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# Seaport system: Orientation in the near future

**Thi Thuy Hoa Phan, Thi Thanh Xuan Pham**
*Ho Chi Minh city Universityof Transport, Ho Chi Minh city, Vietnam*

**Abstract:** Vietnam seaport system is currently divided into 6 groups with 45 ports with a total of 272 ports including: 2 seaports of type IA (international gateway port); 12 grade I seaports (regional hub general port); 18 ports of type II (local general ports) and 13 ports of type III (offshore oil ports). Vietnam seaport owns about 92.2 km of jetty, with a total capacity of over 550 million tons / year. Compared to 2000 - the first year of implementation of the plan, Vietnam's seaport system has increased 4.4 times in terms of port length. After nearly 20 years of planning, up to now, for the first time in Vietnam, specialized passenger ports have been invested in Hon Gai (Quang Ninh) and Phu Quoc (Kien Giang). When these ports are completed, it is allowed to receive international passenger ships with a tonnage of up to 225,000 GT, initially meeting the needs of international passenger transport by sea. Currently, most of the regional major ports: HaiPhong, Da Nang, Ba Ria - Vung Tau, Ho Chi Minh City ... have been upgraded to accommodate ships of up to 30,000 DWT. Many ports such as CaiMep - ThiVai (CM-TV) receive ships of up to hundreds of thousands of tons. Typically, in 2017, CaiMep international port (CMIT) belonging to CM-TV cluster successfully received the world's largest container ship with a capacity of 18,300 TEUs (194,000 DWT). In early 2019, this port continues to welcome the CMA CGM Marco Polo vessel with a capacity of nearly 17,000 TEU (187,000 DWT) into weekly operation, directly connecting Vietnam's import and export goods to the Northern European market.

**Keywords:** port system, orientation, socio-economic development

## 1. Introduction

With 3260 km of coastline stretching from the North to the South, the continental shelf has sovereignty over 3 times the size of the mainland, numerous bays, deep rivers, and geographic proximity to international maritime routes. Therefore, Vietnam has great potential in developing marine economy. At present, sea transport is still the dominant sector, occupying the absolute advantage (80% of volume) in trade exchange between countries. and average growth rate of 8-9%. The largest throughput ports are in the Asia-Pacific region. Potential is, but it is not simple to have a direction and a total solution to maximize this potential. The point of the Party and State is to develop the marine economy, facing the sea. The development of marine infrastructure in which seaport development must be prioritized must be one step ahead to serve the political stability and social and economic development of the region and the region as well as the country. Now, Vietnam has a master plan for the port system up to 2020 and Vietnam is expanding its vision up to 2030. However, in reality there are still many inadequacies. The status of "medium and small" in the port system, wherever there is sea port construction without regard to socio-economic efficiency or investment spread, many small ports without water ports. Deep, international ports are losing the advantage of the sea that we have. Due to the inadequacies in the development of Vietnam's seaport system, the need for seaport system, situational analysis and hence some solutions from the perspective of a student To contribute a part in the development of Vietnam's seaport system is increasingly perfect.Demand for 50 years onwards should be included in the port development plan due to the specific nature of this plan. Sea port investment needs a large amount of capital, its impact on the aspects of the socio-economic life of the region as well as the region and the country is enormous. Focused investment, taking into account relevant forecasts such as population growth rate, demand for transportation by means of various means, international exchange and cooperation needs, the ability to push Strong import and export. Only when fully considering the factors affecting the future demand for seaport systems, with long-term thinking, 30.40 or even 50 years later, Vietnam has developed seaports in a Most effective, avoid the investment spread or scale, the quality of the works do not meet the real needs of continuous fluctuations.Seaports are one of the important infrastructures in the socio-economic development and security of national defense. In the current trend of international integration in the process of globalization, Vietnam's seaports need to be upgraded, and expanded in order to meet the rapidly increasing demand for imported and exported goods through ports. Vietnam has many favorable conditions for the development of seaports such as geographical location, trade relations, and the development of long-standing ports. Even in the future, with difficult challenges such as climate change, sea level rise, sea accretion, but if properly considered, Vietnam can maintain its advantage. Therefore, the development of seaports in Vietnam should be oriented in the future in the future rather than temporary solutions.

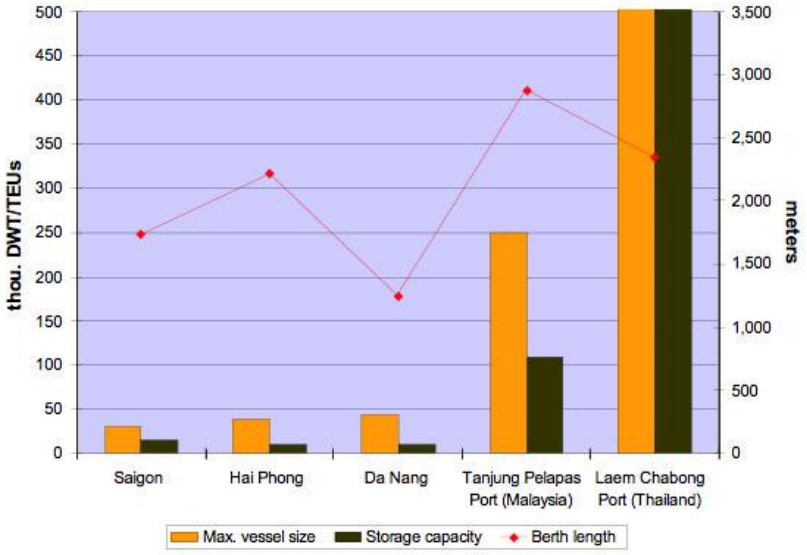


Fig. 1. Comparison of 5 seaports in Asean region

The trend of international integration is becoming increasingly necessary, especially in areas where Vietnam has advantages such as the marine economy. It is now possible to see positive signals from this exchange, international cooperation. Foreign investment in seaports has been active since the second half of 2006 when a series of projects to develop foreign-invested ports started. In early August 2006, Ho Chi Minh City has granted the license to establish Saigon Center Container Port (SPCT), a joint venture between P & O Ports Saigon Holdings Limited (UK) and Tan Thuan Industrial Development Company (IPC). With a total investment capital of US $ 249 million, the international container port will be operated with a length of 950m and a width of 40ha, with an expected capacity of 1.5 million TEUs. Many port projects will be implemented such as the joint venture project in Ba RiaVung Tau province between SaiGon Port and Maersk A / S Group of Denmark. Port of Singapore with investment capital of USD 187 million for port development in upstream of CaiMep - ThiVai port.If put into operation as scheduled in 2010, this new port (two berths) will have a loading capacity of 950,000 TEUs per year. Another $ 165 million joint venture between Saigon Port and Singapore will invest in a seaport in downstream CaiMep - ThiVai port, which is expected to be completed by 2010. In the second phase, the joint venture will increase additional $ 133 million. In particular, Sumitomo Corporation - Japan wants to invest in building Van Phong - KhanhHoa General Economic Zone with the capital of over $ 600 million. The focus of the project is the construction of a regional container port, which will be the nucleus of development for other related urban and tourism areas. On the list of more than $ 50 billion of large projects to invest in Vietnam, port investments are always the largest projects and investors are committed to high construction progress. In Vietnam, the Corporation ( Vinalines has also chosen to partner with foreign partners to develop port projects with a total investment of nearly $ 1 billion. Currently, Vinalines has signed a joint venture agreement with SSA Marine Group (USA) to build 2, 3 and 4 ports CaiLan port (QuangNinh) with a total investment of $ 100 million. Vinalines is also preparing to carry out projects to build Van Phong - KhanhHoa international transshipment port, capable of receiving large tonnage container ships and LachHuyen deep sea port (HaiPhong) such as ship size 60,000 - 80,000 tons, taking into account the direction of cooperation and international capital mobilization. In early January 2007, Credit Suisse (Switzerland) agreed to lend $1 billion to Vinalines to develop the fleet and build the port. Seaport investment projects are being promoted with high speed.

## 2. Limitation of Vietnamese port system

Vietnamese port planning is not up to date. The planning of the seaport system as well as each of the individual ports has not been carefully considered the general elements of the socio-economic planning of the whole country, the region and planning of other forms of transportation. Seaport planning agencies have not agreed on a single term so it is very difficult to get a comprehensive and long-term view of the port system in Vietnam. Seaport planning has not had many forecasting bases so it is inevitable that the planning will not keep up with the new situation.

Port linkage network with attractive areas: Port operation and connection with attractive areas after ports are closely related because Vietnamese seaports have some bottlenecks such as port capacity responsive, inefficient coastal access, and inadequate rail road connections. Without a land access road, seaports would not

be able to function well, and city traffic would be severely affected. Significant improvements in this area are needed and cannot be ignored.

Port congestion: The capacity of Vietnamese seaports is currently too low to meet the demand for sea transport. Seaport in HCMC Ho Chi Minh City handled 3.2 million TEUs in 2007 and cargo throughput is continuing to grow rapidly. May 2008, Chua Ve port in HaiPhong, VICT port and Cat Lai in Ho Chi Minh City. Ho Chi Minh City has faced severe congestion due to the increase in cargo volume by 20-30% compared to the same month last year. Port congestion resolution is entirely dependent on the development of new transport infrastructure.

Port performance: It is important to achieve low port costs for Vietnam's export and import activities. Due to rising labor costs, Vietnam's seaports need to have a strategy to improve productivity through modernization of infrastructure and loading and unloading equipment. It is necessary to provide financial support to local ports to meet the needs of coastal transport.

Port capacity: The increase in port capacity in HCMC. Ho Chi Minh City and HaiPhong are extremely important to ensure the economic growth of the country. These ports cannot handle container bottlenecks if there is no plan to expand container yards as well as port systems, cargo handling equipment, wharves, labor. CaiMep - ThiVai area is developing a deep water harbor and a large and modern container port. The northern and central areas also need to develop similar ports. In the south, more development planning is needed to meet the needs of 8,000 TEU or higher vessels.

Lack of deep-water ports: The benefits of deep-water ports are that they can receive long-distance sea-going ships to serve long maritime routes, so shipping costs to major markets can be reduced significantly. If sea freight from Vietnam goes to big markets by US $ 100-250 per TEU, the total benefits of the economy will exceed the cost of port development many times. The new seaport policy should emphasize the benefits of deep-water seaports to receive far-reaching parent ships. Private investment in public infrastructure: Another important and urgent issue is the improvement of the port management system and the measures needed to encourage private / foreign investment. In order to encourage investment, it is necessary to demonstrate the development of public infrastructure such as ports, roads and railways as well as the rights and obligations of investors involved in investment and exploitation. .

| Port | 000 TEU | % share |
|---|---|---|
| North, of which: | *2901.9* | *26.2%* |
| Hải Phòng | 1,020.0 | 9.2% |
| Đình Vũ | 628.7 | 5.7% |
| Nam Hải Đình Vũ | 464.4 | 4.2% |
| PTSC Đình Vũ | 238.1 | 2.1% |
| Đoạn Xá | 235.1 | 2.1% |
| Tân Cảng 128 | 200.9 | 1.8% |
| Transvina | 113.1 | 1.0% |
| CICT | 1.7 | 0.0% |

| Port | 000 TEU | % share |
|---|---|---|
| Central, of which: | *408.3* | *3.7%* |
| Đà Nẵng | 258.0 | 2.3% |
| Quy Nhơn | 94.8 | 0.9% |
| Nghệ Tĩnh | 55.5 | 0.5% |
| | | |
| South, of which: | *7,779.4* | *70.2%* |
| Tp. HCM + Đong Nai | 5,882.3 | 53.0% |
| BÀ Ria – Vung Tau | 1,807.3 | 16.3% |
| ĐB Song Cuu Long | 89.8 | 0.8% |

Figure 3.Container ship by region seaport in 2015

The role of port management: Proper port management systems are indispensable for efficient port management and productivity. However, there is no agency responsible for the unified management of land and port waters that are considered as state assets as well as coordinating and regulating port business from the point of view of common interests in Vietnam. Therefore, port water and port land should be treated as an asset. It will be the coordination between existing Port Authority and local authorities. At present there is no definition of port master plan for individual port as a private investment guide and port planning development. The Vietnam Maritime Administration is responsible for proposing master plan and port group planning, but no one is responsible for development planning for each specific port. There is no single entity responsible for managing and coordinating the port business and promoting the maritime and commercial interests of the seaport. Vietnam's seaports have only self-regulators of their ports. Based on the different business conditions of each port in the seaport, the establishment of a port co-ordinating agency is indispensable. There are no agencies at Vietnamese seaports that are responsible for monitoring port operations to ensure fair competition and inspection authority to assess transfer conditions from the perspective of ensuring playgrounds. Equal to every terminal operator on a business-to-ship basis. The issuance of antitrust regulations and monitoring systems in port business is indispensable. The port system of Vietnam lacks the mechanism to promulgate, extend, adjust, suspend, confiscate or cancel all types of licenses and certificates of compliance related to maritime services, Port operation. The establishment of local authorities to inspect the port business is an inseparable task to ensure

proper port management in the context of a market economy. At present, no agency is responsible for ensuring the efficient exploitation of the entire business and infrastructure related to seaports, including the construction of a railway, waterway and road network connected to the port. , yards for customs work, minimizing traffic congestion and other issues of seaports. Therefore, the establishment of a local authority to manage Vietnam's seaports is essential to deal with these issues. Port authorities do not have the budget to maintain and modify public transport facilities as well as to develop infrastructure to meet the demand of seaports. Port authorities (or port authorities) should have a special budget for the development and maintenance of seaports that will be used from port fees, port fees and charges. Prior to the investment and construction, the investor shall submit the necessary documents and documents to the competent authority for approval (the Vietnam Maritime Administration). Return on state investment: The state budget has invested a considerable amount of capital to develop seaports through a number of state-owned companies in Vinalines, Vinashin, Petrovietnam, Petrolimex, the Ministry of Defense and the Provincial People's Committee. . The Ministry of Transport also develops port facility facilities and navigable channels through ODA funding and budget. Despite large investments, the return on state investment was insufficient to cover the cost of developing or maintaining the port. Therefore, it is necessary to determine the principles and details of the Government's financial resources for seaport development in a sequential manner as well as the principles of hiring and transferring in a timely manner. If port development is significant from the regional economic point of view and from local livelihoods, government funding is still needed, but not necessarily expected return on investment of the government.

## 3. Viewpoints and orientations for development of Vietnam's seaport system

Firstly, when planning the development of seaports, there should be foresight, from 30 to 40, even 50 years. Starting from the reality of the master plan of Vietnam's seaport system to 2010, the orientation to 2020 has been supplemented, revised and upgraded to 2030 vision. It is the introduction of a vision of time From the beginning, planning has not been as effective as expected. The new planning has been revised and planned, but localities still build seaports in a widespread and wasteful manner. Experience from other countries shows that port planning needs a long-term vision, which in fact is about 50 years in Vietnam. Second, Vietnam needs at least one international port. The investment spreading over 100 seaports is small and ineffective, even paradoxically, there is no port to operate, the port is overloaded ... Focus investment capital for large seaports. big enough to compete with other countries in the world is essential now. With large-scale deep-water ports, profits for port operators are also much higher. Therefore, instead of locating the sea, the port should be built. In the planning, the State should clearly orient the development of international standard port and concentrate capital for construction. For the remaining ports, it is possible to maintain operation in the domestic market or specialized ports such as coal port, oil port and cement port are still in service. Ineffective ports that need to be strengthened to enhance efficiency or even maintain port loss can be terminated.

Development of the seaport system in service of the socio-economic development strategy of Vietnam, creating a source of import and export goods and domestic circulation, constantly growing through the seaport system of Vietnam is an important matter. Development must be in line with other transportation sectors, complementing each other. Roads, railways, inland waterways also play an important role in boosting the sea transport system to form the basis construction and development of Vietnam's seaport system according to an overall and unified planning on a national scale. To form centers for connection of transport infrastructures in regions and especially in key economic regions and to build seaport technical facilities in service of economic development, affirming the position and advantages of the country's marine economy to the region and the world, creating focal points, important economic exchanges between the country and foreign countries.


Fig. 3. Planning Dinh Vu port

**Specific objectives:** Vietnam's seaport system is planned to meet the requirements of industrialization and modernization of the country on the basis of advances in marine science and technology in terms of scale, equipment, technological lines and systems. We are ready to take steps to integrate our country and compete in port operations with other countries in the region and in the world. Vietnam seaport system will ensure all cargoes imported and exported by sea according to the requirements of economic growth of the country. Vietnam seaport system is planned to be distributed throughout the country in the location of conditions and the demand for construction of seaports in order to exploit natural advantages, to make full use of the capacity of sea transport, to serve well the economic zones and industrial parks, save investment costs and expenditures. port fees. The plan sets out the specific objectives: To ensure that all export and import commodities and exchanges between regions in the country are carried out by sea to meet the country's socio-economic development requirements; To concentrate on building a number of deep-water ports for big-ton ships up to international standards; developing ports in island districts; upgrade. depth development of equipment for handling and handling technology; To study and combine the adjustment with the improvement and upgrading of the access channel to the port so as to ensure that the large-tonnage vessels are safely and synchronously connected with the wharf's wharf and suitable with the functions and role of the port. According to the territory, Vietnam's seaport system up to 2020 with 2030 port groups; Scale, functions, tasks, types of general national ports, local ports, specialized ports. The master plan specifies the functions and scale of development of each port group, the extent of rebuilding and upgrading the channel, and the need for seaport development investment capital. Promulgating the list of seaports in the planning on development of Vietnam's seaport system up to 2020 is planned.

## 4. Conclusion

Currently connecting major ports in the world are using large modes of transport such as railways and highways. However, the Vietnamese seaport system has only HaiPhong port connected to the railway (CaiLan port has invested but has not been able to operate due to lack of synchronous gauge), and there is no separate highway for transportation loading goods. Traffic connecting waterways is restricted by the static of bridges crossing the river. Therefore, the efficiency in transporting goods to the seaport has not been optimized in terms of time and transportation costs. Authorities should review and upgrade the transport routes connecting with the seaport, combining the development of logistics support services in the back. Key seaport groups should be developed in a direction with separate channels for seaport-centered freight. It is necessary to continue studying the development planning of dry port system - the extended arm of the seaport to both support the port's services and contribute to the efficient organization of the transport network; At the same time, reserve appropriate land fund behind the port to build a distribution center for goods and services after the port, conveniently connected to the national transportation network.

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