RECOMMENDATIONS FOR BUILDING GREEN INDUSTRIAL ZONES IN VIETNAM

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ABSTRACT

The purpose of this paper is to address environment and other problems in construction sector - case of vietnam industrial zones. In this paper, we suggest that Vietnam cities should have policies to encourage and give priority support to production and business establishments that apply clean and environmentally friendly technologies such as gas technology instead of coal technology, firewood in ceramic production, and charcoal production. Bees make use of the residues of buckwheat. High technology is a progressive and inevitable trend to solve environmental pollution in craft villages and industrial zones.

Keywords: Problems, Construction sector, Environment.

INTRODUCTION

First we understand, Concept and role of industrial cluster infrastructure: The English word Infrastructure is directly composed of two words: i) Infra below, the lower part is also called infrastructure and ii) structrure means structure, structure) is translated as infrastructure or infrastructure. Some authors define: "Infrastructure or infrastructure is a general concept to refer to roads, railways, hospitals, schools, irrigation systems, water supply, etc., accumulated from central and local state investments. This concept also includes intangible assets such as capital and human resources, i.e. investments in workforce training. Infrastructure plays an important role in achieving high rates of economic growth and raising the overall standard of living of a country." According to this concept, infrastructure is seen as sectors and fields of the national economy, not only the material and technical conditions (building systems) created. established to ensure socio-economic development, but also has the human, financial, management and training factors and conditions to create and the material and technical conditions and operate them to serve as the foundation foundation for economic and social activities.

Next Xiaobo Zhang (2017) said As clusters evolve, bottlenecks arise successively at later stages. New constraints become binding and require continuous tinkering by governments. Indeed, government interventions should differ according to specific situations and be based on a bottom-up, demand-driven approach. Since clusters exist largely at the local level, it is the local government, rather than the central government, that should play the key role in providing necessary public goods and services, thanks to its informational advantage.

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Then, UNIDO's Role in Promoting Industrial Parks Development. The development of competitive industrial parks is instrumental for the promotion of inclusive and sustainable industrial development (ISID), in particular in developing countries and economies in transition. This mandate is central to the achievement of the 2030 Agenda for Sustainable Development and Sustainable Development Goal 9: "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation", with interlinkages to support the achievement of the other SDGs. Meeting this goal requires, among others, adequate infrastructure development that can support investment in priority sectors of Member States and overcome the constraints associated with doing business in an economy.

+ Next, Set up environmental monitoring system.

Clusters (CCN) needs to build and invest in upgrading the operational capacity of the environmental monitoring system (Monitoring) in the Cluster. Through this environmental monitoring system, it is possible to timely, accurately assess and strictly control the status of environmental quality as well as the level of environmental pollution in air, water, odor, noise, in the environment. area and its impact on the adjacent area. From there, there are timely and effective technical measures to ensure environmental quality in general.

In fact there are several problems in constructing industrial clusters, so we choose this research topic:

"Recommendations for Building Green Industrial Zones in Vietnam".

METHODOLOGY

Authors have used qualitative and analytical methods, descriptive method for primary model, synthesis and discussion methods in this paper.

We also used historical materialism method.

FINDINGS

Environment Law 2020

Ngo Ngoc Diem (2023) pointed that Reality shows that those who suffer damage due to violations of environmental laws are much weaker than polluters from their financial potential, relationships with state agencies, legal knowledge, to the potential of science and technology.

Next, To manage and control industrial park pollution, the Government has issued 14 Decrees, the Prime Minister has issued 17 Decisions, the Ministry of Natural Resources and Environment, and relevant ministries and branches have issued 54 Circulars and Joint circulars and 48 national technical regulations on the environment are directly related. That is, Decree No. 82/2018/ND-CP on management of industrial parks and economic zones; Decree No. 18/2015/ND-CP regulating environmental protection planning, strategic environmental assessment, environmental impact assessment and environmental protection plans; Decree No. 38/2015/ND - CP on waste and scrap management; Decree No. 80/2014/ND-CP dated August 6, 2014 on drainage and wastewater treatment; Circular No. 35/2015/TT - BTNMT on environmental protection of economic zones, industrial parks, export processing zones, high-tech zones.

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In particular, the Law on Environmental Protection 2020, effective from the beginning of 2022, has 9 breakthrough contents, including contents directly related to businesses in industrial parks such as: expanding subjects that must prepare reports. environmental impact assessment report; Wastewater fee is equal to 10% of clean water price; Must have a license to treat hazardous waste; Only scrap can be imported as raw materials for production; Establishments causing serious environmental pollution have their information publicly disclosed (Dat, P. M et al, 2020; Diep, N. T, 2022; NT Thu, N. A et al, 2022; Trang, T. D et al, 2022; Ha, T. T. H et al, 2019; Hai, N. T et al, 2023; Hai, N. T., Huy, D et al, 2021; Hai, N. X., 2023; Hang, N. T et al, 2021). And this is good for consumer protection (Hang, T. T. B et al, 2020; Harsanto, B. T, 2023; Hoa, N. T et al, 2021) in rual areas (Huy, D. T. N et al, 2021) and for students (Lan, N. T. N et al, 2020).

Background Information

Many studies classify two basic categories, including: economic infrastructure and social infrastructure.

1. Economic infrastructure includes technical infrastructure works such as: energy (electricity, coal, oil and gas) for production and life, transportation works (road, railway, etc.), post and telecommunications, irrigation works for agricultural - forestry - fishery production... Infrastructure/economic infrastructure is a part It is an important factor in the economic system, ensuring a fast, stable and sustainable development of the economy and is a driving force for faster development, creating conditions for improving people's lives.
2. Social infrastructure includes housing, scientific facilities, schools, hospitals, cultural and sports facilities, etc. and equipment synchronous with them. This is an essential condition for serving and improving the living standards of the population community, fostering and developing human resources in line with the process of industrialization and modernization of the country. Thus, social infrastructure is a collection of a number of sectors with the nature of social services; The products they create are expressed in the form of services and are often of a public nature, related to human development both physically and mentally.

Building Green Industrial Zones and Clusters

First, Michael Porter popularized the concept of ‘clustering’ in 1980 through his seminal article Clusters and the New Economics of Competition, where he explained the advantages of industrial agglomeration in developed countries. Subsequent studies have primarily analyzed economic agglomeration that spans regions and industries in the context of developed countries, where institutions and infrastructure are relatively well developed (Porter 1990; Saxenian 1994; Markusen 1996).1 In fact, the ideas behind clustering have a long pedigree. Smith (1776), using the example of linen shirts, illustrated how the putting-out system was widely practiced in the United Kingdom prior to the Industrial Revolution (Nam, V. Q., & Ngoc Huy, D. T. 2021); Nam, V. Q et al, 2021; ND Trung et al, 2021; Nguyen Trong Diep et al, 2021; Phuong, N. T. T et al, 2020; Ravi, S., & Rajasekaran, S. R. C, 2023; Thach, N. N et al, 2021; ThiHoa, N et al, 2021; Tran, D. N. L et al, 2021; Trung, N. D et al, 2021; Hang, N. T et al, 2021; Le, T. H et al, 2021; Thu, B. T et al, 2022; Van Tuan, P et al, 2021; Vega, F. E., & Hofstetter, R. W. Eds, 2014; Vega, F. E et al, 2002). And banks roles are important (Vu, H. T, 2013; Vu, T. D. T et al, 2021).

Second, Environment Protection in Clusters Is a Must

According to Decree No. 08/2022/ND-CP detailing a number of articles of the Law on Environmental Protection promulgated by the Prime Minister on January 10, 2022.

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Environmental protection for production and business areas, Centralized services are specified in Article 47 and Article 48. There are some of the following main contents:

General regulations on environmental protection for concentrated production, business and service zones:

- Functional subdivisions in concentrated production, business and service zones must be planned to ensure the following conditions: minimizing the impact of types of production, business and services that are at risk of causing pollution. environmental pollution with other types of production, business and services; Convenient for preventing and responding to environmental incidents; enhance reuse, waste recycling, energy saving and industrial symbiosis.
- Projects in concentrated production, business and service zones have an environmentally safe distance according to national technical regulations on technical infrastructure works to minimize the possibility of affecting other facilities. and socio-economic objects surrounding concentrated production, business and service areas.
- Encourage the reuse of waste, application of cleaner production technology, energy saving, industrial symbiosis and circular economy.
- Encourage the establishment of new or conversion of concentrated production, business and service zones according to the eco-industrial park model.

Requirements for technical infrastructure for environmental protection of concentrated production, business and service zones and industrial clusters. Concentrated production, business and service zones must meet the following 5 environmental protection technical infrastructure requirements:

- Technical infrastructure for environmental protection is arranged in accordance with types of investment in concentrated production, business and service zones and industrial clusters, ensuring to minimize negative impacts on the surrounding environment. and must be built and completed before facilities in concentrated production, business, service zones and industrial clusters come into operation.
- The rainwater collection and drainage system must meet the following requirements: Separate the rainwater drainage system from the wastewater collection and drainage system. There must be a manhole to deposit sediment and separate oil scum before discharging into the area's general storm water drainage system. Regularly dredged, serviced and periodically maintained to ensure it is always in normal operating conditions.
- The wastewater collection and drainage system after treatment must ensure environmental protection requirements regarding location and manhole level; The wastewater collection and drainage system after treatment ensures solidity, waterproofing, and prevents wastewater leakage into the environment according to construction design standards and regulations or product quality standards; The point of discharge of treated wastewater must have signs, a working floor with a minimum area of 01 m2 and a walkway to facilitate the inspection and control of waste sources; regularly dredged, maintained, and periodically maintained to ensure that it is always in normal operating conditions.
- The centralized wastewater treatment system must ensure the following environmental protection requirements: It is allowed to be divided into many units (modules) in accordance with the filling progress and operations of the production and business area. business, concentrated services, industrial clusters; have independent electricity meters; have an automatic and continuous monitoring system; Operated regularly according to technological processes to ensure wastewater is treated to meet environmental technical standards before being discharged into receiving sources; must be periodically maintained and maintained to ensure normal operation; Sludge from centralized wastewater treatment systems must be collected, transported and treated or reused in accordance with the law on waste management; The operation of the centralized wastewater treatment system must have an operation log; Input wastewater standards of the centralized wastewater treatment system must be recorded in the decision approving the environmental impact assessment report, environmental license, environmental registration certificate and environmental protection regulations. of concentrated production, business, service zones, industrial

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clusters; Collection equipment, storage facilities for domestic solid waste, regular solid waste, hazardous waste, and exhaust gas treatment (if any) must ensure environmental protection requirements.

- Have works and equipment to prevent and respond to environmental incidents according to the provisions of law
- Last but not least, food security in clusters is a must.

CONCLUSION

Relocate establishments and factories causing environmental pollution in the inner city to suburban areas.

Link industrial cluster development with programs: high technology development, urbanization and infrastructure development, traditional craft village development and job creation.

Hanoi's industrial cluster development planning with appropriate scale for each stage aims to orient land funds and invest in infrastructure with focus on potential areas, meeting the need for space expansion. production, attracting resources in terms of capital, technology... to strongly develop the capital's industry, linking production with the market and labor, and solving the problem of environmental pollution.

Planning must ensure synchronization and unity. Synchronize and unify with directly related plans such as: Master plan for socio-economic development of the City, district, land planning, rural industry development planning and with yourself Industrial cluster development planning as well as detailed planning for industrial cluster infrastructure construction.

Then clusters (CCN) needs to build and invest in upgrading the operational capacity of the environmental monitoring system (Monitoring) in the Cluster. Through this environmental monitoring system, it is possible to timely, accurately assess and strictly control the status of environmental quality as well as the level of environmental pollution in air, water, odor, noise, in the environment. area and its impact on the adjacent area. From there, there are timely and effective technical measures to ensure environmental quality in general.

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