

FORMS OF TERRITORIAL ORGANIZATION OF THE MANUFACTURING INDUSTRY IN THANH HOA PROVINCE

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Abstract: *The territorial organization of the manufacturing industry in Thanh Hoa has been contributing to promoting the development and transforming the economic structure of the province towards modernity. However, the problem of developing the organizational forms of the manufacturing industry here is still inadequate. This study analyzes the above issue from the perspective of economic geography, and at the same time makes comments and recommendations to serve as a basis for planning and developing forms of territorial organization of the manufacturing industry in Thanh Hoa province.*

Keywords: *Territorial organization form, manufacturing industry, Thanh Hoa province.*

1. Introduction

The territorial organization of industry plays a very important role in helping the industry develop and is of interest to many researchers [4], [5], [7]...The territorial organization of the processing and manufacturing industry (MI) is reasonable or not and will be directly reflected in the development and distribution of forms of territorial organization of MI [6]. Thanh Hoa is a large province of the country with the 5th largest area (11,129.48 km²), the 3rd largest population in the country (3,740,400 people in 2022), and the 9th largest GRDP scale in the country by 2022. [2]. In the structure of total industrial production value in 2020, the manufacturing industry accounts for 96.52% [9]. Therefore, it is necessary to study the forms of territorial organization of MI in Thanh Hoa. This study focuses on analyzing the operational status of MI industrial territories in terms of geoeconomics.

2. Research Methods

In this study, we use the following methods: i) Analyze historical documents on the distribution of MI establishments in Thanh Hoa; ii) Analysis of statistical data series from 2010 to present; iii) Overlaying and analyzing on the map to determine: the location of distribution of industrial establishments through different stages in the relationship of the territory with economic facilities, infrastructure, geographical areas, population distribution, etc... thereby detecting the concentration by territory and their direction of change.

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3. Data source

The data used for the analysis were obtained from the following sources: i) The Statistical Data Book or the Thanh Hoa Provincial Statistical Yearbook issued by the Thanh Hoa Statistical Office and the General Statistics Office from 2010 to 2022; ii) Sources of written historical documents on the distribution of MI in Thanh Hoa province such as History of Thanh Hoa, Geography of Thanh Hoa (Volume 3), Summary Report on Thanh Hoa Province Planning Period 2021 - 2030, Vision to 2045 [8]..; iii) Published maps on the distribution of MI industrial facilities, economic facilities, infrastructure, population distribution areas, etc... in Thanh Hoa province.

4. Research results and discussion

From the concept of industrial territorial organization of Le Thong and Nguyen Minh Tue [4], we believe that the industrial territorial organization of MI is the arrangement and coordination between the processes and industrial bases of MI on a certain territory to rationally use available resources to achieve high efficiency in terms of economy, society and environment. Industrialization and modernization have a very important role in the process of socio-economic renewal, as one of the most effective tools for industrialization and modernization in the country. The forms of territorial organization of the manufacturing industry are very diverse, depending on the natural conditions, population, economy, technological advancements, policies, etc. In Thanh Hoa province, there are currently four forms of territorial organization: enterprises, clusters, parks, and industrial centers.

4.1. *Manufacturing Industrial Enterprise (MI Enterprise)*

MI enterprise is an organization with its own name, assets, and transaction office, established or registered for establishment under the provisions of law for business purposes. MI Enterprise is both a form of production organization and a form of territorial organization, participating in the value chain of industrial production. MI enterprise is the simplest form of territorial production organization. Of course, establishments in the family, that serve the family, do not hire workers, do not register for business, do not have their own location are not considered MI enterprises.

Over the past 10 years, the number of MI enterprises in Thanh Hoa has increased rapidly. On average, there has been an increase of 96 enterprises each year. In the period 2016-2020, an average of 160 enterprise increase each year (Table 1).

In terms of labor scale, the number of MI workers in the civil service industry has also increased sharply in recent times (more than 2.75 times), from nearly 74,000 employees (2011) to nearly 203,434 employees (2020). The average labor size of the enterprise increased from 95 people per enterprise in 2011 to over 110 people per enterprise in 2020. This scale is larger than the average size of 1 joint stock company nationwide (70 people per enterprise).

In terms of capital scale, total capital mobilized into production and business of MI enterprises increased rapidly from VND 29,951 billion in 2011 to VND 303,339 billion in 2020. This scale will continue to increase as more new projects are put into operation.

Table 1. Some indicators of MI enterprises in Thanh hoa Province

Indicators	2011	2016	2019	2020
Numbers of enterprises	778	1.034	1.745	1.833
Numbers of workers (person)	73.996	151.009	207.248	203.434
Average number of employees per enterprise (person)	95	146	119	111
Monthly income of employees (1000 VND)	2.800	4.700	5.259	5.549
Total capital (Billion VND)	29.951	49.107	298.877	303.339
Average capital per enterprise (Billion VND)	38,5	47,5	171,3	165,5
Total revenue ((Billion VND))	29.811	68.148	152.267	158.200
Average revenue of 1 enterprise (billion VND)	38,3	65,9	87,2	86,3

Source: Author compiled and calculated from [1], [2] and [3]

The average capital mobilized into production and business by each enterprise has increased from 38.5 billion VND (2011) to over 47.5 billion VND (2016) and over 165.5 billion VND (2020). It also proves that the business scale of the enterprise is expanding.

The scale of net revenue of the operating MI enterprises has increased sharply in recent years, from VND 29,811 billion in 2011 to VND 158,200 billion in 2020. This scale is sure to continue to increase in recent years. Here, due to more new products being consumed, such as oil refining and steel.

The average net revenue of 1 MI enterprise in the public sector in Thanh Hoa has increased from over 38.3 billion VND (2011), to over 87.2 billion VND (2019) and slightly decreased to over 86.3 billion VND (2020). Like business capital, this indicator is always lower than the national average. Specifically, the national average of MI is VND 62.2 billion (2011); 86.5 billion VND (2015), and over 90 billion VND (2020). This proves that, due to market difficulties, the development of the breadth of industrial enterprises in the MI sector of Thanh Hoa is still quite limited.

4.2. Manufacturing industrial cluster (MIC)

According to the planning (by 2025, with an orientation to 2030), Thanh Hoa has 71 MICs (total planned land area is 2,139ha). By 2020, there have been 47 MICs put into operation, the leasable area reaches 559.7 ha (occupation rate 32.7%). It is expected that by the end of 2020, this ratio will increase to 40.1%. Accumulated infrastructure investment capital by December 2020 is expected to reach VND 1,674.96 billion (37.8% of the plan). Regarding investment attraction: MIC has attracted 243 enterprises into operation with a total investment capital of 5,917.2 billion VND, attracting 73,996 employees. Industrial production value reached 12,244.8 billion VND, contributing to the budget of 352.1 billion VND.

In the planning of industrial cluster development in Thanh Hoa province to 2025, with an orientation to 2030 (approved), the average size of the MIC is about 30 ha. The localities with many industrial parks are: Ha Trung 7, Thanh Hoa city 4, Tho Xuan 4, Yen Dinh 4, Trieu Son 4, etc. mountainous districts only 1-2 MICs

However, besides the MICs planned with an area of 50-70 ha, out of 71 MICs, there are 19 MIC (28.17%) with an area of less than 20ha. As of December 31, 2018, according to Thanh Hoa's statistics, out of 47 MICs that have been put into operation, there are up to 20 MICs (42.55%) with an area of less than 20 ha; and there are 7 MICs (14.9%) with an area of less than 10ha. This scale is too small and adversely affects the investment attraction and development of enterprises in expanding production.

4.3. Manufacturing industrial parks (MIP)

Thanh Hoa plans 31 industrial parks, of which there are 8 independent industrial parks and 23 industrial parks in the Nghi Son economic zone.

In Nghi Son EZ, there are currently 25 MIPs planned with a total area of nearly 9,058 hectares. Of which, there are 23 existing MIPs, 1 warehouse subdivision and 01 industrial logistics service subdivision.

Thanh Hoa has 08 independent MIPs with a total area of 2,035ha with relatively synchronous MIPs infrastructure, of which 100% have a centralized wastewater treatment system.

Le Mon MIP (Thanh Hoa city): The planned area is 87.61ha, keeping the planned area. After 2025, study and formulate a plan to move production and processing industry production facilities, and, at the same time change the functions of the MIP.

Dinh Huong - Tay Bac Ga MIP (Thanh Hoa city): The planning area is 180ha, investing in completing the industrial park infrastructure and attracting businesses to invest in filling the area of the MIP. Prioritize the development of processing, mechanical, electrical, electronic, and manufacturing industries with high technology content.

Hoang Long MIP (Thanh Hoa City): The planning area is 286ha, investing in completing the infrastructure items of the MIP, encouraging the attraction of projects in the processing industry, food manufacturing and processing, production of consumer goods, textile, mechanical, etc.

Bim Son MIP (Bim Son Town): The planned area is 566ha (expanded by 116ha compared to the old plan). To encourage and attract investment projects in manufacturing industries such as mechanics, production of building materials, textiles, chemicals, fertilizers, exporting consumer goods, ect.

Lam Son - Sao Vang in MIP (Tho Xuan District): A planning area of 550ha, gradually investing in industrial park infrastructure. Orientation for development of the electronics and telecommunications industries; manufacture and assemble electronic and telecommunications products; and associate with training human resources in the high-tech processing and manufacturing industry. After 2020, it will develop into a high-tech park in the province.

Thach Quang MIP (Thach Thanh District): The planned area of the IP is 100ha. Attract agricultural, forestry, and food processing industries; medicine; fertilizer; production of building materials, etc.

Bai Tranh MIP (Nhu Xuan district): Industrial zone planning with an area of 116ha. Orientation to develop and process a number of products after refining and petrochemical, processing forest products and minerals.

Ngoc Lac MIP (Ngoc Lac District): The planning area is 150ha; investing in MIP focuses on attracting projects on processing agricultural and forestry products, producing medicinal materials, processing wood, and producing export products.

Table 2. *Some economic indicators of Thanh Hoa economic zone, industrial parks and industrial clusters*

N	indicators	Nghi Son economic zone	industrial parks	industrial clusters
1	Total of Industry, trade and service production value (billion VND)	390.413	186.622	12.244,8
2	Export value (million USD)	3.713	4.863	-
3	Budget revenue (billion VND)	51.863	5.513	352,1
4	Settlement of jobs (person)	37.000	67.000	73.996
5	Total investment capital (billion VND)	188.252	8.741	7.903,2
6	Infrastructure investment (% of the plan)	10	25	37,8
7	Occupancy rate (% compared to plan)	15,0	-	40,1

Source: [3],[6]and [7]

In terms of infrastructure investment, industrial parks are speeding up the completion of items related to technical infrastructure (ground levelling, roads, power supply, water supply and drainage, waste treatment, etc.) and social infrastructure (housing for workers, resettlement areas, etc.) to create good conditions for attracting investment projects.

Regarding investment attraction, from 2016 to now, industrial parks have attracted 143 projects (including 121 FDI projects and 22 domestic projects), with a total registered investment capital of 6,635 billion VND and 219.7 million USD respectively . Cumulatively, 334 domestic projects have been attracted to industrial parks; total registered investment capital is 18,363 billion VND, realized capital is 8,724 billion VND; and 38 FDI projects with total registered investment capital of 553 million USD, implemented capital reached 345.4 million USD. In 2019, Bim Son Industrial Park attracted 9 FDI projects with a total registered capital of 170.8 million USD, typically projects: Intco Medical Vietnam Factory (projects producing decorative products with environmentally friendly technology), with a total investment of 145 million USD;... Up

to now, industrial parks in the province have had more than 300 projects put into stable operation. contribute greatly to the socio-economic development of the province.

Thus, at present, the infrastructure for industrial development in Thanh Hoa has been formed and is gradually being completed. Industrial parks are planned with a fairly large area (except for Le Mon Industrial Park, which has a planning area of less than 100 ha; the rest are over 170 ha).

4.4. Center of manufacturing industry

Thanh Hoa has 2 MI centers, namely the MI center in Thanh Hoa city and the MI center in Nghi Son town.

Nghi Son MI center. The Nghi Son EZ was approved by the government in 2006, the initial plan was 18,611.8 ha; in 2018, it was expanded to 106,000 ha according to the adjusted plan, expanded to 2035, with a vision to 2050 (Decision No. 1699/QĐ-TTg dated December 7, 2018. Nghi Son Industrial Center, the total area of industrial land for processing and manufacturing by 2035 is 9,057.9 ha, including the northeast area 1,720.0 ha the central area of 781.0 ha; Nghi Son port area of about 2,733.4 ha; the southern area of about 1,431.5 ha; the western area of about 2,392.0 ha. After 2035 will develop another 3,000 ha of processing industrial land, manufacturing to the northwest of Nghi Son economic zone along the road from Tho Xuan airport to Nghi Son economic zone.

Up to now, Nghi Son EZ has achieved many important results: Important socio-technical infrastructure has been paid attention to and invested in to ensure synchronous and modernity, such as traffic, seaport, power supply, water supply, hospital, residential area. A number of large and key manufacturing and processing industry projects have been completed and put into operation, making great contributions to the province's economic growth, such as the Nghi Son Refinery and Petrochemical Complex and the Manufacturing Plant of cooking oil and products extracted from cooking oil, Line 1 of Nghi Son steel mill, Dai Duong packaging factory, etc.

The business investment environment has been improved, and administrative reform has been promoted, which has attracted investment in many large-scale projects, such as the Nghi Son 2 Thermal Power Plant (total investment of 2,793 million USD), the Industrial Zone. container terminal and port logistics area (6,100 billion VND), Long Son General Port (2,300 billion VND), Lines 1 and 2 of the Ocean Cement Factory (7,700 billion VND); the water supply system in Nghi Son EZ (1,119 billion dong), etc. Thanks to that, the share of Nghi Son's industrial production value of civil servants in Thanh Hoa's industrial production value has increased more than three times in the past 10 years, from 15.79% in 2010 to 49.81% in 2019.

Center of Thanh Hoa MI city. Thanh Hoa Center of MI has specialized industries as processing industry, manufacturing construction materials, mechanical engineering, food processing, forest product processing and manufacturing. paper. garment, shoe making, electronics, etc. The production value of the processing and

manufacturing industry accounted for 28.21% in 2019 and 21.66% of the production value of the processing and manufacturing industry of Thanh Hoa. Thanh Hoa City Industrial Center has 3 main processing and manufacturing industrial park

Le Mon MIP. It is a large concentrated industrial zone located 5 km east of the city center, on Highway 47 connecting Thanh Hoa city with Sam Son city, with a planned area of 87 hectares. More than many FDI enterprises have come to invest and operate effectively, such as Sunjade Co., Ltd (Taiwan), Sakurai Co., Ltd. (Japan), Yotsuba Dress Co., Ltd. (Japan), along with Vietnam's large enterprises such as Vinamilk. Le Mon Industrial Park encourages investment in projects of high technology application, manufacturing, and processing from raw materials in the province, using a lot of labor and producing products. export items with high economic value; a group of industries producing consumer goods, textiles, and leather shoes; processing agricultural, forestry and fishery products; mechanical assembly; electronics; and telecommunications equipment.

Dinh Huong- Dong Bac Ga MIP. The industrial park has an area of 150ha, and is located in the north of Thanh Hoa city. Priority investment fields are manufacturing and assembling electronic and telecommunications goods; garments and packaging; production of household appliances and handicrafts; processing of agro-forestry foods, animal and poultry feeds; mechanical engineering, assembling and service. Currently, the prominent company in this industrial park is Binh Minh Electronics Co., Ltd., the first unit to produce high-tech quartz chips with Vietnamese brand. With the close cooperation of Shinsung Korea Electronics Company, a leading brand in the world, with over 40 years of experience in the field of electronic chip manufacturing, Binh Minh Electronics Co., Ltd. is producing and bringing to market. The market of Crystal Unit quartz oscillator chip products, such as HC-49US, HC-49US SMD, UM-1, UM-5, SMD (7050, 6035, 5032, 3225, 2520, 2016, 1608), OSCILLATOR, TCXO, FILTER, OCXO, etc.

Hoang Long MIP. This is located in Long Anh ward (north of the city). Currently, there are also many businesses coming to invest and do business effectively, such as Hongfu Vietnam Co., Ltd. (Taiwanese enterprise), Thien Huong fish sauce company, etc. In addition to the 3 industrial parks above, Thanh Hoa city also has 4 industrial clusters with a total area of 98.4 ha, including Vuc Industrial clusters (52.8 ha), Thieu Duong Industrial clusters (20 ha), Dong Linh Industrial clusters (8.6 ha), and Dong Hung Industrial clusters (17 ha). Thanh Hoa city also plans to build a high-tech park in the south of Quang Thinh ward.

5. Conclusion

The development of MI is an inevitable development trend to make Thanh Hoa a pole in the Northern Development Quadrangle. The development of the MI must be associated with the development of territorial organizational forms of the MI in Thanh Hoa. Over the past years, the forms of industrial territorial organization MI have made great strides in terms of both quantity, scale, and operational efficiency. However, some forms of industrial territorial organization of MI in Thanh Hoa still reveal certain

limitations. In order for the forms of territorial organization of the MI to develop reasonably, Thanh Hoa needs to conduct investigation, planning and specific development orientations for each form of industrial territorial organization of the MI. On that basis, propose solutions to encourage the development of appropriate forms of industrial territorial organization of MI; support capital, science, and technology; conduct market investigation and research; At the same time, it solves a number of ineffective forms of industrial territorial organization in MI.

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