Further Discussion On Infrastructures, Environment And Laborer Protection In Industrial Clusters – Case In Hanoi

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Abstract
The goal of this paper aims to discuss Infrastructures, Environment and Laborer Protection In Industrial Clusters – Case in Hanoi

By using description, qualitative analysis including synthesis and inductive methods, This study finds out that along with the planning and supplementing of the planning, it is necessary to attach importance to improving the quality of the industrial development planning and the detailed planning for the construction of the industrial infrastructure. If according to the definition of ISO 9000:2000: “Quality is the degree to which a set of inherent characteristics fulfills requirements”, then the quality of planning can be understood as the degree of a set of characteristics of the project. planning to meet the requirements of infrastructure construction and industrial development in a sustainable and effective manner.

Keywords: infrastructures, environmental issues, planning, industrial clusters, laborer protection, shortcomings
JEL: M21, M1

I. Introduction
The objectives of the study:
discuss Infrastructures, Environment and Laborer Protection In Industrial Clusters – Case in Hanoi, as well as disadvantages, limitations in building industrial infrastructure in Hanoi.

Next, Hanoi city has developed a master plan on industrial development and a detailed plan on construction of industrial infrastructure until 2020, with a vision to 2030. This is an important basis for industrial development and construction of industrial infrastructure. However, the quality of the plans formulated and approved is not high, showing: i) There is no close and organic connection between the industrial development planning and the city's socio-economic development master plan. city and district with land planning, industry development planning in rural areas, population planning; ii) The demand for land use has not been fully forecasted and calculated, so some CCNs have just been built and have applied for an additional area or changed the purpose of establishment and development of the CCN; iii) The feasibility of some plans is still low; iv) The suspended plan still exists; v) There are many shortcomings in the organization and method of planning and management.

2. Methodology
Authors use description, qualitative analysis including synthesis and inductive methods in this paper. Authors analyzed previous related studies as well. Then this study also uses observations and dialectical methods.

3. Main findings
3.1. Background information
Along with the process of urbanization is the development of more and more convenient transportation. Hanoi's transport system has developed quite synchronously, from Hanoi to cities and towns of the Northern region as well as of the whole country has been improved by road, waterway, railway and airway.

Road system: Before August 1, 2008, Hanoi's road area was only about 6km2 (nearly 400km of roads), equivalent to 6% of the urban area. The land fund for transportation accounts for only 7%, suburban districts is only 0.9% while in developed countries, this figure is up to 20-25% of the natural area. After merging the administrative boundaries, in Hanoi now there are about 3,974 km of roads. Cars departing from Southern, Gia Lam, Luong Yen and My Dinh bus stations spread to all parts of the country along national highways 1A across North-South. Highway 2 to Vinh Phuc, Phu Tho, Tuyen Quang, Ha Giang. Highway 3 to Thai Nguyen, Cao Bang. Highway 5 to Hai Phong, Quang Ninh. Highway 6 to Hoa Binh, Son La, Lai Chau...

Railway system: The railway system in Hanoi has a length of 90 km, with 5 main stations (Hang Co, Giap Bat, Van Dien, Gia Lam and Yen Vien) and a number of auxiliary stations. Hanoi has 6 national railway lines (Hanoi - Ho Chi Minh; Hanoi - Lang Son; Hanoi - Lao Cai; Hanoi - Hai Phong; Hanoi - Thai Nguyen; Hanoi - Uong Bi) and 2 routes. international railway.

Inland waterways: Hanoi has a river system of different sizes, such as: 188 km long centrally managed river routes, including the Red River (118 km), Da River (32 km), and Da River (32 km). Day (38 km), Tich River (55 km). River routes managed by Hanoi are 207 km long, including: Tich river (55 km), Nhue river (49 km), Bui river (26 km), Day river (77 km), Red river (40 km) along with 9 river ports have a system of warehouses and ancillary works, including Khuyen Luong
port, Thanh Tri port, Chem port and Chuong Duong wharf, Bat Trang wharf, Phu Dong port, Duc Giang port, Son Tay port, Hong Van port, and Hong Van port. Van Diem, Chu Phan port.
By air: Hanoi has 2 airports, Noi Bai and Gia Lam (mainly serving military and freight services). Noi Bai International Airport is the largest airport in the North, capable of receiving over 10 million passengers per year.
Among means of transport: air, railway, waterway, road, road traffic mainly affects industrial development in Hanoi. Rural road transport is a part of technical infrastructure that directly and greatly affects the development and production and business of industrial clusters in Hanoi. Hanoi has a policy of prioritizing investment in rural development and a new rural development program, in which attention is paid to rural transport construction.

3.2 Infrastructures and in industrial parks and industrial clusters
Through the study of the above cases, the author made the following observations:
- Industrial parks are multi-sectoral and are located in locations with many SMEs and near craft villages and road traffic hubs.
- The construction of the infrastructure of the industrial zones is carried out according to the planning. But the planning of some industrial zones has not yet met the requirements of industrial zones development, so it is necessary to convert the functions of the industrial zones or supplement the planning, for example: Vinh Tuy Industrial Park has changed from a production cluster to a production complex with services. Commerce; Nguyen Khe Industrial Park Phase I planned 18.5 hectares and phase II supplemented the planning with an area of about 77.5 hectares
- The industrial clusters have built infrastructure inside and outside the cluster to serve the production and business of the cluster. In general, the infrastructure is basically synchronous, there are land lots reserved for the construction of factories, internal traffic, trees, land for construction of the operator, housing for officials and employees... However, most of these industrial parks do not have a dedicated land for wastewater treatment…
- The quality of some industrial construction works is not up to the design quality
- Medical infrastructure
Hanoi is one of the three major and specialized medical centers of the country with many large hospitals. The health system is basically completed, the hospital system is built towards modernization in terms of health. facilities and equipment, anticipating advanced and modern technologies.

3.3. Environment and Laborers interest protection in industrial parks and industrial clusters
First, Building environmental treatment infrastructure

Through the actual survey, the author found that currently, the issues of building environmental treatment infrastructure in industrial parks have not been paid due attention. Most of the investment projects in the CCN have had the "Registration table of environmental standards or environmental impact assessment report" approved, but most of the CCNs have not been built infrastructure in a synchronous manner. have a centralized waste treatment service facility; internal waste treatment systems have not been built or have not yet been completed.
According to regulations, production facilities in the cluster must invest and organize waste treatment by themselves, but in reality, this activity has not been properly invested. Due to limited capital and profit-driven production facilities, they have not paid much attention to investment in waste treatment. In fact, moving the production site into the new industrial zone is just pushing the waste source away from where the population lives. The goal of technological innovation and investment in reducing waste at source has not been realized. Up to now, only about 5 CCNs have built wastewater treatment systems. This has given rise to a number of complex environmental problems, especially wastewater, dust, noise, and emissions in some areas. Many CCNs have not invested in waste treatment, nor experienced and advanced methods for waste treatment, but mainly self-destruct or discharge naturally and entrust the possibility of recycling, creation of nature.

The main types of pollution in industrial zones, especially forestry ones in Hanoi, are:

+ Pollution of water and water sources: this type of pollution is caused mainly from food production and processing establishments; production of consumer goods, pulp, chemicals and agricultural materials. Wastewater generated in the process of cleaning raw materials and processing stages in production at CCNs processing agricultural products, food, and confectionery has the BOD content 25-35 times higher than the permissible standard, the amount of COD is higher. standards allow 20-30 times, high content of organic matter, nitrogen, phosphorus in water is the cause of black wastewater affecting environmental quality. Forest products processing CCNs with COD, BOD, and NH4 contents all exceed the allowable standards many times during the process of washing and soaking the products. Wastewater cooling the machine and cooling products with grease and chemicals in mechanical CCNs causes the COD content in the wastewater to exceed the permissible standards, besides there are many toxic substances such as Chromium, Nickel in the wastewater and are not through processing. Metalworking, plating, ceramics, forest product processing, agricultural product processing and textile dyeing, in addition to polluting wastewater, also cause air pollution in the process of spraying paint, wood dust, using coal furnaces, inside and outside. Besides in wastewater, solid waste also contains substances such as SO2, H2S, NH3, CH4, Indol, Scatol, Mercaptol... creating fishy, rotten odors that are harmful to human health. Currently, except for a few large and modern industrial enterprises that have an internal wastewater treatment system, most of the establishments directly discharge wastewater into sewers, lakes, ponds,... without passing through it. any treatment process directly affects the fields, water sources of the people and causes pollution to the area.

  + Dust and noise pollution: This pollution source is mainly caused by the mining industry, toxic waste from fuel burning, production dust, transportation of materials, leveling, and investment in CCN infrastructure and production facilities. This type of pollution not only directly affects the health of workers in the production facility but also has a great impact on the environment and surrounding communities.

  + Air pollution: caused by exhaust fumes from coal-fired furnaces, FO oil. Exhaust smoke from incinerators is discharged into the chimney, mainly by wind dispersing to the surrounding environment. This type of pollution is more global than regional, so it is difficult to see exactly as other types of pollution.
+ Garbage: includes waste from the processing of raw materials, supplies, packaging in the production process and daily-life waste, this type is currently only collected and treated as urban waste. There is no more positive action.

Although the city has mobilized many social resources to invest in building 2 waste treatment plants in Soc Son district, Dong Anh; invested about 12 billion VND in the project of basic investigation and construction of environmental database in the area; implementing 2 investment projects to build a centralized wastewater treatment station in Hoai Duc district to overcome the pollution of wastewater discharged into the Nhue River. However, environmental pollution is still a dilemma and has not been overcome in industrial parks.

The main reasons for the above situation are:
- The production and business establishments in the industrial zones are not aware of the dangerous level of environmental pollution caused by themselves to the community;
- Many industrial clusters were formed spontaneously, there was no planning to build environmental treatment infrastructure from the beginning. Many industrial clusters are located interspersed with households, so it is difficult to handle the environment;
- The technological level at CCN is still backward, mainly in the transition from manual to mechanized production;
- The management and protection of the environment have not been paid due attention. Most communes do not have staff with expertise in the environment, but only part-time. Financial resources for investment in environmental protection in localities are limited. The annual funding for this work is almost nonexistent;
- There is no mandatory sanctions of State management agencies;
- The production or import of equipment, machinery and technology for environmental treatment has not been researched, and suitable to the financial capacity of production and business establishments.

Figure 1 - Planning industrial parks

(source: internet)

4. Discussion and conclusion
There are still shortcomings such as:

+ The detailed planning of CCNs almost merely prescribes the technical criteria without planning any types of enterprises, what enterprises produce are prioritized for investment in the cluster or if so, not yet. showing the linkage and mutual support of enterprises in the cluster.

+ There is no close and organic connection between the industrial development planning and the master plan on socio-economic development of the city and the district with the land planning and the master plan on development of agricultural industries, village, population planning.

Facilities have been describes as enabler that supports the teaching and learning process

Figure 2 – Planning and managing industrial parks

(source: internet)

In reality, Hanoi does not have specific policies and solutions on training human resources for production and business establishments in industrial clusters, mainly in craft villages and formal industrial zones. Training is still self-training or vocational training. This makes it difficult for enterprises in CCN to actively recruit workers. Through the actual survey of some industrial workers, the author found that vocational training in Hanoi has some limitations, which are: i) The percentage of rural workers who have undergone vocational training is still low; ii) Workers in industrial zones are not interested in vocational training; The quality of vocational training is still low, not meeting the needs of industrial development.

Therefore, along with the planning and supplementing of the planning, it is necessary to attach importance to improving the quality of the industrial development planning and the detailed planning for the construction of the industrial infrastructure. If according to the definition of ISO 9000:2000: “Quality is the degree to which a set of inherent characteristics fulfills requirements”, then the quality of planning can be understood as the degree of a set of characteristics of the project. planning to meet the requirements of infrastructure construction and industrial development in a sustainable and effective manner.
The quality of the planning can be assessed by the following main criteria:
- The master plan must have the right perspective and vision on industrial infrastructure development and industrial infrastructure construction.
- Urban development planning must be associated with the City's common goal: The industrial development plan is to ensure the realization of the capital's socio-economic development goals, contributing to the growth of industry and services, transforming the capital's economic structure towards industrialization and modernization.

Sahney et al. (2004) describe physical resources in the form of facilities among the vital inputs required for the success of educational institutions. Facilities have been described as enabler that supports the teaching and learning process (Sapri et al. 2009)

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REFERENCES
1. D Thi Ngu, DT Huong, DTN Huy, PT Thanh, ES Dongul. (2021). Language teaching application to English students at master's grade levels on history and macroeconomic-banking management courses in universities and colleges, Journal of Language and Linguistic Studies 17 (3), [1457]-1468
4. DTN Huy. (2015). THE CRITICAL ANALYSIS OF LIMITED SOUTH ASIAN CORPORATE GOVERNANCE STANDARDS AFTER FINANCIAL CRISIS,
5. International Journal for Quality Research 9 (4)
Markets Including Vietnam, Elementary education Online 20 (1)


11. D Thi Ngu, DT Huong, DTN Huy, PT Thanh, ES Dongul. (2021). Language teaching application to English students at master's grade levels on history and macroeconomic-banking management courses in universities and colleges, Journal of Language and Linguistic Studies 17 (3)


STUDY TEACHING IN UNIVERSITIES, Design engineering, Issue 7


20. Hoa, N.T et al. (2021). ANALYSIS OF CASE TEACHING METHOD IN UNIVERSITIES - AN ECONOMIC CASE STUDY IN PYROLYSIS PROJECT, design engineering, Issue 7


24. NT Hang, DTN Huy, DT Tinh, DT Huyen. (2021). Educating Students in History and Geography Subjects through Visiting Historical Sites to Develop Local Economy and Community Tourism Services in Thai Nguyen and Ha Giang, Revista geintec-gestao Inovacao E Tecnologias 11 (3), 1-12


31. PN Tram, DT Ngoc Huy. (2021). Educational, Political and Socio-Economic Development of Vietnam Based on Ho Chi Minh’s Ideology, Elementary Education Online 20 (1)
32. PN Tram, DT Ngoc Huy. (2021). Educational, Political and Socio-Economic Development of Vietnam Based on Ho Chi Minh’s Ideology, Elementary Education Online 20 (1)
34. Sapri, M et al. (2009). Factors influencing students satisfaction with regard to higher education facilities services, Malaysian J of real estate, 4(1).
35. TTH Ha, NB Khoa, DTN Huy, VK Nhan, DH Nhung, PT Anh, PK Duy. (2019). Modern corporate governance standards and role of auditing-cases in some Western european countries after financial crisis, corporate scandals and manipulation, International Journal of Entrepreneurship 23 (1S)
37. TTB Hang, DTH Nhung, DTN Huy, NM Hung, MD Pham. (2020). Where Beta is going–case of Viet Nam hotel, airlines and tourism company groups after the low inflation period, Entrepreneurship and Sustainability Issues 7 (3),
41. TDT Vu, DTN Huy, NTH Trang, NN Thach. (2021). Human Education And Educational Issues For Society And Economy-Case In Emerging Markets Including Vietnam, Elementary Education Online, 20 (2)
42. Tran Thi Minh Chau (2021), Criticizing wrong thoughts on land ownership regime in Vietnam, Communist Review.
46. Vu Quynh Nam, Dinh Tran Ngoc Huy, Nguyen Thu Thuy, Nguyen Thi Hang, Nguyen Thi Hoa.
Historical Sites and Architectures in Thai Nguyen City and Ha Giang Province in Vietnam - Sources for Tourism Development, International Journal of Contemporary Architecture-The New Arch, 8(2)


