

Developing Logistics Services in the Rice Export Supply Chain in the Mekong Delta

Hoang Thi Van

Institute of Economics and Finance,
Academy of Finance, Vietnam

ABSTRACT

The Mekong Delta is Vietnam's largest rice granary, contributing to making Vietnam one of the leading countries in rice production and export. To exploit and promote the full potential of the agricultural economy of this region, Vietnam faces the challenge of limited logistics, especially logistics services for export. This article aims to assess the current status of logistics services in the rice export supply chain in the Mekong Delta. At the same time, propose some solutions to develop logistics services in the rice export supply chain of this region.

Keywords: logistics services, rice export, Mekong Delta, Vietnam agriculture.

INTRODUCTION

Agricultural production, especially rice production, plays a very important role in ensuring food security, economic development and creating livelihoods for people in many countries. Vietnam has favorable natural conditions, abundant labor resources and the attention of the Party and State, creating strengths in agricultural production in general and rice production in particular. Rice is both an important food source and a strategic export item for Vietnam. In recent times, the export rice supply chain has made great strides and achieved good results, contributing significantly to the country's socio-economic development.

As the international economy is increasingly developing with the integration of many countries, especially the opening of international trade activities of developing countries like Vietnam, logistics services are considered one of the important issues in the export supply chain development strategy of each enterprise, each region as well as the whole country. The Mekong Delta imports and exports tens of millions of tons of goods and exports about 90% of the country's rice exports each year. The Mekong Delta has been and is posing a huge demand for logistics services. As a region with many favorable conditions for the Mekong Delta to develop a diverse and effective logistics service system. However, the current infrastructure and logistics services in the region are still lacking in synchronization and connectivity. This reality requires synchronous and feasible solutions to promote logistics services in the rice export supply chain in the Mekong Delta.

BASIC THEORY AND LITERATURE REVIEW

Logistics is the process of optimizing the location and movement of goods and resources from the first point of the supply chain to the final consumer, through a series of economic activities (Pham Van Tai, 2019). It can be understood that logistics is a part of the supply chain, including the stages of planning, implementing and controlling the flow of goods, and services as well as

information related to the flow. Logistics always appears from the starting point to the final consumption point in the supply chain to meet customer requirements for goods and services. Logistics performs the function of supporting business activities from purchasing, production, and distribution to consumption.

Logistics services are commercial activities in which traders organize the performance of one or more tasks including receiving goods, transporting, storing, carrying out customs procedures, other paperwork, consulting customers, packaging, marking, delivering goods or other services related to goods as agreed with customers for remuneration (Nghị định số 38/2017/NĐ-CP, 2017).

Dat Huynh Ba, et al (2022) Logistics is a part of the supply chain with many different stages, including planning, implementing, and controlling the movement of goods. Based on a study of factors affecting logistics in the Mekong Delta (MD), Vietnam. In this study, the authors used the Logistics Performance Index (LPI) with integrated approaches, including Improved Descriptive Statistics (IDS) and Descriptive Statistics (DS). An interpretive structural model (FISM) recognizes the importance of factors related to the competitiveness of the logistics industry in the region.

Nguyen Thi Binh and Bui Thi Ly (2021) The authors investigated and evaluated the impact of logistics centers on the sustainable development of rice supply chains in the Mekong Delta of Vietnam. According to the results, the initiative of establishing a rice logistics center located close to the centralized rice production areas in the Mekong Delta is expected toward more inland waterway use, thereby reducing the number of ton-km for the road. In addition to this, the intervention would improve remarkably the social-economic efficiency by reducing total logistics cost and emission costs for the rice industry of Vietnam.

Logistics services play a strategically important role in economic development in general and the rice export supply chain in particular. Investing in developing logistics services can create great value and help growth and modernization in the rice export supply chain, in the agricultural production sector and expand nationwide. The agricultural economy is increasingly facing competitive pressure in export issues, as well as the potential risk of being overwhelmed in the domestic market by foreign competitors without modern equipment, technology, and long-term experience in production, business as well as logistics services... Therefore, researching and evaluating the current status of logistics services in the rice export supply chain in the Mekong Delta and proposing solutions to develop logistics services will contribute to the effectiveness of saving resources and costs, improving the quality and competitiveness of rice export products of the region in particular and of Vietnam in general.

DATA AND RESEARCH METHODOLOGY

Data Collection

This article collected data from the Statistical Yearbook and Annual Report of the General Statistics Office of Vietnam and Vietnam Logistics Business Association period 2020-2024. From the above data sources, apply logical thinking to draw necessary scientific conclusions related to the content of logistics services in the rice export supply chain in the Mekong Delta. Through referring to scientific documents from many official sources around the world as well

as practicing the method of systematizing theory and history, the article has come to important conclusions about issues related to the current status of logistics services in the rice export supply chain in the Mekong Delta.

Analytical Method

This article applies the method of synthesizing, analyzing, and comparing secondary data on the content and issues related to the development of logistics services in the rice export supply chain in the Mekong Delta period 2020-2024.

RESULT AND DISCUSSION

An Overview of the Rice Export Supply Chain in the Mekong Delta

During the 2020-2024 period, Vietnam's rice exports have made remarkable progress and contributed significantly to the country's socio-economic development. In 2024, Vietnam's rice exports will reach new records in both volume and export value (see Chart 1).

Regarding Export Volume:

The average rice export volume of our country in the period 2020-2024 is 7.35 million tons/year. In 2024, the rice export volume will reach 9.04 million tons, an increase of 44.71% compared to 2020 (reaching 6.25 million tons). In the first 5 months of 2025 alone, export volume reached 4.22 million tons, up 4.3% over the same period last year.

Regarding Export Value:

The value of rice exports of our country in the period from 2020-2024 generally fluctuates. On average in the period from 2020-2024, our country's rice export turnover reached about 4.04 billion USD/year. In 2024, rice export turnover is estimated to reach 5.67 billion USD, an increase of 81.6% compared to 2020. In the first 5 months of 2025 alone, export value reached 2.17 billion USD, down 15.5% over the same period last year, mainly due to the decrease in export rice prices.

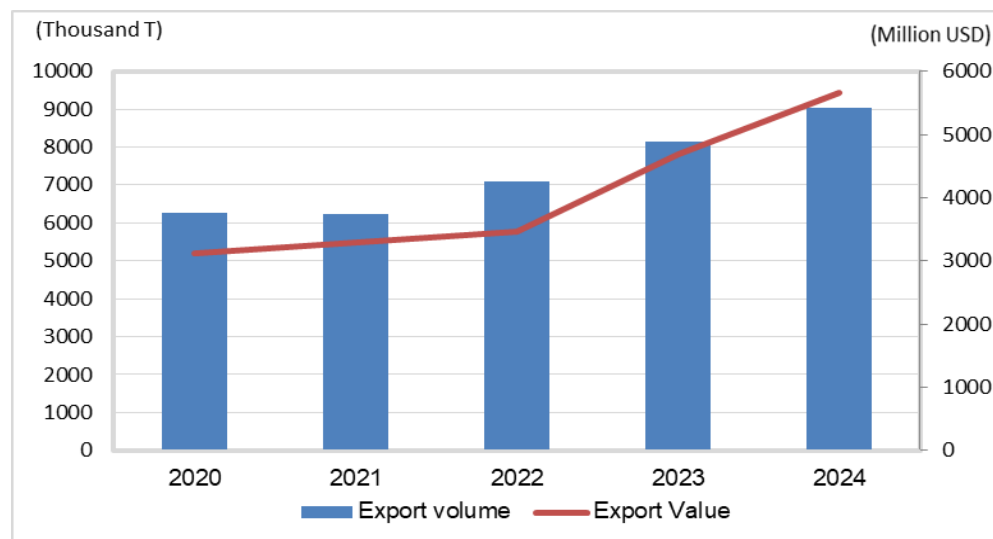


Figure 1: Vietnam's rice export volume and value in the period 2020-2024

Source: General Statistics Office of Vietnam.

With an output of over 24 million tons of rice per year, accounting for over 50% of the country's rice output and contributing over 90% of rice export output; at the same time creating jobs and income for over 1.5 million agricultural households... over the years, the Mekong Delta has affirmed its pioneering role in the country's rice production and export.

The Mekong Delta is the largest in the country, with an area of nearly 40,000 km², and relatively flat terrain. The Mekong River with two branches, the Tien River and the Hau River is over 120 km long, depositing a large amount of alluvium, high nutritional content for fertile soil, and abundant water resources. In general, the natural conditions of the Mekong Delta are favorable for agricultural production, especially rice cultivation.

Learning about the rice export supply chain in the Mekong Delta, the activities of planting, purchasing, milling, transporting, storing, consuming... have been going on for a long time, the rice export supply chain in the Mekong Delta can be summarized through the following model:

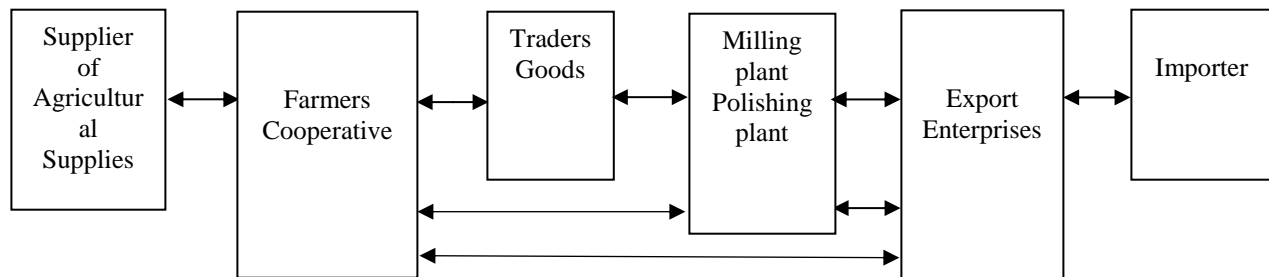


Figure 2: Structure of the rice export supply chain in The Mekong Delta

Source: Author

Small-scale farmers or those who participate in cooperatives buy seeds, fertilizers, agricultural tools, etc. from agricultural suppliers to serve the rice cultivation work. After harvesting, they often sell rice to traders. Traders buy rice directly from farmers from different regions right at the fields when harvested or at farmers' warehouses. The rice is then brought by traders to the milling factory to be dried and hulled into raw rice (in some cases, rice from farmers is sold directly to milling/polishing factories. This raw rice is stored right at the milling/polishing factories. Enterprises will collect raw rice in large quantities from the milling/polishing factories to continue creating finished rice for export. For the linkage models between farmers and export enterprises (specialized rice growing areas, large-scale fields), export enterprises purchase rice directly from farmers without going through traders or milling factories. Finished exported rice continues to be brought to border gates/seaports for transportation to rice importers.

Logistics Services in the Rice Export Supply Chain in the Mekong Delta

Logistics plays a vital role in all stages of the rice export supply chain. Logistics services play a particularly important role in improving the efficiency of our country's rice export supply chain as well as the competitiveness of the Vietnamese rice industry in the international market. To develop the rice export supply chain in the Mekong Delta, it is necessary to pay attention and have a suitable logistics service development strategy.

The Mekong Delta has great potential for developing logistics services, with favorable natural conditions for developing inland waterway transport thanks to a dense river system with a total length of about 28,000 km. Of which, 23,000 km are capable of exploiting water transport, with two vital waterways from Ho Chi Minh City to Kien Giang, Ca Mau and Quan Chanh Bo Canal (Tra Vinh province) for large-capacity ships to and from Hau River. There are 5 road corridors connecting the Mekong Delta with the Southeast region and the whole country, along with a port system stretching along the Hau and Tien rivers; adjacent to the East-West maritime route, with important international maritime and air routes, connecting South Asia and East Asia as well as with Australia and other islands in the Pacific, with a coastline of more than 700 km, accounting for 23% of the country's coastline. In addition, the region's agricultural, forestry and fishery resources are abundant. The Mekong Delta is the largest agricultural and fishery production region in the country, accounting for more than 50% of rice output, 90% of rice output, 65% of fishery output and 70% of fruit export output contributing 40% of the country's agricultural production value (Vo Thi Phuong Thuy, 2023). These favorable conditions have created a solid foundation for the Mekong Delta to develop a diverse and effective logistics service system.

As a region that imports and exports tens of millions of tons of goods each year, the Mekong Delta has been and is posing a huge demand for development in logistics activities. However, currently, the infrastructure and logistics services in the region still have some limitations:

- *Firstly, the logistics service system in the Mekong Delta is currently weak and lacking in synchronization.*

According to the analysis of the Vietnam Logistics Service Enterprises Association, based on 2022 statistics, the number of enterprises registered to do business and operate under 17 types of logistics services stipulated in Decree No. 163/2017/ND-CP "Regulations on logistics service business" in 13 provinces of the Mekong Delta is still limited and not strong. These are mainly small and medium-sized enterprises, micro-enterprises, which have not been able to provide integrated and quality services to manufacturing and import-export enterprises. The entire Mekong Delta region currently has only nearly 1,500 enterprises providing logistics services, accounting for about 4.39% of the total number of enterprises providing logistics services nationwide. The modest figures above show that logistics services in the Mekong Delta are currently not enough to meet the development needs of the region.

According to research by the World Bank (WB), the Mekong Delta currently has an annual demand for transporting about 18 million tons of export goods. However, the region still lacks key logistics centers and satellite center systems, empty container yards, and warehouse systems at ports. Therefore, goods must be transported through many locations. Most of these goods are transported by road and inland waterways to be loaded onto ships and must be transferred to major ports in Ho Chi Minh City (Cat Lai, Hiep Phuoc, SPITC International Container Port and inland clearance points in Thu Duc) and Cai Mep-Thi Vai port cluster (Ba Ria - Vung Tau). Meanwhile, in the Mekong Delta region, there are still many small and narrow roads, many routes have only been paved with asphalt, so they cannot meet transportation needs, especially the demand for fast, high-quality freight transportation. Some key ports in the East are often overloaded, leading to increased service fees, warehousing, and waiting times, causing businesses to increase their transportation costs.

➤ *Second, the logistics service system in the Mekong Delta still lacks connectivity.*

The reality in the Mekong Delta also shows that most logistics services only stop at individual activities and do not have close connections between modes of transport, which often causes delays and high costs. According to World Bank research, Vietnam's logistics costs are equivalent to 20.9% of GDP; of which transportation costs account for about 59% (Thanh Tung, 2022). Logistics businesses operating in the Mekong Delta mainly stop at freight forwarding, warehouse leasing, customs clearance, domestic transportation, and consolidation of small goods, but have not been able to integrate, organize, and link activities in the logistics chain.

Recommend Some Solutions

To overcome the existing limitations and improve the efficiency of logistics services in the rice export supply chain of the Mekong Delta, close coordination is needed between management agencies, ministries, and localities in synchronously implementing the following solutions:

➤ *Firstly, it is to perfect the policy mechanism and increase investment attraction.*

Accordingly, the Mekong Delta needs to develop an official regional funding mechanism for regional infrastructure to invest in developing logistics infrastructure, including transportation systems, regional connectivity, warehouse infrastructure and distribution centers.

There should be specific policies such as tax exemption and reduction to attract foreign investment and encourage businesses to invest in the logistics service system. At the same time, strengthens the role of public-private partnership (PPP) to attract private investment capital and promote high project efficiency.

An important factor contributing to the success in attracting investment in logistics development in the Mekong Delta is the stages related to procedures and transparency.

➤ *Second, promotes intra-regional and inter-regional connectivity.*

The Mekong Delta needs to have a strategy to develop a system of focal centers for agriculture in general and rice in particular. Linked to specialized production areas, connected to urban areas that play the role of regional and sub-regional centers and national and inter-regional infrastructure hubs. This is a place that provides logistics services, research and development, and high-tech applications to enhance the value and competitiveness of key agricultural products and rice exports of the Mekong Delta.

Step by step build large logistics centers, large logistics enterprises with enough potential. This aims to complete the logistics ecosystem with integrated solutions from international sea transport to domestic logistics (with warehouse systems, customs brokerage, and road transport technology). This helps save logistics costs thanks to scale and intermediary costs. At the same time, it is necessary to ensure the connectivity of logistics centers within the Mekong Delta with each other and with the logistics center of Ho Chi Minh City.

Regarding intra-regional connectivity, according to Decision No. 287/QĐ-TTg dated February 28, 2022, of the Prime Minister approving the Mekong Delta Regional Planning for the 2021-2030 period, with a vision to 2050, 8 key centers will be built. Of which, 1 hub with general

functions in Can Tho city; 4 regional hubs, Ben Tre, An Giang, Kien Giang and Ca Mau; 3 hubs with functions mainly related to logistics in Dong Thap, Hau Giang and Soc Trang provinces will significantly contribute to improving the capacity of the logistics service system of the Mekong Delta region.

Regarding inter-regional connectivity, in June 2021, the Prime Minister issued Official Dispatch No. 808/TTg-QHQT dated June 10, 2021, approving the proposal for the Project "Development of waterway and logistics corridors in the Southern region". The total investment of 242.7 million USD is invested by WB loans, aid from the Australian Government and counterpart capital from the Vietnamese Government. The project aims to renovate and upgrade the inland waterway infrastructure system in the Mekong Delta and Ho Chi Minh City; including 2 waterway corridors:

- East-West corridor connecting the Mekong Delta region (Can Tho economic center) - Ho Chi Minh City - Cai Mep - Thi Vai port cluster;
- North - South corridor connecting Binh Duong - Dong Nai - Ho Chi Minh City - Cai Mep - Thi Vai port cluster.

The project has a total length of 279 km passing through 6 provinces and cities: Dong Nai, Ho Chi Minh City, Ben Tre, Tien Giang, Long An and Vinh Long. Once completed, the project promises to shorten train travel time from the Mekong Delta to Ho Chi Minh City and major ports in the region. Thereby, contributing to reducing logistics costs and enhancing connectivity between regions.

Continue to implement in the spirit of Resolution 13 dated April 2, 2022, of the 13th Politburo on socio-economic development orientations, ensuring national defense and security in the Mekong Delta region to 2030, with a vision to 2045. The Mekong Delta region will focus on investing in building a logistics infrastructure system including roads, inland waterways, ports, airports, airways, and warehouses. This will be the basis for promoting multimodal transport.

➤ *Third, promote digital transformation in logistics, creating breakthroughs for logistics.*

Digital transformation is an inevitable trend, helping logistics service businesses improve productivity, quality, service efficiency, and competitiveness in the domestic and international markets. Digital transformation of logistics is the process of applying technology and digital techniques to operations in the logistics service system, changing the way a logistics enterprise operates. When using technologies such as AI, Big data... in classification, storage, transportation, distribution, warehousing, order processing, payment, customer care... Logistics services are expected to bring breakthroughs such as improving operational efficiency, shortening time and space, reducing costs, and providing good experiences for customers using the service.

➤ *Fourth, improve regional governance capacity*

Complete the regional coordination institution towards enhancing the role of localities. Specify the implementation of regional planning, and the use and allocation of resources. At the same time, strengthen coordination between management agencies, ministries, and localities in developing and implementing policies and mechanisms on logistics activities. Timely resolve and remove difficulties and obstacles in logistics service activities in the region.

➤ *Fifth, is to develop human resources to serve the logistics industry.*

Through the development of joint training and internship programs between training units and businesses, combining theoretical foundation and practical knowledge. In addition, focus on training based on the characteristics of the Mekong Delta region for rice production and export. Increasing practicality contributes to developing a high-quality, skilled workforce serving the logistics industry, meeting practical job needs after graduation.

CONCLUSION

Logistics services play an essential role in the rice export supply chain of the Mekong Delta. However, the infrastructure and logistics services in the region currently lack connectivity and synchronization. The biggest bottleneck for the economic development of the region is the logistics service system that connects the entire production cycle to rice importers.

Some solutions are proposed to overcome the above difficulties. In particular, continue to improve legal policies on logistics services, and focus on improving the quality of logistics planning work in the whole region. Promote investment in building transport infrastructure in the Mekong Delta region, renovate and upgrade main shipping routes in the region. At the same time, promotes the development of logistics centers serving agricultural products. Strengthen the connection between parties in the export rice supply chain. Improve the quality of logistics services by improving the quality of logistics human resources, promoting the application of achievements of the 4.0 Industrial Revolution, and modernizing logistics services.

References

- [1]. Dat Huynh Ba, et al (2022) Building a Logistic Optimization Model for Mekong Delta in Vietnam. 2022 IEEE 18th International Colloquium on Signal Processing & Applications (CSPA), IEEE.
- [2]. Nguyen Thi Binh and Bui Thi Ly (2021), Sustainable Rice Supply Chain Management in the Mekong Delta of Vietnam: The Role of Regional Rice Logistics Centre." CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure: Proceedings of the 6th International Conference on Geotechnics, Civil Engineering and Structures. Singapore: Springer Nature Singapore.
- [3]. Công văn số 808/TTg-QHQT ngày 10/6/2021 của Thủ tướng Chính phủ phê duyệt đề xuất Dự án "Phát triển các hành lang đường thủy và logistics khu vực phía Nam"
- [4]. Nghị định số 38/2017/NĐ-CP ngày 04/04/2017 của Chính phủ Về đầu tư xây dựng, quản lý khai thác cảng cạn.
- [5]. Phạm Văn Tài (2019) Phát triển logistics phục vụ hoạt động xuất nhập khẩu cho Đồng bằng Sông Cửu Long, Tạp chí Khoa học Công nghệ Giao thông vận tải, số 33-08/2019
- [6]. Thanh Tùng (2022) "Mạch máu" logistics Đồng bằng Sông Cửu Long cần được khơi thông, VOV Giao thông, ngày 21/04/2022
- [7]. Quyết định số 287/QĐ-TTg ngày 28/2/2022 của Thủ tướng Chính phủ phê duyệt Quy hoạch vùng đồng bằng sông Cửu Long thời kỳ 2021-2030, tầm nhìn đến năm 2050
- [8]. Võ Thị Phương Thủy (2023) Nhận diện Logistics Đồng bằng sông Cửu Long
- [9]. General Statistics Office of Vietnam, <https://www.nso.gov.vn>
- [10]. Vietnam Logistics Business Association, <https://vlr.vn>