

# Factors Affecting the Sustainable Development of the Logistics Industry: A Study in Thanh Hoa Province, Vietnam

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## **Abstract**

Logistics is a crucial component in putting Thanh Hoa province's sustainable development plan into practice both now and in the future, especially in the context of globalization and the fourth industrial revolution. According to research, logistics has a favorable effect on three different aspects of sustainable development: (I )sustained economic growth; (ii) ensuring social fairness; and (iii) maintaining a healthy environment.

**Keywords:** Logistics, regional sustainable development, Thanh Hoa

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## **1.INTRODUCTION.**

Thanh Hoa is located as the gateway province from the North to the Central and South of Vietnam, where there are many seaports as well as connecting roads from the seaport to the Lao PDR. Thanh Hoa is also a province with a large area, and a large population compared to other provinces of Vietnam, and has advantages in developing the marine econbased ons of diversified and synchronous development of logistics services.

However, seaport operations and logistics services still have many limitations, such as the seaport system, connecting transport infrastructure has not been synchronously invested; there is no strong enough policy to attract investment resources to develop seaport infrastructure and logistics services; Nghi Son international container seaport brand has not been known by domestic and international customers; Currently, in Thanh Hoa, there is no large logistics center in operation, the logistics-related services provided are mostly small and fragmented, not providing much support to shippers, while service costs are quite high. high, human resources are lacking, quality is not high; ... the development of seaports and logistics services is not commensurate with the potential and advantages of Thanh Hoa. In today's globalization context, reducing logistics costs is considered the

most effective way to increase profits and is a very important factor in assessing the competitiveness of an enterprise as well as a country. Reducing logistics costs will help reduce the cost of goods and services, so a business can strengthen its position in a country's market and industry will improve its competitive position in the international arena.

In the context of globalization, extensive economic integration, and the rapid progress of the 4.0 technology revolution, the requirements set out in the development plan of Thanh Hoa province for sustainable development have been affirmed by the Central Resolution. determined and also necessarily objective. The concept of sustainable development is perceived as development that meets the needs of the present but does not interfere with meeting the needs of future generations<sup>1</sup>. On that basis, the criteria for assessing sustainable development are considered on three main pillars: (i) stable economic growth; (ii) making good progress and social justice; (iii) rational exploitation and economic use of natural resources, protection, and improvement of living environment quality.

For the sustainable development of the economic region, many domestic and foreign studies have also pointed out many factors that have both positive and negative impacts. In particular, the logistics factor has been shown by many studies to have a positive impact on the sustainable development of the economic region and the country in general. Therefore, to verify the above thesis, the study examines the impact of logistics on the development of Thanh Hoa province in Vietnam.

For the overall assessment, the WB provides an LPI index including domestic LPI and international LPI. Whogistics is broadly understood as a network of services that support the movement of goods, cross-border trade and domestic trade. In the framework of the study when considering the impact on the development of Thanh Hoa province in the context of globalization, the author considers and bases on the LPI index with 6 component criteria including:

Firstly, the efficiency criterion of Customs Clearance (C: Customs): The effectiveness of the border control agencies, such as the speed of customs clearance of exported and imported goods; simplicity of customs procedures and predictability of customs clearance procedures (openness, transparency, stability of customs procedure regulations).

Second, the Infrastructure criterion (IN: Infrastructure): The quality of the infrastructure related to commerce and transport (infrastructure for seaports, airports, railways, roads, seaways, cargoes). air, transportation, warehousing, information technology infrastructure and IT services).

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<sup>1</sup>United Nations World Council on Environment and Development (WCED), 1987

Third, logistics service quality criteria (LS: Service quality): The capacity and quality of logistics service providers, such as enterprises providing road, rail, and air transport services. air, sea and multimodal transport; warehousing and distribution enterprises; forwarding agent; customs clearance agent; trade and transport-related associations; consignee and consignee.

Fourth, the criterion of Delivery (Sh: International shipment): The ease of arranging transportation of import and export goods at competitive prices, related to costs such as agency fees, port fees, bridge fees. roads, storage fees;

Fifth, the criterion of Tracking (TR: Tracking and tracing): The ability to track and trace shipments during storage or transportation;

Sixth, the criterion of Delivery Time (Tm: Timeness): The punctuality of the shipments are transported when they arrive at the destination compared to the scheduled time; Import and export shipments are cleared through customs and delivered on time.

## **2. STRENGTHS OF LOGISTICS IMPACT ON SUSTAINABLE DEVELOPMENT THANH HOA PROVINCE**

Thanh Hoa is a province bordering the sea, so logistics development needs to be closely associated with seaports. It is necessary to develop the Nghi Son international container seaport brand both domestically and internationally.

Actual situation of logistics infrastructure in Thanh Hoa province Transportation infrastructure is the most important for logistics development and creates competitive costs. In fact, logistics activities are always associated with transport modes that account for a large proportion such as sea, road connecting ports and then other modes. Therefore, the favorable location of the seaport is always an advantage to develop major logistics centers in the world, which Thanh Hoa also has. With the location of the gateway connecting the North with the Central region in the coastal strip of land, in terms of the potential to connect the transport infrastructure to serve transport and logistics activities at the regional level, Thanh Hoa has the advantage. compared to other provinces in the Central region. Currently, Thanh Hoa province's transport system is relatively diverse in terms of modes, convenient in terms of road, national railway, river, sea and air routes, especially deep-water seaports. In the past period, the transport system has received considerable attention and investment, especially seaports, roads along the vertical and horizontal axis, connecting roads, airports, which have been improved in capacity, making a significant contribution to the development of the country. socio-economic development in general and logistics services in

particular. Regarding the national connection traffic network: The road has a total length of 10,578 km, of which the National Highway: 13 routes/1,301.7 km (7 vertical axes, 6 horizontal axes); Provincial roads: 64 routes/1,472.8 km. Railway: There is a national line 103.2 km long, passing through 8 districts and 10 stations (2 main stations). HK port: Tho Xuan airport reaches level 4E, serving mid-range aircraft such as A320-A321, B777-B747, with international flights. Inland waterways: currently managing and operating 22 routes/761km, with 01 HK port and 18 TWW wharfs, 29 licensed construction material wharfs. Maritime: There are 2 ports, of which Le Mon port has 6 berths, allowing to receive ships of 2,000 DWT, Nghi Son port has 9 general wharfs and 3 specialized wharf areas, allowing to receive ships of 70,000 DWT; 2 navigational channels on Ma river and Bang creek. Intra-provincial traffic: All district centers in Thanh Hoa province have connecting national highways, some districts have 2 to 3 connecting national highways. In addition to the national highway system, the system of provincial roads and rural roads also creates a continuous connection network, the vertical axes connect with the horizontal axes and connect to the centers of districts and communes to create favorable conditions. benefits in the trade of people and goods, contributing to the socio-economic development of the locality.

### **3. SOME LIMITATIONS OF LOGISTICS IN THANH HOA PROVINCE, CAUSES OF LIMITATIONS**

Besides the strengths of logistics in promoting sustainable development in Thanh Hoa province, there are still some limitations as follows:

Compared with the current market size, in general, the transport infrastructure in the province has had more advantages than before, but there are still limitations: Regarding roads: there is no expressway to meet the requirements. demand speed, large volume of transport. In addition to some national highways reaching grade III, 2-4 lanes, many other national highways reach grades IV, V, VI, which is very limited for traffic and safety. Provincial roads mainly meet grade VI road standards; low capacity, limited circulation. Regarding railways: general capacity is limited, there is no connection to seaports. Regarding aviation: connecting to dynamic economic regions without highways. Regarding inland waterways: the delta region has not yet invested in an inland waterway port and has not yet connected waterways with seaports. Rivers and canals in mountainous areas are not favorable in terms of terrain for stable development. Regarding maritime: Nghi Son port currently does not have a specialized container port to attract container goods in the province as well as other provinces in the region such as Ninh Binh, Nghe An, Ha Tinh..

The system of connected traffic infrastructure is still limited and not synchronized to meet the requirements of speed and large volume: + There is no expressway connecting with Nghi Son KTT. The connection works from NH1A to Nghi Son port, East-West road have not been completed, there is no railway connecting Nghi Son port, no inland waterway port connecting to seaport (currently mainly by road). .

Logistics infrastructure, logistics behind the port is still limited. There is no large logistics center and dry port in Thanh Hoa (Nghi Son). + The logistics infrastructure system does not have logistics centers in Thanh Hoa, there is a lack of large-scale logistics service zones to support the exploitation of the seaport system. Warehouses, satellite service yards have not been planned, spontaneously developed, and small, and there are no active dry ports in the area.

+ The system of warehouses, loading and unloading equipment, customs, port authorities, ..... related to sea container transportation from Nghi Son to other countries is still quite new and needs to continue to be improved and improved. quality, cost reduction, procedure time,... – Shipping services and services at seaports are not diversified, service quality is still limited, transportation costs are high (especially is sea container transport).

Logistics activities in Thanh Hoa mainly focus on transporting and withdrawing goods from the port (mainly bulk cargo, raw materials for factories, construction machinery and equipment, ...) the stages that create the least added value in the logistics service supply chain. Trucking services still play a dominant role, provided by hundreds of enterprises (most of which are small and medium sized). + Towing service is still inadequate, limited, ...

Container transport support services through new seaports are in the early stages of deployment, lacking major logistics centers in the region, .. Not yet developed for stable container transport at Nghi Son port, with low shipping volume: The attraction of container ships to Nghi Son is facing many difficulties. The new May 2019 is piloting container shipping at Nghi Son according to the route: Hai Phong - Nghi Son - ZHANJIANG (Guangdong province, China) - Hong Kong - NANSHA (Guangzhou province. China) - Hai Phong ( Details of train schedules are in the appendix). However, currently, the shipping line is operating with many difficulties, on average, each trip only has about 200 export containers and less than 10 import containers. If this situation continues, maintaining the container shipping route will be very difficult.

Currently, there are many businesses and shippers in Thanh Hoa who have to transport containers to Hai Phong Port to export to other countries, while at Nghi Son Port, there is a container ship to Hong Kong, China. The main shortcoming here is that the total cost of transporting containers from

Nghi Son is higher than the cost of transporting containers from Hai Phong. In addition, the frequency of container trains at Nghi Son is too small, slowing down the delivery progress of the business (detailed analysis is available in the following section).

Container transport costs are still high due to unreasonable transport organization, delivery and service quality is still low; time has not been reduced to collect goods, return goods, carry out procedures, causing an increase in costs. The average time for exporting/importing containers through Hai Phong and Nghi Son ports is the same (3 days). Therefore, Nghi Son port has not yet been able to compete with the time requirement even though the distance is closer.

Shipping services are still limited, the rate of empty ships going to and from Nghi Son Port is quite large. In 2018, there were 7112 ships going to and from Nghi Son Port, of which most (more than 99%) ships only had one-way cargo (1 way with goods and the other way was empty ships without cargo). – Lack of large and professional logistics enterprises in Thanh Hoa.

Businesses operating in logistics-related fields still mainly serve themselves, and mainly transport. Enterprises specializing in providing logistics services are not many, not providing a chain of services.

Lack of large logistics enterprises (domestic and international) to operate in Thanh Hoa (can consolidating goods, creating goods, building large and modern logistics centers,

It has not been able to attract seaport operators and national and international logistics service providers to operate seaports. The application of information technology for logistics, warehousing,

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The brand name of Nghi Son international container port has not been berthed by domestic and international customers. Marketing strategy and promotion of Nghi Son seaport brand is still weak. In the world market, shipping lines and foreign shippers still do not know much about Nghi Son seaport system. - Statistical database system, especially on production, supply, consumption, transportation, warehousing, forwarding capacity, etc., is still lacking and weak, which has not supported much for logistics enterprises as well as for logistics enterprises. development policy making. - The scale of production and consumption of goods in the province and region is not large enough to promote the logistics service industry in a professional manner. - Professional human resources in the field of logistics services are lacking and have not met the requirements. The logistics training system has not yet developed in Vietnam but is only a subject in the fields of external economics and transport economics (the University of Transport and the University of Transport in Ho Chi Minh City just opened logistics training in 2018). ). - There have not been

promulgated regulations, mechanisms and policies to synchronously, directly regulate logistics activities (schemes, master plans, plans) but mainly regulations for indirect adjustment through commercial development policies. general trade-service, development of transportation, information technology, human resources, support for international container shipping lines from Nghi Son Port,...

#### **4. Reasons lead to the limitation of Logistics in Thanh Hoa province**

Firstly, the planning and organization of planning implementation with regional linkages are still not guaranteed. This shows that the traffic system connecting border economic zones, international border gates by road to major seaports is still limited; The planning of many large seaports in Thanh Hoa province (every province has large seaports) is the cause of competition in Thanh Hoa province, low seaport operating capacity, the ability to recover investment capital in infrastructure . slow floor ; causing low efficiency in regional linkages and value chains. Thereby affecting the stable growth of Thanh Hoa province.

Second, there is still competition between localities in Thanh Hoa province and there has not been much attention to regional linkages and regional value chains. This is evident in the construction and operation of large seaports, attracting FDI enterprises in the seaport service business and logistics of localities (for example, Nghi Son port has many incentives to attracting large international ships to receive and return goods through the port, while other seaports in the region such as Cua Lo port, Chan May port do not have those incentives, so they unintentionally create price competition. between seaports in the region). This leads to the cost can be reduced at a certain stage, but the total logistics costs increase, causing the uncompetitiveness of products in the market.

Third, the quality of human resources in the field of Logistics is still limited because they have not been properly trained and according to international standards. The survey shows that the training institutions in the localities of Thanh Hoa province still face many difficulties in terms of facilities, programs, human resources of lecturers, library system, laboratories and practice. The quality of trained human resources for the labor market is still limited in terms of theory and practical skills. In addition, the number of high-quality, internationally-trained human resources attracting employment in Thanh Hoa province is still very low due to the low income level, unsatisfactory cultural and social conditions. candidates' expectations, so they do not want to move from big centers like Hanoi and Ho Chi Minh to Thanh Hoa province to work.

Fourth, the application of technology in logistics service enterprises is still low. Modern technologies in warehouse management, just-in-time technology in accessing goods when transporting, storing, automatic separation and packaging lines are still very limited. The reason is that most of the logistics service businesses are small and medium enterprises; digital transformation strategy and technology application are just beginning to approach; some enterprises have financial difficulties in technology investment; Others do not have a request from the customer or if there is a need, but when logistics costs increase, the customer cannot afford it. In addition, the reason for strict control by state management agencies in road transport is to prevent excessive CO<sub>2</sub> emissions and emissions into the environment, transport exceeding the allowable tonnage or control. The factory planning and design stages to ensure the density of trees, ventilation systems, fire prevention and the rate of concreting warehouses are still not tight, causing inefficient implementation of the Green Logistics goal.

Fifth, the connection and role of the Association of Logistics Enterprises is still weak in connecting logistics businesses in Thanh Hoa province as well as connecting the business community with local authorities, with management agencies, port authority, with limited customs authority. This leads to problems arising in customs clearance of goods, storage of goods at warehouses and yards, which are not promptly resolved; The quality of human resources for enterprises has been improved slowly.

## **5. ORIENTATIONS FOR DEVELOPMENT OF LOGISTICS AND SUSTAINABLE DEVELOPMENT OF THANH HOA PROVINCE**

Developing logistics services in Thanh Hoa province to become an important service industry of the province, contributing to the development of production - supply chains in economic zones and industrial parks in the province and some neighboring areas. close. The service scope of the logistics center in Thanh Hoa in addition to meeting the entire demand in the province, also extends to other provinces including: Nam Ha Nam, Ninh Binh, Nghe An and North Ha Tinh. To form a logistics center that meets the criteria of Grade II - regional level (in accordance with Decision 1012/QĐ-TTg), located in association with Nghi Son seaport. Services provided meet 3PL standards (providing third-party logistics services or contract logistics). To form a number of provincial logistics centers to directly distribute goods or collect goods to grade II centers, located in close proximity to the province's dynamic economic zones and industrial parks. Research and



develop air logistics services at Tho Xuan airport to coordinate with specialized aviation logistics centers throughout the country (according to the plan)

## **6. SOLUTIONS TO INCREASE THE POSITIVE IMPACT OF LOGISTICS ON SUSTAINABLE DEVELOPMENT IN THANH HOA PROVINCE.**

Firstly, To basically complete the framework of mechanisms and policies to attract and encourage the development of logistics services and seaport logistics in Thanh Hoa province - To achieve the goal of developing the logistics service industry, the province needs to develop specific support policies to promote stable, synchronous and long-term development of logistics, etc., so that investors, shippers, shipping lines, logistics companies can rest assured to invest and operate operating in the province. Proposed policies include: + Policy to attract investors to build and operate a regional logistics center in Nghi Son: priority is to be implemented in the form of public-private partnership (PPP) investment. Select large domestic and foreign logistics enterprises (enterprises with potential, applying modern technology, specializing in 111 logistics, having large sources of goods, warehouses, ..). + Policy to attract investors to build and operate the provincial logistics center in Thanh Hoa city and the provincial logistics center in Lam Son - Sao Vang industrial zone. Preferential policy for investment in warehouse construction, in which priority is given to investment in large warehouses synchronously with factories, offices, ... for lease (The investment in synchronous construction of warehouses and factories helps businesses Small scale enterprises are convenient, save time, costs, and quickly put into production and consumption of goods. is equal to). + Support policy to attract container goods to Nghi Son port (support shipping lines, shippers, logistics enterprises, port operators, ...) to bring goods through Nghi Son port instead of going by road to the port. Hai Phong.

Second, Improve the investment environment, promote investment attraction promotion and support the development of the logistics service market - Continue to promote administrative reform, especially investment-related procedures, construction, tax, customs ... for the production of goods for export, import and export, and distribute them in the direction of increasing transparency and convenience for businesses. + Authorities at all levels, departments and branches regularly have dialogue and contact with businesses and business associations to grasp the situation of production and business; urge and promptly solve difficulties and obstacles to create favorable conditions to promote production and business activities, logistics projects, etc., to establish representative offices and logistics joint-venture companies in Thanh Hoa province.

Third, Developing human resources in the logistics field of Thanh Hoa province

Preferential policies with high-quality human resources in a number of important fields such as information technology in logistics, international freight forwarding service business, customs declaration services, warehousing services through the government. housing books, regional allowances; infrastructure investment policy, incentives for high-quality logistics human resource training institutions based in the region; Strengthen the coordination between the provincial government and the Ministry of Education and Training in creating conditions for local universities to open training majors in Logistics and supply chain management to train professional and human resources. meet national and international standards.

Fourth, Strengthen the application of science and technology in the field of logistics in Thanh Hoa province

Strengthen the implementation of the digital economy strategy to local authorities, port management agencies, customs authorities, warehouse and transportation service businesses. In addition, the local government has inter-provincial coordination in organizing exhibitions, conferences and seminars to share technology products used in seaport service business and logistics service business. In particular, promoting products that apply Blockchain technology, AI technology, just-in-time technology in goods retrieval and automatic technology systems in separating, packing, lifting and moving goods in the warehouse...

Fifth, strengthen the management of emissions and environmental pollution in the logistics service business in Thanh Hoa province.

## CONCLUSION

Logistics development is an important key to implement the sustainable development strategy of Thanh Hoa province now and in the future. Research has shown the mechanism of positive impact of Logistics on sustainable development in Thanh Hoa province through its positive impact on three components of sustainable development in the region: (i) Stable economic growth; (ii) Ensure social justice and (iii) Ensure living environment.

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