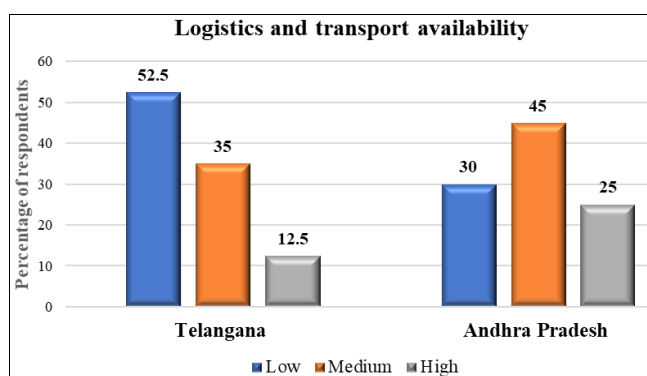
S. No.	Category	Respondents (n=80)					
		Telangana Exporters (n=40)			Andhra Pradesh Exporters (n=40)		
		Excellent	Good	Poor	Excellent	Good	Poor
1	Facility for procurement of harvested produce	05 (12.50)	28 (70.00)	07 (17.50)	07 (17.50)	25 (62.50)	08 (20.00)
2	Trucks	10 (25.00)	25 (62.50)	05 (12.50)	12 (30.00)	21 (52.50)	07 (17.50)
3	Customs regulations and documentation procedures	07 (17.50)	20 (50.00)	13 (32.50)	12 (30.00)	21 (52.50)	07 (17.50)
4	Availability of Proper handling, loading and unloading facilities	08 (20.00)	18 (45.00)	14 (35.00)	10 (25.00)	22 (55.00)	08 (20.00)
5	Availability of Containers	03 (07.50)	20 (50.00)	17 (42.50)	05 (12.50)	21 (52.50)	12 (30.00)
6	Access to port facilities	0 (00.00)	8 (20.00)	32 (80.00)	08 (20.00)	21 (52.50)	11 (27.50)

The data reveals that while certain logistical aspects like procurement and truck availability are relatively well-functioning, exporters still face significant challenges in port access, container availability, and handling facilities. In case of customs and documentation Telangana exporters are facing more difficulties than those in Andhra Pradesh. Addressing these bottlenecks through improved infrastructure, efficient documentation processes, and enhanced transport facilities could greatly benefit the export sector.

From Table 2. Nad Fig.1. it was found that majority (52.50%) of the respondents in Telangana had low logistics and transport availability, followed by 35.00 per cent medium and 12.50 per cent high among Andhra Pradesh respondents, majority (45.00%) had medium logistics and transport availability, followed by 30.00 per cent low and 25.00 per cent high.

Table 2: Distribution of exporters according to overall logistics and transport availability

S. No.	Category	Class Interval	Respondents (n=80)					
			Telangana Exporters (n=40)		Andhra Pradesh Exporters (n=40)		Total	
			f	%	f	%	f	%
1	Low	6-9	21	52.50	12	30.00	33	41.25
2	Medium	9-12	14	35.00	18	45.00	32	40.00
3	High	12-15	5	12.50	10	25.00	15	18.75
Total			40	100.00	40	100.00	80	100.00

**Fig 1:** Distribution of exporters according to overall logistics and transport availability

From the above results, it is evident that the majority (41.25%) of the respondents of both states had low logistics and transport availability, followed by 40.00 per cent with medium availability and 18.75 per cent with high logistics and transport availability.

The findings are similar to the findings of Prem Kumar (2021) [5].

The medium level of logistics and transport availability indicated that while exporters have access to necessary transport facilities, challenges such as high freight costs, limited availability of specialized export logistics, and inconsistent transportation networks still exist. The presence of low logistics availability among some exporters indicates issues like inadequate road connectivity, and dependence on third-party logistics providers, which may lead to delays and increased costs. Exporters with high logistics availability are likely those operating near major ports, having dedicated transport partnerships, or investing in their own logistics infrastructure, ensuring smoother supply chain operations.

Key Implications

The study reveals that a considerable proportion of exporters (41.25%) fall under the low level of logistics and transport availability, while 40.00 per cent are in the medium category and only 18.75 per cent experience high availability. This distribution clearly indicates that although basic logistics facilities are accessible to many exporters, a significant number continue to face structural and operational constraints. The dominance of low and medium categories suggests that the existing logistics environment is not fully efficient, reliable, or uniformly developed across regions.

These findings imply that logistical bottlenecks—particularly in port connectivity, container availability, handling infrastructure, and documentation procedures—directly affect export performance. Inadequate logistics can lead to higher transportation costs, shipment delays, quality deterioration, and reduced competitiveness in global markets. The comparatively higher proportion of low availability among Telangana exporters further highlights the impact of regional disparities and geographical limitations on export operations.

Strengthening logistics infrastructure, improving coordination between transport agencies and exporters, enhancing port access, and streamlining customs processes can significantly improve supply chain efficiency. Addressing these gaps will not only reduce operational uncertainties and transaction costs but also enhance reliability, market responsiveness, and long-term sustainability of rice exporters in Telangana and Andhra Pradesh.

Conclusion

The findings of the study show that exporters in both Telangana and Andhra Pradesh have access to certain basic logistics facilities, particularly procurement systems and truck

availability, which are generally perceived as satisfactory. However, this does not mean that the overall logistics environment is fully supportive. Several critical areas continue to pose challenges, especially access to port facilities, availability of containers, adequate handling infrastructure, and smooth customs documentation procedures. Among the two states, exporters in Telangana appear to face comparatively greater difficulties, particularly in port connectivity and documentation processes, likely due to geographical and infrastructural limitations.

A significant proportion of exporters fall under low to medium levels of logistics and transport availability. This suggests that while essential systems exist, they are not consistently reliable or efficient. In practice, this can translate into higher transportation costs, shipment delays, and uncertainty in delivery schedules. For agricultural exporters dealing with time-sensitive and perishable commodities, such constraints directly affect product quality, profitability, and long-term competitiveness in international markets.

Improving export performance therefore requires more than incremental adjustments. Targeted investments in better port connectivity, modernization of loading and unloading facilities, improved access to containers, and simplified customs documentation processes are essential. Encouraging stronger collaboration between government agencies and private logistics providers can help build more integrated and responsive supply chains.

By addressing these bottlenecks, policymakers can create a more supportive logistics ecosystem for exporters in both Telangana and Andhra Pradesh. In the long run, strengthening regional logistics infrastructure will not only improve state-level export performance but also contribute to enhancing India's position in global agricultural trade.

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