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The matter of environmental pollution in domestic waterway transportation in Vietnam

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Abstract: Waterway transportation is more efficient and environmentally friendly than other modes of transport. But alongside these advantages, the waterway rotation still has a major impact on the quality of the water environment. According to statistics, the total number of inland waterway vehicles has increased from nearly 12,000 vehicles in 2007 to more than 26,000 vehicles in 2012. Shipments also increased from nearly 6.3 million tons per year to more than 12 million tons per year, and the number of people traveling with this type of transport increased from nearly 370 thousand in 2007 to nearly 540 thousand people. year 2012). Accordingly, the number of vehicles continues to increase in both quantity and capacity. With this trend in the future will continue to increase due to transportation demand and the development requirements of society.

Keywords: domestic transportation, environmental pollution, water pollution

1. Introduction

Today, the waterway system has become an important link to international trade routes and is increasingly attracting more tourists. When transporting large volumes of goods over long distances, river transport is cheaper and more efficient than road and is also a better solution for the environment. Although river transport is often difficult due to the fluctuation of water levels between seasons, the Mekong River Commission reports that the volume of cargo transported through the river has doubled. Within four years (from 2004 to 2008). At present, trade in waterways in the downstream Mekong countries, including Vietnam and Cambodia, has increased significantly. The Mekong River Delta is currently the most densely populated region of the Mekong Basin with an area of 40,548.2 km² and a total population of 17,330,900. This represents 13% of the country and 19% of the population. In recent years, the growth rate of the region is higher than that of the whole country (7.8% in 2015 while 6.8% in the whole country). This is the region accounting for 56% of the country's rice output and rice exports from the entire region account for 90% of production, not to mention 70% of fisheries. This is considered to be the region with the most powerful waterway system in the country as well as neighboring countries. However, the rapid population growth, the development of hydroelectricity, the filling of rivers and canals, encroaching river systems, and the dramatic impact of climate change on the delta region. The Mekong River has not yet fully developed the capacity of inland waterways.

Despite the predominant advantage of bulk cargo transport with low cost, high safety, less environmental pollution compared to many other types of transportation, but in the past, inland waterway transportation in The area is still not developed to match the potential and advantages inherent. There are shortcomings and inadequacies in the development of inland waterway transport in the Mekong Delta as: The combination of two modes of transportation and road transport is poor due to the infrastructure system Not synchronized. Particularly, the inland waterway wharf system is still rudimentary and the supporting services have not yet developed. Therefore, it is difficult for the shipping industry to develop its advantages and not meet the mode of multi-modal transportation. Besides, the number of inland ports and landing stages is still high, but most of the loading and unloading equipment has not been modernly invested. There are 2,167 river and port ports in the whole region, of which there are mainly small river ports and no specialized container ports, and few ports are capable of receiving limited-sized container cargoes. Low profile and low productivity. In particular, the lack of coastal transport routes to reduce road load, while increasing the capacity of collecting and transporting import and export goods from the Mekong Delta to major seaports in Ho Chi Minh City. Ho Chi Minh City, Ba Ria - Vung Tau, Dong Nai ... have made the strength of this type seem not fully exploited. To operate the system of ships at sea, the river requires full supply of raw materials such as petrol, oil, grease ... No one can guarantee these materials do not leaking out pollution. Incidents such as oil spills into the sea are not rare, and green seawater poisoned by too much oil will affect marine habitats. Underground sewage system In addition, the discharge of toilet water in the deck, discharge of lacquer solution directly into the sea also causes widespread pollution. The consequences of it leave no small, do not think the vast ocean, it is only too small things, you are wrong. Each day, each day it will accumulate into large black spots pollution. Then the source of water where the ships operate will be polluted, and the activities of the cruise will be affected. The vast river and ocean environment, however, is vast, and our little actions also contribute to environmental pollution. It is

necessary to further enhance the consciousness of all people involved in boat trips on the protection of the marine environment while navigating. The vehicle is maintained and operated when there is a waste incidents.

Figure 1. Out of date domestic waterway vehicle is a pollution source

The increase in the number of people and vehicles involved in inland waterway transport activities quickly contributes to socio-economic development in general. However, this activity also poses a risk of environmental pollution. Possible sources of pollution include: oil, chemicals on board; Dangerous goods transported by ship; Waste, sewage; Antifouling paint used for hull; Toxic materials used for shipbuilding (asbestos, heavy metals, chemicals); Old ship breaking operation.

Faced with the above risk, many Ministry of Transport agencies, especially the Vietnam Register has participated in the development, propagation and dissemination of legal normative documents and standards for prevention of contamination of sugar Water inland. Of particular importance are the Inland Waterway Navigation Law and many relevant decrees, circulars and decisions of the Government and ministries.

Over the past time, the Ministry of Transport, MOST has also issued many standards and national standards for inland waterway means, including regulations on pollution prevention and environmental protection for vehicles. These standards and norms have been enacted since 2005. Up to now, these standards have been and are being converted into national technical regulations in conformity with national standards and technical regulations and with other national standards. Environmental protection standards are comparable to advanced countries in the world, especially OTHK standards which Vietnam Register is a member.

According to its assigned functions, the Vietnam Register has issued many guidelines on inland waterway environment protection related to various polluting sources from inland waterway means. Annually, the Viet Nam Register has disseminated and disseminated regulations on environmental protection of inland waterway vehicles to related parties, especially design units, manufacturers, owners of vehicles.

In addition, the Viet Nam Register is also focused on building human resources to carry out the registration work related to the protection of inland waterway traffic environment. In order to ensure this work, the Viet Nam Register has trained the registry staff of 28 units of the Viet Nam Register and 49 registered units of the MOTs on vehicle inspection. In particular, the inspection of equipment to prevent pollution on inland waterway means, constantly improve the quality of work to prevent environmental pollution of means.

Not only that, registry offices also focus on evaluating designs and documents related to environmental protection of inland waterway means, in accordance with national regulations, standards and standards on conservation Protect the environment from building vehicles. Thereby, there are many ideas to advise to increase the efficiency of equipment and vehicles, contributing to reduce fuel consumption and reduce the amount of pollutant emissions. At the same time, supervision and certification during the manufacture of pollution prevention equipment; Inspection of inland waterway means during the building process.

In particular, the inspection of inland waterway means during the exploitation process is carried out by the registry units once a year to ensure that the ships and related equipment are always maintained in compliance with safety regulations. Full and protect the marine environment. This work has a great significance in contributing to raise the sense of responsibility of owners, operators and crew members in the maintenance and maintenance of the means, which always meet the requirements. Arts and environmental protection.

2. Solution of safety ensuring for domestic waterway transportation

On 22/8/2013, the Ministry of Transport and the Ministry of Natural Resources and Environment issued Joint Circular 21/2013 on: "Guidance on environmental management and protection in Inland waterway traffic ". This applies to organizations and individuals involved in inland waterway traffic. Specific provisions on environmental protection for inland waterway means: Inland waterway vessels must comply with the current law on national technical regulations on pollution prevention by inland waterway means; Vessels must comply with the applicable national legislation on the vessel's marine pollution prevention systems; Inland waterway vessels and sea-going ships operating on inland waterways must have shielding devices, not to drop cargoes or dusts, which cause environmental pollution; Do not discharge waste to inland waterways; Inland waterway vessels and sea-going vessels must have oil and chemical pollution pollution control plans as prescribed by the law on exploitation; Inland waterway vessels, sea-going ships causing oil spills, owners of vessels and sea-going ship owners must respond to oil spills according to the current law provisions.

The circular provides for the protection of the environment of inland waterway ports and wharves, for establishments building, converting, repairing and restoring vessels. To protect the environment in planning and development of inland waterway navigation infrastructure, in the construction, improvement and upgrading of inland waterway navigation infrastructure.

The circular also regulates the responsibilities of the Ministry of Transport, the Ministry of Natural Resources and Environment, the People's Committees of the provinces and cities directly under the Central Government and organizations and individuals involved in road traffic activities. Inland water for environmental protection. Apart from fulfilling the requirements specified in Clause 1, Article 3 of Joint Circular No. 21/2013, the establishments' owners shall submit to the inspection and supervision by the standard- The quality, technical safety and environmental pollution prevention of the means during the building, conversion, repair, restoration and upgrading of the means, including the fabrication and installation of structures and pages. Vehicle pollution prevention device; To collect and treat wastes arising in the course of repairing, restoring and building means and ships up to the national technical standards on the environment before discharging them into the environment or in coordination with functional organizations. Professional to receive, transport and handle in accordance with the current law; In the course of operation, noise and vibration must be ensured within the limits of the national technical regulation on noise and vibration; There are officials implementing environmental protection.

Figure 2. Environmental pollution due to domestic waterway transportation in Vietnam

According to statistics of Vietnam Inland Waterways Administration, the country has nearly 7,000 inland ports and wharves, but only over 100 ports are divided into three main groups, the main port and the local port. Specialized port. It is worth mentioning that most port terminals (such as Hanoi, Viet Tri, Nam Dinh, Dap Cau, Thu Duc ...) have poor infrastructure, equipment is both lacking and backward, As for water supply and drainage, providing services asynchronously, they are all in an alarming state about environmental pollution. Environmental pollution is mainly concentrated in the form of dusts on entrances, cargo yards and inside ports, on the means of entry and exit. Another type of contamination is the dropping of goods into the river during loading and unloading. The major pollutants are coal, iron ore, building materials, chemicals, pulp, clinker, and some other chemicals such as sulfur and sodium. Pumped directly into the river ... The same is the waste of boats including domestic waste, sewage cleaning machine, cleaning machine ... For specialized ports, the same

situation occurred at ports built before 1990 (such as Ha Bac Fertilizer Plant, Pha Lai Thermal Power Plant, Hoang Thach Cement Plant, Bai Bang Paper) and Some new ports (such as But Son Cement Port, Long Binh Port ...). The most recent survey by Vietnam Inland Waterways Administration at the northern terminals and some special ports in the south has shown that the environmental protection at ports is not paid attention.

To date, all ports, including large urban ports are in a "4 no" state: no car washes before leaving the port; No solid waste collection and treatment system, household waste, grease and oil; No system for collecting and treating, filtering and filtering rain water; There are no oil spill collection facilities ...

In fact, environmental pollution at ports and sea stations is present in many forms, but the most common and most alarming nowadays is pollution from dust, water and waste. Overall assessment of the study showed that the air in the port area has a high dust concentration, especially loading and unloading time and there are cars operating on the wharf. In addition, dirt and dust containing some toxic chemicals when exposed to the wind will rise up, spread into the air, polluting the port and surrounding areas, depositing on the vegetation, accumulation Rainfall falls, affecting the health of workers and residents in the area. With regard to water resources in the port area, as almost 100% of the means of direct discharge of drinking water and toilet water are discharged into the area, the most common pollution caused by organic substances. Along with that, there must also be a large amount of wastewater mixed with oil and grease to form water-soluble films or wastewater containing high levels of zinc, copper, manganese. Garbage is causing serious local pollution in the port area, with all sorts of waste: from food waste, food stuffs, industrial waste ... The cause of this condition is partly due to This is the "focal point" of waste consumption of employees, passengers on board, workshops, warehouses, to waste in the process of loading and unloading in the port area. According to statistics in 2006, there are 3,360 ports and wharves in the whole country, of which 1,352 ports and wharves on local waterways. According to the master plan, the ports and wharf systems will develop strongly, with port cluster such as Ninh Binh - Ninh Phuc port, Hanoi - Khuyen Luong, HCM port cluster, Long Xuyen and Ca Mau. , The challenge in the development of port system, wharf and inland waterway means in the future is to build ports and terminals to solve environmental problems well.

Figure 3. A boat mooring berth on the Saigon River with full of trash

Mr. Pham Minh Nghia - Deputy Director of Inland Waterway Department of Vietnam said: The Department has also developed environmental management program, standards and regulations on environmental inspection specialized inland waterway; Put environmental protection content into the planning of transportation infrastructure development inland waterway.

However, it is not known when to put into practice. It is thought that, in order to solve this problem, Vietnam Inland Waterway Administration and authorities should soon propose effective waste treatment methods of inland waterway ports and wharfs to ensure environmental protection not severely polluted.

3. Conclusion

In order to protect the environment in inland waterway navigation, inland waterway vessels and sea-going vessels operating on inland waterways must comply with the regulations on environmental protection as follows: The means must comply with the current provisions of law on national technical regulations on

pollution prevention and control, and inland waterway means; The seagoing vessel must comply with the current law on national technical regulations on ships' marine pollution prevention systems; Vessels and ships operating on inland waterways must have shielding devices, not to drop the goods or dust that cause environmental pollution; Do not discharge waste to inland waterways; Vessels and sea-going ships must have oil and chemical pollution response plans as prescribed by current law; Vessels and ships that cause oil spill incidents, means owners and seagoing ship owners must respond to the oil spills according to the current law provisions.

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