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Current Situation and Direction for the Development of Dry Ports in Vietnam

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***Abstract*—** *Inland ports are a part of transport infrastructure and a focal point for organizing the transportation of goods by containers associated with the operation of seaports, international airports, border gates, and national railways. International. Developing dry ports in order to organize container transport in a rational manner, increase the efficiency of logistics services on transport corridors, contribute to reducing traffic congestion at seaports, international border gates, and major urban centers. Therefore, the development of dry ports in Vietnam is becoming increasingly urgent. Despite being considered an important link in multimodal transport, contributing to reducing transportation costs and reducing the time it takes to store goods at the port, this development has not been as expected. Most of the inland ports in Vietnam do not have enough port area or infrastructure, the connection of dry ports to industrial parks is difficult, and the lack of quantity leads to the fact that transport costs are still in high levels, clearance of goods through the port have not met expectations.*

***Keywords*—** *ICD, dry ports, logistics, depot, container transport, Vietnam.*

I. INTRODUCTION

ICD / dry seaport or Depot is an inland clearance depot, a long logistics part of a seaport because most of the ports have limited space so warehouse space is less likely to open. Therefore, ICD (Depot) helps seaports release goods quickly, increase cargo clearance for seaports. Depot has been formed and developed for many decades but until 1970, ICD (Depot) used the right function and then developed around the world. ICD (Depot) is the place for gathering containers and goods. As mentioned above, seaports are limited in space, so ICD (Depot) is a measure to help reduce the pressure of container time at the port. There are goods that need to be transported, inspected, inspected, cleared or exported by the import-export company [1]. ICD (Depot) acts as a place to reduce the port's loading for customs procedures. When carrying out the procedures at the port, the goods must complete customs procedures (including the procedures: inspection, tallying, loading ...) before they can be removed from the port for loading onboard or importing goods. This is the main reason for the overloaded seaport which reduces the capacity of goods traffic. Moving customs clearance operations into the Depot will reduce port procedures and make the port a buffer zone for the transshipment of cargo containers from the sea to the inland. A large ICD (Depot) can also serve as a distribution center. The current development trend of seaports is shifting coordination centers into ICDs (Depots). In addition to the services on ICD, it also provides services such as seaport storage, CFS warehouse, bonded warehouse, container yard, [2].

Thus, it can be said that Depot is an indispensable part of the seaport, it plays an important role in increasing the cargo transport capacity of the seaport in general and increasing the ability to transport containers from the port to inland in particular. Port development is associated with Depot development.

Put simply, a dry port is a defined location where import and export goods can be monitored by customs and can be determined as the place of origin or destination of goods during transportation along with the vouchers. The transfer of goods between modes of transport at ICDs, dry ports may be the place where consignments are combined or divided into small parts to continue transport. Depending on the type of cargo, dry ports can be used for liquid, bulk, general and general cargo. However, in general, the whole country mainly handles single cargo, especially container goods [3].

According to statistics of the Vietnam Maritime Administration, Vietnam currently has only 5 inland ports and 16 cargo clearance points (which function almost like an inland port). Of which, in the North, there are 4 dry ports and 7 inland clearance points; the southern region has dry ports and 9 inland clearance points, but there is no dry land in the Central region. The total area of inland clearance depots across the country is only 229 hectares; in which, the area of dry ports in the North is small, mainly from 10 ha or less, only 1 dry port has an area of 13.5 ha and 1 dry port with an area of 30 ha. In the South, there are 4/10 dry ports with an area of less than 10 ha. Assessing the current status of dry ports in the Northern region, Vietnam Maritime Administration said that the current dry ports are only connected by roads, which have not created clear transport efficiency between seaports and cargo sources. Especially with a small scale, mainly under 10 hectares, resulting in low business efficiency, not properly planned development. In the Northern region, besides the Lao Cai inland port connected to the railway, the Hai Linh inlet port (PhuTho) can connect more with waterways, most of the inland ports in the North can only connect to the road. The set. This is quite unreasonable, causing the ports to not fully use its capacity [4].

Research and evaluation of the Transport Strategy and Development Institute (Ministry of Transport), in the North, the construction of dry ports is still small, fragmented, spontaneous, not based on regulations. The master plan leads to the congestion of goods and the phenomenon of the shortage of goods, empty warehouse often occurs. Dry ports: Hai Duong and Tien Son (Bac Ninh) only reach an average capacity of nearly 2,000 TEU /ha/year [5].

In contrast to the Northern region, the Southern dry ports are assessed to have a major role in supporting the seaport system. This region is forming a number of large-scale ports, a

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trend of combining logistics services. In particular, many large scale dry ports have been connected to inland waterways. Transport costs can only be reduced when goods from the production place are transported by road to an inland port for clearance and then taken to the seaport by means of bulk transportation such as inland waterways and railways. However, the inland port system in the South is more efficient when about 35-40% of containerized imports and exports go through the customs procedures at the inland port/cargo clearance through the dry ports located near the port. the sea (from 20-70 km); especially 7/10 ports connected to inland waterways. Effective support of ports in the city. Ho Chi Minh City, reducing congestion at seaports and urban transportation [6].

II. The Role of ICDs in Container Transport Systems

Inland ports are considered an important link in multimodal transport, contributing to reducing transportation costs, reducing the time of storage at the port, with the main function of being the clearance point for inland cargo, container yard having cargo, empty containers and reefer containers, project cargo, super weight cargo, Customs clearance, etc. In addition, dry ports can also have additional functions such as packing and unloading at the yard, installing equipment. , retail stores, packaging, vacuum packaging, and branding of goods, container repair and cleaning, inland transportation ... Currently, our ICDs are mostly "backyards" of the ports or forwarding companies, transport, development mainly in the South, small in the North and completely not in the Central. But for a longtime, the dry port (also known as the ICD) has not received reasonable attention. In fact, the Southern ICDs are considered to be promoting the most effective compared to the whole country. Because the volume of goods through this region port accounts for 80% of the country's cargo volume and with the advantage of connecting to the seaport by waterway and road transportation systems, it has played a role in the act as a transshipment point between import-export enterprises and seaports [7].

ICD plays an important role in the container transport system. It is the connection point between one side where the production and consumption of import and export goods and the port side. In areas where large volumes of import and export goods are transported by large containers, the planning and development of ICDs become even more urgent. The role of an ICD is not merely a step in the transportation system but also an important step in the Logistics system. This requires the ICDs to have reasonable planning of location, convenient connection to the seaport by many different modes of transport, organized and equipped with modern equipment to be able to load. Load goods quickly. The establishment of ICDs has fundamentally changed the route of domestic freight transport.[8].

A. The ICD acts as a gathering place for goods and containers

Vietnam seaports are often limited by space as well as warehousing area so the warehouse area is unlikely to expand. Therefore, the port operators often apply measures to reduce the time the container is located at the port and one of the measures is to increase the storage fee and charge the progressive method for the overdue time. But due to various reasons such as the need to carry out procedures for transportation, inspection, clearance of goods, inadequate storage or goods to be distributed to different locations in the inland, import and export goods owners It is not possible to release containers from the port in the shortest possible time, so the solution to this problem is to consolidate the containers into ICDs [9].

B. The ICD acts as a venue for completing customs procedures

Customs is an independent organization with the port, but the import and export of goods that need to be transparent require the participation of customs. According to traditional views, a seaport is a border gate and a place for carrying out import and export clearance procedures. This means that the cargoes have to complete customs clearance to get out of the port, which is the main reason for slowing the flow of goods from the seaport to the inland and vice versa, reducing the port's throughput capacity. In addition, when clearance procedures at the port will entail many other services such as loading and unloading, tallying, inspection, ... interfere with daily activities at the port.[10].

The transfer of clearance activities into ICDs will help reduce the most basic part of the procedures at the seaport, help the goods through the seaport quickly, maximize the function of the seaport and avoid it. congestion, traffic congestion, and traffic in the port.

C. ICD acts as a distribution center

Containerization is a trend that the whole world is following, which makes the seaport a place for goods circulation. The material facilities and the concept of the storage of goods become not so much meaning to the goods packed in containers. Since then, the port has to design new services to meet the requirements and develop into logistics distribution centers. And the new trend of the port is to move the distribution centers to the inland. ICD model is assessed as the most potent model to be developed into distribution centers. This also contributes to reducing the burden on the port traffic, support to expand the port's rear [11].

III. Current Situation of ICD Development in Vietnam

Currently, ICDs in Vietnam are not only a domestic clearance point but also provide important logistics services for container shipping flows. Development of ICDs is an inevitable trend in the context of reducing congestion of seaports to increase clearance capacity, improve packaging services, warehousing, customs clearance ... further away from seaports, the cost of direct transport to the port is more expensive than the cost of transshipment at inland ports. This is also an indispensable component in the multimodal transport chain. With a large number of seaports, shipping by sea accounts for 80% of the volume of goods import and export, ICDs are also very developed. Currently, ICDs in Vietnam are mostly the "backyards" of ports or forwarding companies, transport, development mainly in the South, small in the North and completely not in the Central [12].

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A. Unreasonable planning

It is forecasted that Vietnam will form and develop 13 inland ports with a capacity of around 6 million TEU / year by 2020 and 14.2 million TEU / year by 2030. However, through demand analysis and current status of inland port development in Vietnam, forecast of container transport demand, detailed plan for inland port development to 2020, 2030, current difficulties in implementing detailed plan for development of inland port system Regarding the connection of inland ports with modes of transport, scale, area, development status, it is difficult to implement the detailed master plan for inland port system development according to 13 identified locations. somewhat contradictory to the current development reality. Specifically, the formation and development of 13 inland ports with an area of 70-400 ha nationwide is not reasonable, although it can meet the demand for services it will not be reasonable in a number of major container transport corridors and areas, especially in Hanoi, Ho Chi Minh City, Binh Duong, and Dong Nai, are areas with many industrial and export processing zones and the need to develop an inland port system. Support for a seaport is huge.

B. Revealing many inadequacies

In the operation of dry ports, the southern region is operating most effectively. While the Central region does not have a dry port, the North only in Lao Cai is an effective operation. According to the Ministry of Transport, the current development plan of dry port system has revealed a number of inadequacies, particularly in each region of North, Central, and South, determining the number of inland ports is too small, not suitable for capacity, actual conditions of investment in inland ports and connected infrastructure are due to not meeting the criteria that inland ports must be connected to at least 2 modes of transport to facilitate multimodal transport, prioritize the location of dry ports associated with a mode with high transport capacity.

Some localities have seaports but due to the wide area, the distance from some areas to the seaport is quite far, there is a need to develop dry ports, there are basic criteria to meet the requirements but not yet planned for development. Dry port. Currently, seaports have a narrow storage area, there is a need to form an inland port right in the back yard area, in an industrial park adjacent to the seaport to support cargo handling capacity but have not been oriented to develop. Developed in current planning.

C. Investment has not been concentrated

Inland port investment is divided directly into 3 specific regions. In the North, there will be 5 shallow ports in the coastal economic area, Hanoi-Lao Cai economic corridor, Hanoi-Lang Son economic corridor and Northwestern Hanoi economic region; Southeastern economic region of Hanoi. The Central Region - Central Highlands has formed five shallow ports in Nghi Son economic zone, economic corridor of Road 8 and Road 12A, Economic corridor of Road 9, economic area of Da Nang - Hue and economic corridor of Road 19. In the South, there are 3 dry ports in the Northeast Economic Zone of Ho Chi Minh City, the Southwest Economic Area of Ho Chi Minh City and the Mekong Delta Economic Area. Therefore, the criteria for the formation of an inland port, including, must be formed on the basis of the economic development needs of a region with a large volume of goods exported or imported by containers (over 50,000 TEU) or at the door area. International exports, areas often congested, traffic congestion caused by goods transport means (over 30,000 TEU); to link with major transport corridors (national and international transport axes) to seaports for regional economic development. Inland ports have many advantages that are indisputable. However, despite the decision to develop the inland port, domestic investors are still struggling with loans, while foreign investors are afraid of the asynchronous development between infrastructure to economic zones and ports.

D. The specified standards cannot be met

According to the inland port planning, the ICD must be connected to at least two modes of transport. While inland waterways must depend entirely on natural conditions, the second mode of transport would certainly be rail. However, the current railway infrastructure plan has never mentioned these routes. Along with that, the new inland port planning will identify the area where the inland port is expected to form but not specify the specific location. Also from here, under the current conditions, when planning and building new logistics centers, the determination of location and integration of dry port functions with logistics centers should be considered. Currently, in the southern key economic region, it is estimated that in order to transfer 50% of containers from seaports by 2020, the area of ICD needs to be increased by 1.5 times, meaning that it needs about 300 hectares more. Many experts suggest that it is necessary to quickly plan the development of more ICDs in the provinces of Ba Ria - Vung Tau, Dong Nai, Binh Duong, and Long An near industrial parks and convenient connection of iron and water transportation. , sets with clusters of focal ports

In addition, in terms of location, with the initial goal of professional support for seaports, the current ICDs are mostly the backyards of ports or forwarding companies. Most of these ICDs are located near seaports rather than industrial zones, not yet promoting the advantages of concentrating goods sources and optimally supporting domestic and export cargo lines. The construction is not based on the master plan, but it is spontaneous according to the needs and geographical characteristics of each locality. ICDs develop mainly in the South, small in the North and completely not in the Central. In fact, the congestion of goods at the wharves and the shortage of goods, the empty warehouse often occur due to the unreasonable network distribution and the ability to solve ineffective flows.

Many ICDs are currently located near or in residential areas, clogging traffic, putting pressure on the road traffic system. Moreover, the circulation of a large number of container trucks into residential areas causes pollution of dust and smoke to the environment, leading to negative impacts on people's health and reducing the quality of life. The investment is fragmented and spontaneous so many ICDs still lack infrastructure elements, specialized loading and unloading equipment that has not met demand. The management level is still low, so the arrangement and arrangement of goods in the warehouse are not really good,

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the science has led to the commodity operations have not been effective in supporting the commodity flows.

With the above limitations, the current ICD system does not fully meet the current logistics needs and is requiring solutions on planning, investment in new construction, expansion, and upgrading into centers and areas focused logistics service provider to better meet the requirements of optimization in Vietnam's economic development. Therefore, the Ministry of Transport is adjusting the Master Plan for developing Vietnam's inland port system. This is a necessary move for the development of dry ports in Vietnam in recent years. There is an opinion that the number of dry ports in Vietnam's planning is too small. However, in countries with very good logistics services such as Korea (5 ICD), Thailand (Laem Chabang deep-water port also relies on ICD Lat Krabang mainly), China (17 ICD) ... it is clear our inland ports system can't be called less.

IV. Development Orientations of Vietnam's Dry Ports

The development objective is to step by step form and develop a system of inland ports to meet the needs of transporting export and import goods, increasing the capacity of cargo handling of seaports; organize reasonable container transportation in order to reduce shipping costs and storage time at seaports, ensure goods safety; contribute to reducing traffic congestion, especially in large cities and areas with large seaports. To develop a system of inland ports to become a hub for transport, transshipment, and distribution of goods in combination with the provision of logistics services. Striving to 2020, developing a system of dry ports capable of passing at least about 15% - 20% of the demand for containerized cargo through the seaport system, with a capacity of 4,035,000 - 6,845,000 TEU / year, of which the North reaches 720,000 - 1,810,000 TEU / year, the Central reaches 65,000 - 175,000 TEU / year, the South reaches 3,250,000 - 4,860,000 TEU / year.

By 2030, develop an inland port system capable of passing at least 25% - 30% of the demand for container shipping goods through the seaport system, with a capacity of around 12,000,000 - 17,600,000 TEUs. / year, of which the North reaches about 2,750,000 - 4,820,000 TEU / year, the Central reaches about 350,000 - 630,000 TEU / year, the South reaches about 8,900,000 - 12,150,000 TEU / year.

In the North, planning to develop 6 dry ports in the coastal economic area; Hanoi - Lao Cai economic corridor; Hanoi - Lang Son economic corridor; Hanoi Northwestern economic region; Southeastern economic region of Hanoi; Hanoi - Thai Nguyen - Cao Bang economic corridor.

The Central - Highlands region plans to develop 6 dry ports in the economic corridor areas of Road 9; Da Nang - ThuaThien Hue economic region, Road 14; Road 19 economic corridor; Highlands region; Nghi Son economic zone; Economic Corridor Road 8, Road 12A.

The southern region plans to develop inland ports in 3 economic areas northeast of Ho Chi Minh City; Southwest Economic region of Ho Chi Minh City; Mekong Delta region.

Focusing on investing in a number of dry ports on transport corridors connecting with major seaport border gates in the northern region (Hai Phong port) and the southern area (Ho Chi Minh City and Cai Mep - ThiVai ports), dry ports associated with cross-border transport corridors. To prioritize investment in dry ports with locations connected to two modes of transport, locations associated with or near industrial clusters, concentrated export processing zones, and grade-I logistics centers already planned. major international border gates on roads. Strengthen state management of dry port development; mobilizing to the utmost all resources to develop the system of dry ports and connected transport systems; combine the development planning of dry ports and logistics centers; enhance the participation of rail and inland waterway transport in container transport and inland port development. The ICD system was developed to streamline container transportation in an efficient manner, increasing the efficiency of logistics services on transport corridors, contributing to reducing traffic congestion at seaports, international border gates, and cities. big town.

V. Conclusion

In order to serve industrial zones more effectively, an inland port system (ICD) is needed. Currently, due to changes in the actual situation and the development of transport infrastructure projects in the area, adjustments are made to suit development needs. Import and export goods through the seaport in recent years far exceeded the forecast on production and variety of types, especially containers. To effectively support the capacity of seaports, it is necessary to develop the system of inland ports in the rear of seaports. However, growing in how much? How is the distance between ports? The size of the port dry? Methods of connecting with seaports and transportation systems... It must be studied and calculated carefully to avoid redundancy, waste or vice versa to avoid the congestion of goods because of insufficient port service capacity.

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