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IMPROVING THE HINTERLAND CONNECTION TO ENHANCE VIETNAM'S PORT OPERATIONAL PERFORMANCE

PHÁT TRIỂN MIỀN HẬU PHƯƠNG TRONG VIỆC HỖ TRỢ HOẠT ĐỘNG KHAI THÁC CẢNG TẠI VIỆT NAM

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Abstract

Vietnamese ports play an important role in Vietnam maritime transport. Annually, over 90% of import and export volume are getting through these ports, resulting in a leading producing force for the Vietnamese economic growth. However, due to many reasons, the development of Vietnamese seaport system has not met the requirements of the reagional and national demand. It is also far from deserving favorable conditions of natural resources. One of the objective reason is the underdevelopment of the hinterland. Meanwhile, the hinterland has a great influence on the development of the seaports. This article will analyze the situation of the hinterland for Vietnamese seaports, thereby proposing solutions to develop the hinterland supporting the port operation effectively.

Keywords: *Hinterland, Vietnamese ports, port operation, seaports.*

Tóm tắt

Cảng biển Việt Nam đóng một vai trò vô cùng quan trọng trong lĩnh vực vận tải biển. Hàng năm, hệ thống cảng biển thông qua 90% lượng hàng hoá xuất nhập khẩu, đóng góp hàng đầu cho phát triển kinh tế đất nước. Tuy nhiên, sự phát triển của hệ thống cảng biển Việt Nam xét về cả yếu tố chủ quan và khách quan thì không chỉ chưa đáp ứng được nhu cầu phát triển của quốc gia và khu vực mà còn chưa tương xứng với điều kiện thuận lợi về các nguồn lực tự nhiên, trong đó nguyên nhân khách quan chính là do sự kém phát triển của miền hậu phương. Trong khi đó, miền hậu phương có ảnh hưởng rất lớn đến sự phát triển của cảng biển. Bài báo này sẽ phân tích hiện trạng của miền hậu phương cho cảng biển Việt Nam, từ đó đề xuất giải pháp để phát triển miền hậu phương nhằm hỗ trợ hiệu quả cho hoạt động khai thác cảng.

Từ khoá: *Miền hậu phương, cảng Việt Nam; hoạt động khai thác cảng, cảng biển.*

1. Introduction

Goods can be transported by many modes to circulate around the world such as road, waterway, rail, air and sea. In particular, the mode of goods transport of by sea accounts for 90% of total export and import goods in Vietnam. Vietnam is located in the most dynamic maritime region in the world because of its favorable geographical and natural conditions in developing regional and international maritime routes. Neighboring ports such as Hongkong, Singapore, Shanghai (China), Pusan (South Korea) and Kaohsiung (Taiwan) are all in the top 10 of the world. However, Vietnamese seaports have not been matched their position and their potentials. In addition, an important factor inhibits the development of the port is that the hinterland has not well supported the development of the port system. How to help the hinterland to support the Vienamese seaports effectively is really an important issue of many authorities as well as logistics enterprises.

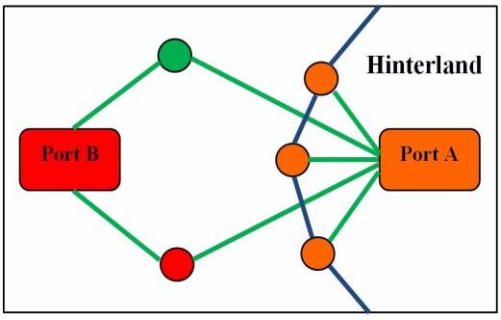
2. Theories

So far, there have been many international and national research on Vietnamese seaport activities. A few studies about hinterland have been done as well in Vietnam. However, those are relating to the hinterland supporting for the Vietnamese military in war. In terms of the "hinterland" relating to the logistic services for seaports in Vietnam, there has not been any reseach about it up to now, especially about developing the hinterland that supports the port operation in Vietnam. The author used the statistical research method to define what are the most important elements to support the Vietnamese seaports in order to suggest the respective solutions.

A seaport is a place where a ship enters, departs, prepares for the loading and unloading of goods,

supplies of fresh water, food and fuel or a place for refuge. To the Decree 104/2010/ND-CP on foreign military ships to the country of socialist republic of Vietnam, *"Seaport is an area including port land and port waters, constructing infrastructures* and installing equipment for ships to enter, leave and operate to load and unload cargoes and other services". Ports are points of convergence between two geographical domains of freight circulation (sometimes passengers) (Dr. Jean-Paul Rodrigue and Dr. Theo Notteboom). The factors related to port stabilization and development include: port equipment and facilities; physical facilities of the port; management policy of the port and state and especially the operation of the port is greatly affected by the hinterland. A seaport is defined as a transit area through which goods and people move from and to the sea. As such, ports are places of contact between land and maritime spaces, nodes where ocean and inland transport lines meet and intertwine, intermodal places of convergence (Hayuth, 1985). Ports are part of a larger system with specific spatial and functional characteristics.

The concept of foreland-based regionalization refers to the integration of intermediate hubs in regional shipping networks, where the maritime foreland of the intermediate hub is functionally acting as a hinterland (*Notteboom, T. and J-P Rodrigue, 2010).* The port hinterland is a defined geographical area associated with the port by inland transport system (inland waterways, railways, roads, etc.), it is a place for transshipment of goods - got into or out of ports in a specific time. There are lot of authors that cited the the ideas about port hinterland. The hinterland of a port in early works has been defined as the area of which the greater part of the trade passes through the port (Barke, 1986; Blumenhagen, 1981; Sargent, 1938; Weigend, 1958). Hinterland, as part of the port triptych, is only defined by a group of locations connected to the port through related goods flows. The hinterland plays a very important role in port development. From a hinterland, it is possible to connect to many different near or far ports, that all have a common role of facilitating goods through ports quickly and effectively (Figure 1).



Source: The author of the paper

Figure 1. An example of a hinterland for ports

In the classification of the port hinterland, hinterland is divided into three types: Stable hinterland: is the area where the goods attracted to the port is 80% or more and stable; Disputing hinterland (with another port): is an area from which the volume of goods attracted to the port decreases and is not stable; Dead hinterland: is the area where the goods there are less attracted to the port (the amount of goods to the port is almost zero).

3. The current state of Vietnamese sea ports and hinterland

3.1. The Vietnamese ports

To the Decision No 70/2013/QĐ-TTg dated Sep 11 2013 on issueing the category of Vietnamese Seaports, there are 49 seaports in Vietnam which are divided into three groups: Type I - extremely important ports for the socio-economic development of the whole country (17 ports); Type II - important and medium-sized ports for the socio-economic development of regions and localities (23 ports); Type III - small-sized seaports for the socio-economic development of regions and localities (9 ports). Generally, the Vietnamese port systerm is distributed and framented, When the ports are divided into many terminals, for example, there are a lot of enterprises have invested to build many terminals resulting to many teminals in a port like the Cai Mep - Thi Vai port that would waste so much budget ineffectively.

Of the foreign investment projects for Vietnamese seaport system including Haiphong, Danang and Hochiminh City ports are 3 national key ports that have been supported by ODA. In addition, Cai Lan port (Quangninh province) has been also assisted by ODA. This is the important port system in the key areas of economic development. However, among the current Vietnamese seaports, only a few ports are invested in accordance with international standard. Most of the "so-call ports" are terminals or berths that are lack of standard infrastructure, not focusing on yards and logistics, especially without

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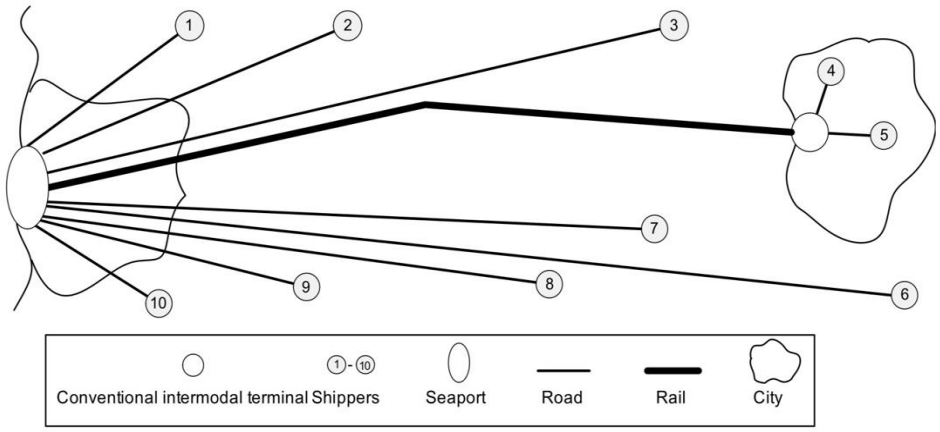
connecting to hinterland, which leads to not exploiting its full potential.

Due to the differences between the previous and existing seaport, the aims of planning the port system are also different from long time ago and up to present. For example, when Vietnam's economy have just released from the embargo of Western countries, goods and ships were few so the target was set to meet the demand of all imported and exported goods from the North to the South. The previous prospect of Vietnam was made according to "goods before ports" (here means “it is the time to have ports when the goods are available”). Thus, the ports were distributed, small-sizes and without forward planning. With the new viewpoint of "ports before goods” (here means “the modern ports with high technology will attract more and more reginal and international goods", the ports must have advanced equipments, a modern logistics region and a effective support and connectivity. These would meet the demand of transporting goods of the country and the region as well.

3.2. The Vietnamese hinterland

A hinterland is an indispensable part of a seaport because this place is the source of goods producing for the transport and this is also the place where a large amount of goods are in and out through ports. The more active a hinterland is, the more effective the ports are. This reflects a two-way relationship between a hinterland and ports. If the hinterland is dynamic and the demand for imported and exported of goods is so high, the ports will run well; on the contrary, if the port organizes its activities well to get goods in and out quickly, which helps to increase the regional and national economic growth. It can be affirmed that the development of hinterland would result in the development of seaport system. The features of Vietnamese hinterland are listed hereunder:

About the waterway system. The country currently has 45 national inland waterways with a total length of about 7,075 km (the North has 17 routes, the South has 18 routes, the Central has 10 routes). These are arterial transport routes connecting major economic centers, industrial parks of the region and the whole country. The signaling system on the route includes: 12,539 signal poles, 18,458 signboards, 3,070 signal buoys, 9,153 signal lights. Bridge spanning system: Currently, there are 251/532 bridges and constructions across the river located on the national wetland routes which have clearance for navigation which is lower than the specifications according to the approved planning level. The inland waterway transport system has the following outstanding features: Most of the inland ports of goods and passengers are scattered and fragmented. Goods through the hub port only reach 60-70% of the design, including many types of goods, of which bulk cargo accounts for more than 50% is the type of goods due to many types of transport means, it is difficult to modernize equipment. loading and unloading. Except for some specialized ports (coal, cement, thermal power), the rest of the works and loading equipment in most



Source: H.Meersman, E.Van de Voorde and T. Vanelslander (2009)

Figure 2. The network of hinterland and ports

ports are outdated. There are few inland ports qualified for container handling. Multi-modal transportation organization, logistics services at major head ports have not been implemented. The ports in the Northern Delta are all outside the dyke, restricted by the requirements for flood drainage limit, the dyke protection corridor, so connecting to the external road system needs to open the gate through the dyke very difficult.

About road and rail system. Currently, all major ports in the world are connected with large modes of transport such as railways and highways. However, the Vietnamese seaport system only has Haiphong port connected to the railway (Cai Lan port has invested but has not been able to operate due to lack of synchrony), and there is no separate highway for transportation. The traffic connecting the inland waterways is restricted by the bridges crossing over the river. Therefore, the efficiency in transporting goods to the seaport has not been optimized in terms of time and transportation costs. The railways and highways system connecting ports have not been built synchronously results in the congestion in traffic and goods. At present, it has been forming a trans-Asia road stretching through many Asian countries such as Japan, China, Indonesia, Thailand, Laos... including Vietnam. AH14 route is 2,077 km long from Hai Phong to Mandalay (Myanmar); AH15 route is 566 km long from Vinh to Udon Thani (Thailand); The AH16 route is 1,032 km long from Dong Ha to Tak (Thailand). This trans-Asia road has contributed to the circulation in Asia in general and the connection to ports in Vietnam in particular has become much more convenient. However, these roads are not synchronized to ensure fast traffic flow as well as not to ensure the traffic connecting to the ports is effective.

About the development of hinterlands. In fact, among these seaports, there is no standard infrastructure, especially without port - connecting infrastructure, which causes to not exploiting the full potential of ports. Although the key economic regions are located along the coasline, the function of each key economic region has not been cited. Thus it is difficult to detemine which hinterland should be focused to support which ports. Areas such as Ba Ria - Vung Tau, Hai Phong, Ho Chi Minh City ... have so good hinterland so the ports is very busy. Although many other regions such as the central region have natural conditions for seaport development, however the hinterland has not developed. The infrastructure connecting to ports is also poor and underdeveloped. The central region has a very light industry, the exported goods are mailnly woodchips. The exploitation of ports is at 20% - 30% of the port capacity causes a waste of resourses. Therefore, although there is a seaport system along the central region, it is difficult to develop the hinterland because of no high actual demand; The Southwest region has a lot of rice, a great ability for importing and exporting agricultural products, and we must take full advantage of these advantages to develop. To develop the Southern posts, it is necessary to clearly recognize the potential advantages that must be associated with the development of hinterland.

About connecting infrastructure with ports. According to the traditional view, the port is a traffic hub, a place to perform loading and unloading operations from the mode of sea transport to other modes of transport and vice versa. Thus, it can be said that the basic role of the port is loading and unloading goods, supporting the import and export activities of the country. The hinterland of the port to the point of view is very limited. In terms of the modern perspective, in addition to the role of cargo handling (the basic role), the port also performs simple trans-shipment and logistics activities to create added value with the relatively large hinterland. In the future, the port will have a huge hinterland enough to support for all business activities. At that time, the operation of the port would associate with the operation of open economic zones, free trade zones and export processing zones ect. Although the role of a seaport is very important, it is impossible not to have technical infrastructure connection behind, particularly roads, waterways, railways connecting to the port. Cai Mep - Thi Vai port cluster currently has no railway and there were no roads for a very long time; Lach Huyen Port in Haiphong City is considered as a gateway connecting Vietnam with the world. It was assisted under the Japanese loan with modern and advanced technology that still does not have a railway. The two key economic regions in the north and south of the country are in a traffic congestion that causess a reduction in port operation effection. Accordingly, he Southeast region

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has a strong industrial development but there is no way to enter the port, depending only on Highway 51. In the Northern region, the National Road No. 5 and National Road No. 10 also often occurs traffic congestion, reducing business efficiency. In general, the hinterland still has many limitations, such as: Lack of infrastructure to connect the seaport system to promote the key economic regions; The connection between multimodal transport modes such as roads, railways, inland waterways still has shortcomings; Land use planning, industrial development master planning, infrastructure planning, residential-urban planning, labor planning, ... have not been synchronic and completed yet.

About software infrastructure. The software infrastructure has not been synchronized, resulting in the difficulties and inconveniences to shippers, especially about customs procedures and specialized administrative inspection procedures. For example, in Ho Chi Minh City, goods would rather be located in Cat Lai port than in Cai Mep - Thi Vai, because of the lacking of the software infrustructure, specialized inspection agencies etc. The costs incurred from moving to Ho Chi Minh City to do the above procedures has caused the reducing competitiveness of handling of goods at Cai Mep - Thi Vai port.

About the planning work. Planning has been implemented quite well. However, the plans made by the governmental administration have been still adjusted, or consulted by foreign experts that put enterprises in a pasive mood. According to the analysis, it is to identify what are the key economic regions that are located along the coastline stretching over 27 provinces. Each of these key economic regions has different characteristics and it is extremely difficult to ensure which hinterland is the most suitable for the development of the seaports.

4. The solutions to develop the hinterland for Vietnamese seaports

In terms of infrastructure connected to the port. Vietnamese ports are mostly only cargo ports. Vietnam needs to fully exploit their productivities in association with the characteristics of each key economic region. High infrastructure system helps the hinterland commensurate with the size of the ports improve the quality of port operation. For key economic regions, each place has its own characteristics. It is necessary to have an accurate vision and create a roadmap based on the characteristics of each region in stead of overall strategy:

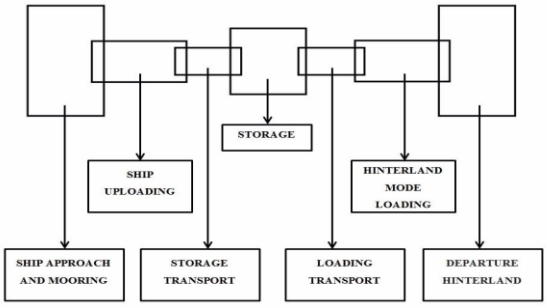
- To the South, Hochiminh City and Ba Ria - Vung Tau ports for example, should be paid attention to thank to the dynamite of economic development;

- To the Central region, the hinterland should not be paid attention to due to the limitation of economic development;

- The Southwest region also need promote the hinterland basing on to the ability of importing and exporting the large agricultural products.

In terms of inland waterways, railways and road systems. To build up transport asset (waterways, railways and roads) in the hinterland to support effectively for imported and exported goods through ports, authorities should upgrade the transport routes connecting with the seaports, combining the development of logistics services in the hinterland. Key seaports should be focused in early time and in a right way.

In terms of the operation of the hinterland. The hinterland of the port has various of activities, including logistic services such as: Services for ships entering and leaving ports: the authorized agencies include port authorities, towage, pilots, maritime safety, customs declaration service for goods; Warehouse services, packing of goods at ports, CFS warehouses and openning ports... Therefore, in order for the operation of the hinterland to be effective, it is necessary to organize and coordinate well the above activities of the port. It is calculated that the maximum capacity of the port must be equal to the maximum productivity of the quays and the maximum productivity of cargo handling. For example, for the service for ships entering and leaving the port, this activity requires fast, safe and minimize the waiting time for ships (not loading goods).



Source: Violeta Roso, Johan Woxenius, Ken Lumsden (2008)

Figure 3. Process of cargo output in hinterland

Regarding the investment in infrastructure sstem: In order to effectively exploit maritime transport routes, it is necessary to relieve congestion in two key economic regions of the country. If investing in the hinterland by developing the infrastructure, it will bring great effect for the country's economic growth. The solutions to enhancing the hinterland should be taken into account of the market mechanism.

- Strengthening investment forms and port management. Encouraging and creating favorable conditions for organizations and enterprises of all economic sectors to invest in the development of seaports, paying special attention to applying the state-private form to ports.

- To save national budget, it is not necessary to invest in railroads because the total amount of investment capital is so huge. The budget can be used to invest in developing roads and inland waterways. It is possible to attract the private capital and socialized capital through BOT and BT models in improving the infrastructure of the hinterland. It is necessary to develop a separate strategy to connect the common routes to ports to take advantages of special geographical, natural characteristics.

In terms of software infrastructure. Customs procedures, specialized administrative inspection enable enterprises to run smoothly their business. Specialized inspection agencies, animal and plant inspection, medical examination and goods quality assessment… should be convenient and evenly distributed in the hinterland. With the advanced software infrastructure, those activities must be settled quickly.

In terms of planning issues. The plan requires to consider all the resources and the allocation of the national investment ability. Mobilizing the public and the private sector is a considerable way to attract the financial resouse. In order to operate seaports effectively, it is necessary to clearly recognize the potential advantages that must be associated with the development of other factors. Governmental administration should pay attention to prioritizing the which elements are the key connection between seaports and hinterland to ensure a huge total amount of goods through the port. It is necessary to invest in research on the development of more and more inland clearance deport (ICD) that contributes to the efficient transport network in the hinterland.

5. Conclusion

Vietnam has some key economic regions along its coastline, and each of them has it all different characteristics. The development of the hinterland has a great influence on the development of the seaports that has been prove by the paper. Once modern seaports with international standards have been built, the supporting and connecting hinterland will ensure the development of the Vietnamese seaport in particular and Vietnamese economy in general. Where should be the key hinterland for the Vietnam's ports and how to make it work effectively is an urgent matter that should be put in consideration as soon as possible.

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