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Development issue of waterway transportation

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Abstract

Vietnam has a long coastline, intermittent river network, not a large investment, low waterway transport costs but very high efficiency with taking advantage of natural exploitation, it is not developing. Road traffic is a major investment, with high costs being the main form of transporting passengers and goods. Road transportation in recent years has many strengths. But besides that, it also revealed many weaknesses such as traffic accidents, high logistics costs ... In fact, logistics costs in Vietnam account for nearly 21% of total GDP, higher than most countries in the Association. Southeast Asian countries (ASEAN), affecting the competitiveness of exports and increasing costs for manufacturers and consumers. Therefore, in the current period, it is necessary to change the main mode of road transport by inland waterway. Currently, the domestic transport industry has a huge imbalance between road transport and inland waterway transport. Over the past years, Vietnam's road traffic has grown fast and is hot. That increases the situation of traffic accidents (156 times higher than inland waterways), high logistics transport costs, impacts on the environment, causing greenhouse effect 3.4 times higher than inland waterways.

Keywords: ship fleet, domestic transportation, policy solution, transportation capacity

1. Introduction

Referring to this issue, the Country Director of the World Bank (WB) in Vietnam, Ousmane Dione, said that road and inland water transport accounted for 90% of freight transport in Vietnam. Vietnam is one of the largest open economies in the world, and Vietnam's competition is increasingly dependent on transportation and logistics costs. The average income of Vietnamese people has increased, thus requiring greater and greater circulation of goods. But the inland waterway transport system lacks serious investment, although it accounts for 20% of the overall transportation network. Inland waterways account for 2-3% of the transport investment budget and this level is not enough to expand transportation and maintenance. Greater investment is needed because this is an area that needs to be concentrated in the Vietnamese system. In order to make good use of the opportunities that nature brings in both while reducing logistics costs and reducing emissions into the environment to promote competitiveness and economic development, the Government of Vietnam should create lending opportunities to attract private enterprises, encouraging international companies to participate in domestic water transport. To implement this solution, in the next 25 years we will support Vietnam's transport and logistics services with new technologies with high efficiency and trade facilitation; newly build and renovate basic networks in order to systematically manage assets, ensuring long-term resilience. To solve the problem, in the coming time, the domestic transport industry will focus on applying new technologies, biology and renewable technologies to reduce the greenhouse effect. At the same time, it will develop to clear inland waterways with the trend of propaganda and advocacy so that people can see the importance of inland water transport. It focuses on changing institutions and related services, advising investment in waterways more effectively than roads. The Government needs to regulate more budget for waterway, to dredge channels to increase the proportion of ships to 1,000 tons instead of the current 300 tons. With the development of such inland waterway transport, it will reduce the proportion of road transport, reduce traffic accidents, reduce logistics transport costs and most importantly protect the environment. Still investing in hard infrastructure, but connecting roads with

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seaports, airports, train stations ... to lower investment costs in infrastructure, reduce logistics costs. Besides, training human resources to develop stronger focus on road transport in the coming period.

According to a survey of the Transportation industry. Vietnam is one of the countries with the largest river system and largest river density in the world. However, investment in water transport is still limited (about 2.5% of investment in transport), thus not fully promoting the potential of inland waterway transport. Both the waterway network in the north is currently over 4,500 km are exploiting transport, of which the national route is 2,664 km, running through most of the economic centers, urban areas and industrial parks. From the birth of Hydropower

reservoir Hoa Binh, Son La, Thac Ba, Tuyen Quang and other hydroelectric power plants future such as Lai Chau, Huoi Quang, Ban Chat (Da River) contribute to regulate and reduce the amplitude of the oscillation of flood level, reduce sedimentation downstream of rivers; Contemporaneous also creates reservoirs hundreds of kilometers long and is the ideal transportation route. According to economic zoning, the North has formed clusters of clue ports clue: Ha Noi, Ninh Binh, Viet Tri, Hoa Binh, Ha Bac, Quang Ninh, Da Phuc. Other have addition there are 30 other ports serving the export demand, coal consumption of thermal power plants, cement, ship industry, transshipment super-heavy cargo. The growing rate about transportation is shown in Fig.1.

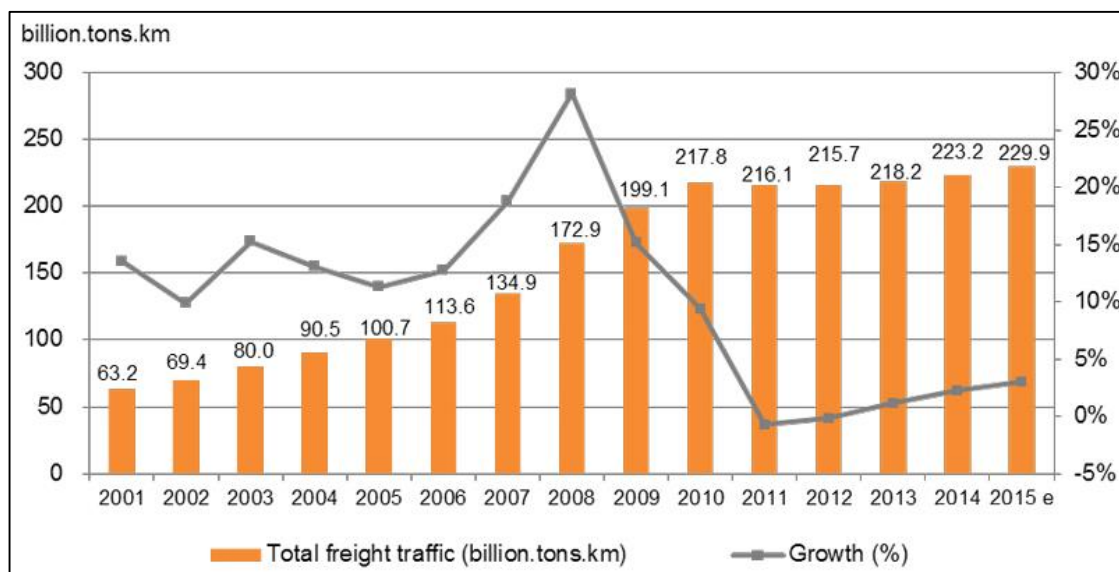


Fig.1: The growing rate about transportation

However, since most of the river ports in the North were built in the 1980s, the old, backward works, equipment and loading equipment were disrupted. Commodities through port terminals are less than 60% designed, mainly bulk goods; Coefficient of using wharves and warehouses low. There is not yet a river port that qualifies for container elevating. Many temporary wharf ports, which are not up to the technical standards for exploitation, are not regularly inspected (for stability, bearing capacity, anchorage ...). Environmental pollution and degradation of landscapes in ports and wharves have been and will continue to increase rapidly if will not restrictive measures. The domestic waterway of cargo fleet in VietNam which is planned until 2020 will be about 7.8 – 10.2 million tons of vehicles, there will be 6.8 – 8.8 million tons to satisfy with development and 1.0 – 1.4 million tons to change the old ships which need to sell. About passenger fleet will be 90 – 125 thousand seats, there will be 10 thousand seats to satisfy with development and 80- 115 thousand seats to change the old ships which need to sell. In 2016, the total volume of transport carried by the Vietnamese fleet is estimated at 123.8 million tons, an increase of 4% compared to 2015. Business situation of shipping companies in Vietnam in the past year is continuous with many difficulties due to excess supply of ships, low volume of goods, reduced freight rates. Many shipping companies, including large ones, continue to suffer losses. In particular, the market share of import and export of Vietnam's fleet in recent years has remained

at 10-12%. The import and export market of Vietnam's sea-going ships is mainly Middle East, Southeast Asia and Asia, and a small number of Vietnamese ships have exported to Eastern European countries. For dry-bulk import and export, Vietnam's fleet occupies about 12% of the market. There are direct trains to markets Eastern Europe, Middle East, South America but in small quantities. For export and import of crude oil for export, Vietnam's fleet only gained modest market share. The reason is that the Vietnamese marine fleet has not met strict requirements on quality, safety standards, prevention of environmental pollution ... of foreign import-export companies. According to the Vietnam Ship Owners Association, in order to develop Vietnam's fleet from now to 2020, the Ministry of Transport and Vietnam Maritime Bureau should soon develop a program and plan for the development of the fleet according to the Government's direction. To submit to the Government a mechanism and policy to provide capital support for Vietnamese transport enterprises to invest in restructure the fleet. With the development of road transport, the development of inland waterway transport is now a key task of the transport sector. Recently, Vietnamese Inland Waterway Administration has completed the detailed outline of the inland waterway system in the North to 2020 with orientation to 2030. In the future, the system of waterway ports will become the center connects to other modes of transport, contributing significantly to socio-economic

development in the localities. The domestic waterway transport rate is 17.72%, 4.1% of passenger transport. Vietnamese Government Policies is to grow the rate of transport volume up to 11.20% in cargo and 2.5% in passengers by 2015 to 2020. This means, 393.89 million tons of cargoes, 170 million passengers; 3.45 million of TEUs; 17.1 million tons of sea-river transport volume. By 2030, the domestic waterway transport will about 15.48% and 1.9% of passenger transport per total transport volume. The average growth rate in transport volume will increase up to 5.20% in cargo and 1.41% in passengers.

2. Solutions for Development

Roads are the mode of backbone transport in freight activities in Vietnam. According to data presented at the conference to publish the report "Improving the efficiency of Vietnam's road transport industry and the strategy for sustainable development of Vietnam's inland waterway transport industry" of the World Bank (World Bank)), in 2016, road freight accounted for 77% of the country's total freight volume. Assessing the logistics cost, Ms. Yin Yin Lam, senior transport expert of the World Bank, said that the development speed of logistics industry in Vietnam in recent years has reached about 14-16% with the model 40 - 42 billion USD / year. Although still young, Vietnam's logistics service industry has had a high growth rate, mainly focusing on traditional activities such as transportation, warehousing and is gradually developing valuable integrated services. Soar. Logistics services in Vietnam have made remarkable improvements when increasing 25 levels in the National Logistics Capacity Index table, from 64th position in 2016 to 39th position in 2018. However, logistics costs in Vietnam is still high, accounting for nearly 21% of GDP, higher than other countries in the Association of Southeast Asian Nations (ASEAN), negatively affecting the competitiveness of export activities and increasing costs. Consumer goods. Explaining the high logistics costs, the World Bank representative said that the survey results of more than 1,400 truck drivers and more than 150 road freight companies across the country showed that the number of small and medium enterprises in Vietnam. The male is the majority. These enterprises mainly own a small number of vehicles and operate in a mode that is both the owner of the vehicle and the transport business unit. This fragmented development is common in all regions of Vietnam, with an average of 5 trucks / company. Orientation of development of inland waterway transportation of Vietnam to 2020 by the Ministry of Transport is to make the best use of natural conditions while concentrating investment plans to maximize the advantages of Inland waterway transport (bulk cargo transport, super-heavy cargoes, low cost, minimizing environmental pollution), meeting the requirements of socio-economic development and economic integration To ensure sustainable development. Total investment capital for development of inland waterway transportation infrastructure until 2020 is about 37.000 billion VND According to the above orientation, waterway traffic will be developed in a synchronous way to the route flow, harbor, loading and unloading equipment, means of transport and management capacity to meet cargo and passenger transportation requirements with higher quality, reasonable price and safety. Investment in inland waterway infrastructure linking other traffic networks form

a seamless, uninterrupted system.. Combining the development of inland waterway transport with other sectors such as irrigation, hydropower. Open new routes such as coastal, international and container liner routes. To develop the transport fleet towards rejuvenation (average age of ship is 5 - 7 years), reasonable structure (tugboat pushes 30-35%, self-propelled ships 65-70%); Total fleet tonnage is 12 million tons; Increase the length of inland waterways managed and operated; Modernize the signaling system; Channeling of river sections through large urban areas. The Ministry of Transport has also planned to modernize some key ports and ports in key economic zones and specialized ports; improving the rate of mechanized loading and unloading for local ports; Construction of a number of passenger ports. By 2020, it will be able to transport 190-210 million tons of cargo and 530-540 million passengers. According to the above orientation, waterway traffic will be developed in a synchronous way to the route flow, harbor, loading and unloading equipment, means of transport and management capacity to meet cargo and passenger transportation requirements. With higher quality, reasonable price and safety. Investment in inland waterway infrastructure linking with other transportation network to create smooth, continuous system. Combining the development of inland waterway transport with other sectors such as irrigation, hydropower. Open new routes such as coastal, international and container liner routes. To develop the transport fleet towards rejuvenation (average age of ship is 5 - 7 years), reasonable structure (tugboat pushes 30-35%, self-propelled ships 65-70%); Total fleet tonnage is 12 million tons; Increase the length of inland waterways managed and operated; Modernize the signaling system; Channeling of river sections through large urban areas. The Ministry of Transport has also planned to modernize some key ports and ports in key economic zones and specialized ports; improving the rate of mechanized loading and unloading for local ports; Construction of a number of passenger ports. By 2020, it will be able to transport 190-210 million tons of cargo and 530-540 million passengers. To support the development of inland waterway transport, the Ministry of Transport is encouraging all economic sectors to participate in transport business. SOEs only hold a market share of around 10-15% to ensure a leading role, focusing on major flows, some key commodities.

According to reports of the Vietnam Maritime Bureau after more than 02 years of operation, coastal transport has achieved certain effects in the transport of goods, reducing the pressure for road transport, especially in the past The Ministry of Transport has resolutely implemented many synchronous solutions, including the work of controlling the load of road vehicles to develop the transport market has a reasonable structure, so vehicles VR-SB has been very More convenient to grow. According to the statistics of the port authorities, goods shipped through VR-SB through the port in 2016 reached nearly 12 million tons, of which about 8 million tons of goods shipped from the port to, to leave the seaport and vice versa; with more than 13 thousand vehicle passes. In general, the number of means of transport and goods transported from seaports to seaports accounts for about two thirds of the total number of VR-SB vehicles carrying freight on the route. But besides the positive side, there are still many inadequacies. The VR-SB fleet now has more than 1,000 vessels and has a tonnage of

over 20,000 tons (Compared to within 2 years of the opening of the route, no VR-SB vehicle was officially put into service on the route). This shows that the development investment for VR-SB vehicles is very hot, while the quality of crews working on means has not met the quality of service provided by VR-SB. Unprofessional and demanding safety of vehicles is not guaranteed, and hot development has led to fierce competition for cargo that has potential risks not only for lost Maritime safety but also imminent danger of breaking the structure of the shipping fleet inland. On the other hand, the size of VR-SB vehicles is currently growing beyond the planned development of river it was minister of Transport in Decision No. 4291/QĐ-BGTVT on December 24, 2013 Approve the master plan for development of river and river transport up to 2020 and orientation to 2030. About accident and incident. Since the implementation of coastal transport to date, there have been 10 accidents. The main causes of these accidents are technical breakdowns, bad weather effects, inexperienced crew members dealing with marine situations, improper operation of the lanes, etc. However, when the VR-SB vehicles have been accidents, maritime incidents have been directed by relevant agencies and units and port authorities to promptly provide rescue and support so no damage is caused to them. People. According to current regulations, VR-SB vehicles are not equipped with AIS equipment, EPIRB, so management agencies have not managed, monitored and monitored on the route of the means, especially when Means of accident, incident cause many difficulties for the specific location of the accident to conduct timely rescue. The thin body structure of the VR-SB vehicle is low, so the risk of an accident while traveling on the sea in bad weather. Along with that, the crew working on this means are lack and weak. At the same time, according to the Vietnam Register, it is very difficult for ships of II and III to operate too far away from the shore, so there is always the danger of unsafety and environmental pollution.

The interdisciplinary coordination plan to ensure inland waterway traffic order and safety in 2017 continues to be carried out under the theme of "Building Youth Transport Culture, with the goal of human life is above all." Accordingly, in 2017, the interdisciplinary 3 Department will focus on solving the outstanding and complex issues of traffic order and safety on the roads of the country, prevent the violations of law especially Means of doing business on waterways; Carry out the census of the number of inland waterway means and crew members, riders, shipping companies. At the same time, to coordinate with the inspectors in, strictly handle and suspend the operation of, for violations of, such as: overcompensation, overloading of waterway means at inland ports, violation of registration and registry In addition, inter-agency coordination will strengthen the inland waterway traffic safety corridors and investigate the Potential danger poses the risk of traffic accidents.

According to the Inland Waterway Administration of Vietnam, the top issues in the national transportation sector are the situation in which businesses are not allowed to operate properly and unsafe conditions have not been fully resolved. It is common to have vehicles that carry too much water safely. In addition, at some cross-river passenger stations, large passenger traffic, leading to the situation of carrying more people allowed on the vehicle continuously

occur. On the other hand, the situation of mining sand, gravel and minerals are not in accordance with regulations on the inland waterway is still quite complicated. Particularly, drivers who do not have proper diplomas or certificates; the status of the vehicle by the registry expiration date is still used. The Inland Waterway Administration of Vietnam estimates that these are important causes of many serious waterway accidents that have occurred over time. In order to strengthen the resolution of these violations, the objective of the interdisciplinary plan will be to promote propaganda and focus on handling violations committed by owners, . In addition, the 3 departments continue to strengthen the development of inland waterway infrastructure and review and adjust the signaling system in line with the current situation; Survey and locate traffic black spots to have a clearing plan. In addition, another important task of inter-agency coordination is the strict control of river crossings, vehicle registration, passenger vehicle conditions, Will be focused. At the same time, strengthening the management at inland waterway ports and wharves, inspecting and only allowing vehicles with safe conditions to be exported. For passenger transportation, On the other hand, the training must also be renewed and strengthened to ensure sufficient number of operators of the means to ensure that the driver possesses a professional certificate, in accordance with the conditions of the means.

One of the important causes of the increase in costs is the fierce competition in the fragmented market leading to reduced profit margins and the sustainability of the road freight industry. The estimated transport cost is VND 2,775 / ton / km for the short route and VND 952 / ton / km for the long-haul, with an estimated profit of 3% -5% for small transportation enterprises with fewer than 10 vehicles. In addition, transportation businesses are suffering from 5 types of expenses including fuel costs, tolls, unofficial costs, interest expenses and driver salaries, accounting for 80% of the total business expenses. This has led to a rise in Vietnam's logistics costs. Facing the limitations of road transport, many experts believe that it is time for Vietnam to take advantage of the river system to develop waterway transport. Vietnam has a coastline of 3,200 km, with 19,000 km of inland waterways and 45 main routes used to transport goods. With 224 river ports and 8,800 floating berths, Vietnam's inland waterway transport accounts for only 17% of the total cargo volume although the price of goods transport by waterway is currently only one-fourth of that of transport. Set, 1/2 rail. According to Saigon Newport Company of Saigon Newport Corporation, the cost of transporting goods by barge from ports in the Mekong Delta to Cat Lai, Ho Chi Minh City is reduced by about 7% for each 40 feet container and 20% for 30 feet containers. If reducing the proportion of investment in road infrastructure 2 - 3% will not cause much impact on transport efficiency. But increasing investment in water transport by 2-3% will bring huge economic benefits for the country. With the current system of rivers and canals in our country, Vietnam will be very convenient for the development of inland waterway transportation. Good exploitation of waterway transport will bring more efficiency than roads in terms of economy, environment and traffic safety, reducing transportation costs, contributing to reducing logistics costs. However, experts also pointed out that currently, inland transport of goods by

coastal water in Vietnam is very limited, accounting for nearly 39% of the total output of goods transported by sea 3 because it has not been built yet. Building efficient supply ecosystems as well as infrastructure constraints in and around the port. On the supply side, only a small number of transport service providers operating in the field of coastal water transport, make customers incur additional costs such as, handling charges at the wharf (accounting for nearly 50% of the total cost of coastal waterway transport). In addition, containerized cargo transportation by barge is limited due to the low capacity of waterways and can only accommodate small sized vessels. More than 50% of the inland waterway port system nationwide is a type 3 port, which can only accommodate vessels of a tonnage of 100 - 300 DWT. It is this that restricts investment from the private sector to improve barge design, and improve loading capacity.

3. Conclusion

Vietnam is one of the few countries with advantages of convenient waterway transport network with over 3,045 intra-provincial canals and 406 inter-provincial canals with 124 estuaries flowing to the sea, with a total length of 80,577 km. Of which, approximately 42,000 km of rivers and channels are capable of transport, showing the potential of inland waterways. However, the volume of goods transported by inland waterways accounts for only 18% of the transport market share. Currently, the volume of goods transported by containers is constantly growing at over 14% per year, but goods transported by road to more than 70% this has put pressure on the road traffic density, leading to traffic congestion in some localities. Meanwhile, the waterway transport system, a potential low-cost transportation mode that Vietnam has the advantage of, has not been exploited and promoted to connect seaports and industrial parks near ports and river. Therefore, it is necessary to give basic conditions to develop container cargo transport by inland waterway of the Northern region to give an overview for container cargo transport and propose some solutions for development of this service.

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