

Planning of Inland Port and Waterway Transportation Network: Potential and Shortcomings

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Abstract: Planning for development of domestic transportation in order to be in line with social-economic development orientations, strategies, national transport development planning, regions, specialized planning and related local planning. To develop rationally and sustainably the transport system in order to create a precondition for breakthroughs as a driving force for social-economic development and defense and security maintenance. This paper presents the potential and existing issues in the planning and development of inland water transport in Vietnam today.

Keywords: inland port, transportation network, potential, shortcomings, development planning.

1. Introduction

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.

2. Planning for development in Vietnam

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.

In order for the inland waterway industry to develop, it is imperative that we take action in the areas of waterways, wharves, fleets, logistics, and infrastructure. When considering the financial budget of Vietnam, it is necessary to focus investment in waterways and ports of the main transport network. Ensure regular maintenance of priority waterways to facilitate better circulation of this market. Incorporating inland water transport and shipping has become a major option for transport companies, and supports the development of multimodal logistics warehousing. So, the main waterway traffic in Vietnam is the Red River Delta (18 provinces), the Mekong Delta (in 15 provinces). At general cargo traffic of these provinces, the proportion of inland waterway traffic and inland waterway traffic predominates.

However, in the specific case of the Vietnam Broadband industry, there are 9 interventions:

- 1, From 2016-2020, to upgrade Corridor No.1 in the Red River Delta: Quang Ninh-Hai Phong-Pha Lai. -Hanoi-Viet Tri.
- 2, Corridor No.2 Improvement in Red River Delta: Hai Phong-Ninh Binh from Waterway III to II.
- 3, Upgrade Corridor No.3: Hanoi-Day / Lach Giang) from grade III to grade II.
- 4, Infrastructure construction Gateway expansion in the Red River Delta to serve the Hanoi market, which is the development of inland waterway transport and cargo handling facilities near Hanoi to serve Container shipping routes between Hai Phong and Hanoi.
- 5, Upgrading Corridor No.1 in the Mekong Delta: Ho Chi Minh City - Ben Tre - My Tho - Vinh Long, from Waterway III to II, should be considered the most urgent priority for the network. National inland waterway network.
- 6, Upgrading of coastal container port in the north, IE modernizes Hai Phong container ports for domestic container transport services.
- 7, the introduction of user fees for inland waterway drivers to narrow the financial gap in the maintenance of existing waterways.
- 8, Promote modernization of the engine and fleet in VDG.
- 9, Demonstrating inland waterway transportation is a factor driving effective logistics.

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.

IziFix application "salvation" for Water transport transactions

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.

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.

Improved waterway transportation performance

After 3 months of piloting, IziFix now has more than 250 owners, large enterprises and owners of vehicles.

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.

Inadequate investment, Exploitation

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
Only potential, strength

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.

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.

3. Shortcomings

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 can not 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 An port is planned eight ports, so far five ports come into operation. Specifically, the port of Go Dau - Phuoc An 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).

References

- [1] <http://www.mt.gov.vn/vn/tin-tuc/20069/danh-sach-cac-chien-luoc--quy-hoach-giao-thong-van-tai.aspx>
- [2] <http://mt.gov.vn/vn/Pages/ChiTietVanBan.aspx?vID=26033&TypeVB=0>
- [3] <http://www.mt.gov.vn/vn/chuyen-muc/1035/duong-thuy-noi-dia.aspx>
- [4] <http://business.gov.vn/tabid/97/catid/10/item/14160/quy-hoach.aspx>
- [5] http://moj.gov.vn/vbpq/lists/vn%20bn%20php%20lut/view_detail.aspx?itemid=24070
- [6] <http://tdsi.gov.vn/Default.aspx?tabid=0&catid=341.355.359>
- [7] <http://chinhphuonline.vn/portal/page/portal/chinhphu/noidungquyhoachnganh?docid=1234&substract=&strutsAction=ViewDetailAction.do>
- [8] <http://baolongan.vn/dieu-chinh-quy-hoach-phat-trien-giao-thong-van-tai-vung-kinh-te-trong-diem-phia-nam-den-nam-2020-va--a26107.html>