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Network planning to develop the inland port

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Abstract

The current port system is large in number, but small in scale, lacking in synchronization on wharves, equipment and channels that need regular maintenance and maintenance. The ports are operated and operated by many investors, resulting in difficult management and fierce competition, which makes loading and unloading prices quite cheap compared to other countries in the region. According to statistics, Vietnam has about 250 ports with 88 km of wharves, an average of 350 m / harbor, which makes it difficult to operate effectively. Besides, the ability to connect with other modes of transport is also a weakness of the port system. In the northern key economic region, seaports are connected mainly by road. In the south, in addition to the road system, inland waterway transport activities thrive, but have not exploited all the cheap advantages of this type of transport. Vietnam's inland waterway system is rich with natural river systems, especially in the Mekong Delta. The total length of inland waterways is currently about 17,232 km. However, the river and canal system is mainly exploited in natural conditions, lacking connectivity with other modes of transport. In addition to the restrictions on the waterways, many waterways are restricted by the static height of the bridges, making it difficult to introduce barges with high carrying capacity. For example, bridges spanning Dong Nai River, Binh Loi Bridge to the south, and Duong Bridge to the north. In addition, the network of inland waterway ports has not attracted capital for development investment.

Keywords: inland port, transportation network, potential

1. Introduction

By 2025, the inland waterway will handle 35 million tourists, of which the number of passengers passing through the port will reach 9.5 million. 50% of inland ports serving tourism will be upgraded according to the standards of service classification and investment in upgrading and new construction of 3-5 inland ports. By 2030: Inland waterways will handle 55 million tourists, of which the number of passengers passing through the port will reach 20 million. 100% of inland ports serving tourism will be upgraded according to the standards of service classification and investment in upgrading and constructing 5 to 10 inland ports. To accomplish this goal, the Ministry of Transport proposed a solution to develop inland port infrastructure for tourism development. Specifically: Encouraging the upgrading of inland waterways wharves to serve tourism at famous tourist sites with large tourist flows into inland waterway ports exclusively used for tourism. Northern region: Priority is given to the investment in a system of inland waterway ports exclusively used for tourism at places of spiritual tourism (Perfume Pagoda, Bai Dinh ...), sea and island tourism (Tuan Chau, Cam Pha ...) and tourism in the lake bed (Nui Coc lake, Hoa Binh hydroelectric lake, Son La hydroelectric lake ...). In the Central Region: Priority is given to the investment in a system of inland waterway ports exclusively used for tourism in international beauty spots and landscapes (Phong Nha - Ke Bang, Huong River ...) and eco-tourism. , sea and island (Cu Lao Tram, Ly Son ...). In the South: To prioritize investment in a system of inland waterway ports exclusively used for eco-tourism, river water (Tien river, Hau river, Saigon river ...) and tourism of lake bed (hydroelectric lake Dau Tieng, Tri An hydropower lake ...). In addition, to ensure the construction of sufficient functional areas to serve ordinary passengers and tourists at inland waterway ports for new construction tourism such as toilets, ticket counters, service areas. Trade services ... Developing 4-star and 5-star tourist ports in key tourism areas. Review and upgrade the infrastructure at inland waterway ports to ensure

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the minimum arrangement of functional areas, equipped with material facilities, equipment, and comfortable services for passengers (including Passengers are disabled, the elderly, children). To step by step arrange functional areas in service of tourists of inland ports independently of other functional areas (areas for ordinary passenger, goods and aquatic products ...) in order to improve service quality. And ensure safety for tourists. According to the survey, the development of inland waterway transportation will be encouraged through a number of policy mechanisms: invest in infrastructure development; To encourage the development of inland port, waterway infrastructure; to Encourage the development of inland waterway vehicles; To encourage the development of inland waterway transport activities; Invest in logistics infrastructure and accelerate the socialization of logistics services. Specifically, will reduce corporate income tax of 30-50% in the first 5 years of exploitation for investors building the inland water port with the system of warehouses yards for logistic activities; Modern passenger port. At the same time, to support the land rent for the construction of inland waterway port infrastructure systems in service of loading and unloading cargoes and development of multi-modal transportation; To reserve a suitable land fund for investment projects on the construction of inland waterway ports and wharves, especially container handling ports. According to the draft, to encourage the development of inland waterway means will support 20-30% interest rate of bank for the transport business to build new means of transport with large tonnage, Self-propelled container ships Having a large capacity for transporting goods by inland waterway; Supporting 20-30% interest rate of banks in investing in modern high-speed passenger transport vehicles to operate on the inland waterways. At the same time, it supports the cost of fuel for this type of transportation, especially on the pressure reducing routes for road transport. Besides, the organization will provide the best support services (signaling system, channel notification, anchoring position, entrance, exit, port, loading and unloading, warehousing, transport connection ...); Forecast, information about the source of goods for business; to create favorable conditions for transport business enterprises and individuals to access and enjoy preferences from the Government's support policy, such as tax, fee and credit policies. As of December 2018, Vietnam's fleet had 1,593 ships (of which cargo ships were 1,128 ships) with a total capacity of 4.8 million GT and a total tonnage of about 7.8 million DWT. According to statistics of the United Nations Trade and Development Forum (UNCTAD), in 2018, Vietnam's fleet was ranked 4th in the ASEAN region and 30th in the world. The structure of Vietnam's fleet in recent years has improved significantly, the fleet has developed in the direction of specialization to meet the demand for domestic freight. Specifically, Vietnam's container fleet has grown quite well, the number of ships increased from 19 in 2013 to 41 in 2018, an average increase of about 20% per year. In 2018, the total transport volume carried out by the Vietnamese fleet was estimated at 144.6 million tons, the volume of rotating cargo was estimated at 153,079 million tons, up 10.9% over 2017, accounting for 55.6% of the total cargo turnover of all modes of transport. The Vietnamese national flag fleet has now been able to handle nearly 100% of inland transport by sea, except for some specialized

vessels such as LPG, bulk cement ... Inland waterway vehicles in 2018 were estimated to reach 171.6 million tons, up 30.5% compared to 2017.

2. Planning

From this point of view, the international seaport of Ho Chi Minh City becomes a national general port and is the first class center of the region, including major ports such as Sai Gon port, Cat Lai port. Dong Nai, Nha Be port area, Hiep Phuoc port on the Soai Rap river, ... Currently, Ho Chi Minh City has 40 cargo ports under exploitation with the length of over 17,000 m. The city also has three river ports as cargo port, including Phu Dinh port (District 8), capacity of two million tons per year, capable of receiving ships of 1,700 tons; The port of Long Binh (District 9), capacity of 1.7 million tons per year, received ships of 5,000 tons, ... According to the Department of Transport (Transport) of the city, the total output of goods through the port The sea in 2016 is nearly 100 million tons (up 7% over 2015) and the goods through ports and ports more than 25 million tons (increase 8% over 2015). Particularly Mekong Delta region - the granary, seafood and fruits largest in the country, the system of rivers, channels, canals extremely rich, nearly 28,000 km long. Transport capacity, the region has about 160 thousand vehicles with engine capacity more than 5.5 million CV, a total load of about 5 million tons of goods; freight traffic reached 51.5 million tons / year. All of the major rivers and tributaries and canals in the Mekong River Delta flow seamlessly through all industrial parks, residential areas, resource areas,... have a connection, exchanges are very convenient. According to the Master Planning for Inland Waterway Transport to 2020 (Decision No.16/2000/QD-TTg on 2.2.2000) with the orientation of exploiting the natural advantages of waterways In bulk shipping at a lower cost and less impact on the environment. In particular, the plan also aims to achieve vertical integration in the inland waterway transport sector by synchronizing the development of roads, ports, loading facilities, Capable of managing the ship and meeting the need for passenger cargo with higher quality and safety. At the same time, develop an air transport infrastructure to form an interconnected system with other modes of transport and in collaboration with the irrigation and hydropower sectors. As well as upgrading the fleet to a more efficient, As well as upgrading the fleet to a more efficient configuration, Safe and reasonable, suitable for canals and rivers. It is necessary to expand the financial foundation of the sector, in which the public sector is focused on river transport and in cooperation with the private sector in port development.

In addition, the planning also targeted with large fleet: capacity up to 12 million tons; In traffic flow, the increase in length. International experience shows that the modernization of the fleet is a necessary development objective to increase the proportion of inland waterway transport in total freight relative to the current situation; Paralleling is the improvement of transport cost effectiveness for fuel consumption and maintenance of equipment, while reducing greenhouse gas emissions per tonne per kilometer. Apply modern technology to existing ships and their operations such as improving propulsion with significantly lower emissions; Install the propeller head to improve thrust; Installation of articulated barge systems, ... Planning and conducting construction with

state-of-the-art technology to support fleet improvement and new or more effective. Attractive financial regimes will also provide incentives for new investment or upgrading of existing fleets Vietnam has developed its fleet size over the past few years, but its average shipment capacity is still relatively low. So, the potential to expand the size of Vietnam's VG fleet is still great. Luis C. Blancas and M. Baher El-Hifnawi, authors of the book "Promoting Trade through Transport with Low Competitiveness and Low Emissions", argue that scale expansion will bring economic benefits. Depending on the load of the ship, each time, the load of the ship increased by 1%, transport costs decreased by more than 1%. Not only reducing fixed costs such as labor, capital, and insurance on DWT, large vessels can save more fuel, resulting in reduced fuel costs and CO₂ emissions. The authors also commented that the expansion of the fleet size in Vietnam has not been influenced by clear public policy interventions. This is proof that the transportation industry is flexible enough to meet the growing transport volumes while modernizing and expanding. But it is predicted that Vietnam will have difficulty using large size vessels, especially network infrastructure bottlenecks that limit the development of inland waterways or the use of ship river-sea ferries. In Western Europe in general and the Netherlands in particular, rapid expansion is supported by government tax incentives and other financial measures. Inland waterways have the first online trading platform under developed logistics "drags down" the competitiveness of the business. According to statistics, 13 provinces and cities in the Mekong River Delta do not have any formal logistics or seaport center of the sector or economic zone. More than 70% of goods from the Mekong Delta have to move to HCM City or CAI Mep - Thi Vai port at Vung Tau to be exported abroad, not directly from the Mekong Delta. The Mekong Delta now accounts for over 50% of the country's total agricultural exports. However, the lack of an air cargo logistics center, a seaport officially becomes a bottleneck of the export of goods in this area.

In recent years, tourism activities, water-based resorts with many ecotourism attractions, attracting thousands of ships and boats serving tourists have emerged as a potential factor of the area. The area, bringing income to people and localities. Although the transport mode has many outstanding advantages, the efficiency of inland waterway transportation in the Mekong Delta has not matched the current potential. According to the Inland Waterway Department of Vietnam, the inland waterway network in the Mekong Delta is 13,000 km long, but the transportation operation is too weak. There are currently only five of the more than 2,500 inland waterway ports in the region capable of loading and unloading containers. Statistics from the Ministry of Transport show that 70% of the goods of the Mekong Delta still have to convey to the port of Ho Chi Minh City and Cai Mep by road, which now incurs transportation costs higher than 10 to 60 %. Meanwhile, inland waterway transport capacity can hardly be increased due to inadequate infrastructure, lack of dedicated docks capable of handling containers. In view of the state management, the Vietnam Inland Waterway Association, said that the biggest inadequacies limit the efficiency of inland waterways, the proportion of investment in this mode in the Mekong Delta provinces is too few compared to the investment in the whole industry. Transport

specialists have reported: "While transportation of TNM accounts for about 48% of the total transport load of the country, 80% of transportation investment is spent on expanding the road network." General Director of U & I Logistics Joint Stock Company Nguyen Xuan Phuc (Binh Duong) urgent: Waterway transportation is not commensurate with the current potential and advantages. Vietnam's waterway system is responsible for 30% of the total domestic cargo traffic; The Mekong Delta alone accounts for 70% of the region's cargo traffic. Waterway infrastructure plays a key role in economic development but has not paid much attention to investment. The policy of attracting investment in developing waterway infrastructure has not been encouraged by state management agencies and authorities. Binh Duong has two large rivers, the Saigon River and the Dong Nai River, which go to deep water seaports in the Soai Rap and Thi Vai rivers. But on these two rivers, there are many bridges crossing with static apertures. The boat is very low, so large ships and boats carrying imported and exported goods cannot go back and forth to trade goods. Means of waterway transportation have not been invested in quantity and size; Infrastructure infiltration has been on the rise, such as the loss of a signaling system, illegal exploitation of resources, change of navigation channels, construction of riverine buildings, port works, etc. Renovation of the channel is not properly invested, many sections of the river are meandering flow, small curved radius, very dangerous for ships operating on the river, especially the flood season. Being in the planning of seaport group No. 5 (port cluster in Ho Chi Minh City, Dong Nai, Ba Ria - Vung Tau), the inland waterway system of Dong Nai province has potential for economic development. However, the inland waterway system still remains at a potential level. According to Dong Nai Department of Transport, the inland waterway system in the province is over 2,600 km long. Of which, about 200 km of waterway of 14 routes is being exploited well; The four ports of Dong Nai, Nha Be, Long Tau and Thi Vai are also planned to have port docks, a total of 44 ports, but currently only 15 are invested. Specifically, the port of Go Dau - Phuoc A port is planned eight ports, so far five ports come into operation. Specifically, the port of Go Dau - Phuoc A port is planned eight ports, so far five ports come into operation. In the Nhon Trach district, only seven terminals were planned and 26 remaining were not built. Dong Nai ports serve more than 11 million tons of cargo each year, accounting for more than 15% of the plan (reaching over 80 million tons of cargo traffic by 2030). Nowadays, in order to transport large quantities of cargo from seagoing vessels at the ports of CAI Mep - Thi Vai area (BA Ria - Vung Tau), most shippers have to go through many intermediary channels to collect dozens of barges waiting at the port for immediate loading and unloading as soon as the vessel comes in, avoiding the costs incurred. However, the mobilization of many barges at the same time that the loading and unloading capacity at the port is limited, leading to the condition of the barge must be empty waiting for the turn, sometimes up to more than 10 days. Meanwhile, other shippers often find it difficult to find barges to carry their goods.

The application of technology in the inland waterway transport sector is feasible, which can solve the problem of unbalanced supply and demand of transport vehicles. According to him, through smartphone application, barge

owners can connect directly with shippers, reduce waiting times and improve barge performance.

In particular, the process of registration - posting in just a few simple steps, the application has a friendly interface, so users without technology are also easy to operate. Operating under the online trading platform model, shippers looking for carriers or owners of the means of transport need to post on the IziFix transport platform.

Inland waterway transport plays an important role in transporting goods, meeting the needs of people. In the South Vietnam in general and in the Mekong River Delta in particular, river density is among the highest in the world. However, the investment to bring into full play the strengths as well as the management of inland waterway transport is still limited, not taking advantage of the inherent strengths and exploiting the economic conditions and the sustainability of the mode of this transport. The inland waterway network in the south and the Mekong Delta has more than 100 routes, totaling nearly 3,200 km in length, which are inter-provincial and international in nature. Of these, six lines originate from the border toward the East Sea, allowing ships of 500 to 5,000 tonnes to operate smoothly and two routes across Ho Chi Minh City to provinces capable of accommodating ships of 300 tonnes. Specifically, the Sai Gon - Kien Luong route (Through the 10 tower, 227 km long), Sai Gon - Kien Luong (Through Lac Lap canal, 313 km long) and Sai Gon - Ca Mau route Xa No, 386 km long), ... Many river ports and ports have direct access to the road system, which connects directly to the important seaports, creating favorable links between modes of transport. . In Ho Chi Minh City, the inland waterway transport network has been assessed and developed with a total length of 1,000 km. According to a survey by the system administrator, the initial success rate of successful connection was about 30%, which reduced the freight rate and increased the vehicle utilization efficiency by 10%. In the coming time, IziFix will develop a number of new services for users such as organizing auction barges, shipping auctions, Connecting the tunnel the street and the path with the privileges of privileges for the utilizes multiple objects

The advantage of shipping is that it can carry large volumes, reduce road load, help reduce environmental pollution and traffic congestion. In the master plan for the development of the inland waterway transport fleet for the period 2015-2020 by the Ministry of Transport, the proportion of inland waterway cargo to target 17.72% of the total transport volume delivered by the Ministry of Transport. Annual growth in freight traffic was 11.2% per year, reaching 393.89 million tonnes.

The master plan also emphasizes the important role of inland waterway transport on key transportation corridors connected to seaports in order to improve the efficiency of operation, promote multi-modal transportation and reduce the cost of logistics services. As the information is public, the parties will view and select the appropriate partners, then contact by phone, email or email, then negotiate and sign the service contract. All the processes on the app are completely free, users only need to make sure their phone has an Internet connection. If before, when the barge has not goods, only find information through the familiar and waiting partners now, media owners can take advantage of posting on IziFix, direct access to hundreds of shippers to Shorten the spare time, optimize the transport extraction. In

contrast, the source information from IziFix also helps owners actively find the means to meet their transportation needs. Through the system, users can easily manage and monitor vehicles being transported in real time using GPS. Another feature of IziFix is being bargained by barge owners who are "bargain trading" with clear, transparent information that contributes to the regulation of supply and demand for vehicles, minimizing redundancy or shortage Means of transport on the market.

3. Conclusion

In recent years, following the guidance of the Ministry of Transport, in order to create favorable conditions for production and business activities of enterprises, to make the best use of the exploitation of maritime infrastructures that have been invested in construction, the Vietnam Maritime Administration has guide enterprises in assessing existing infrastructure, inspecting and examining and assessing the quality of port and wharf infrastructures, the responsiveness of navigational channels, turning back, anchoring and construction areas. Formulating a plan to ensure maritime safety to consider and allow ships of a larger tonnage to design the entrance and exit of goods. After nearly 20 years of implementing the development plan of Vietnam's seaport system, port infrastructure has been improved in many aspects. Compared to the first year of planning implementation (2000), Vietnam's seaport system has increased 4.4 times in terms of port length. The port capacity has been paid attention, upgraded and improved to accommodate larger and larger ships. Most of the general ports and regional hubs have been newly invested and renovated, which can accommodate ships of up to 30,000 DWT and larger in accordance with the development trend of the world shipping fleet. Many new investment ports with modern scale allow to receive large tonnage ships up to hundreds of thousands of tons such as the ports in Cai Mep - Thi Vai area in Ba Ria - Vung Tau province and the Lach Huyen - Hai Phong port.

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