

**How to Cite:**

Huong, N. V., Hung, H. V., & Song, N. V. (2022). Development of synchronous housing infrastructure for laborers in industrial zones: A case study in Viet Nam. *International Journal of Health Sciences*, 6(S2), 15093–15108.  
<https://doi.org/10.53730/ijhs.v6nS2.8992>

# **Development of synchronous housing infrastructure for laborers in industrial zones: A case study in Viet Nam**

**Nguyen Van Huong**

Hung Yen University of Technology and Education (UTEHY), Hung Yen, Viet Nam  
Email: [vanhuong75hy@gmail.com](mailto:vanhuong75hy@gmail.com)

**Hoang Van Hung**

Hung Yen University of Technology and Education (UTEHY), Hung Yen, Viet Nam  
Corresponding author email: [davidhoang8585@gmail.com](mailto:davidhoang8585@gmail.com).

**Nguyen Van Song**

Viet Nam National University of Agriculture (VNUA), Ha Noi, Viet Nam  
Email: [nguyensonghghua@gmail.com](mailto:nguyensonghghua@gmail.com).

**Abstract**---Developing synchronous housing infrastructure for workers in industrial zones is an essential factor for the sustainable socio-economic development as well as ensuring life quality and social security, especially in attracting high-quality investment and shifting supply chains into Vietnam in the present stage. This article tackles the theoretical and practical aspects and suggests certain solutions to develop synchronous housing infrastructure for workers in industrial zones in our country as well as in Hung Yen province.

**Keywords**---housing infrastructure, industrial zones, solutions synchronous development.

**Introduction****Overview of synchronous housing infrastructure in industrial zones**

Urban low-income workers and housing for urban low-income workers are central issues in the world and especially in today's industrializing countries. The world tends to use the concept of low income instead of urban poverty; at the same time quantifying the low income threshold not only by a statistical number, for example, 1 USD or 2 USD per person per day for extreme or moderate poverty in terms of purchasing power parity (in the US), but also added by other criteria

such as health, education, culture, clean water and housing. The World Bank and Un-Habitat (United Nations Human Settlements and Sustainable Urban Development) have specified low income levels according to 8 basic needs factors, in which housing ranks third after food and clothing. The national housing development strategy has been identified as an important role in addressing inequality for low-income urban workers (Hoang & Nguyen, 2009).

The world recognized that housing is one of the basic human rights and needs, ensuring accommodation for people is one of the important social concerns. Having suitable and safe accommodation is a necessary condition for human development along with human resource and sustainable national development. Countries and international organizations define social housing: according to Ngo, social housing is a type of housing that meets basic needs provided by the government and/or non-profit organizations for the low-income area, the common type of social housing is rental housing (Ngo, 2018); "... housing provided to low-income people by government agencies or nonprofit organizations" (Oxford Dictionary of English and Spanish, 2020); or "social housing is houses and apartments owned by local governments or by other non-profit organizations and rented out to low income earners." (Cambridge Dictionary, 2020).

Housing infrastructure is an important factor for workers when deciding whether to leave or stay (Das, 2019), high housing prices can reduce attract and make many workers leave, especially for skilled workers that are in high demand (Rollins et al., 2006). Low-income residents are difficult to afford housing or transportation options for accessing to good job and other employment opportunities (El-Geneidy et al., 2016; Wasmer & Zenou, 2002) and more susceptible to social exclusion (Allen & Farber, 2019; Lucas, 2012).

Rollins et al. (2006) combined supply and demand factors to explain the rapid increase in house prices for workers. When demand is higher than supply, a shortage occurs, causing house prices increase. Factors that can drive demand include: 1- changing demographic trends; 2- increased income levels; 3- increased access to mortgage credit; 4- increasing income inequality and 5- expecting housing prices increase or increasing. Meanwhile, factors that can limit supply include: 1- legal, administrative, and planning barriers (Listokin & Hattis, 2005; Sutherland, 2020); 2- land prices increase (Glaeser & Gyourko, 2003); 3- basic construction costs increase (Glaeser et al., 2005); 4- restriction of land use (Severen & Plantinga, 2018; Albouy & Ehrlich, 2018).

Due to excess demand and relatively inelastic supply, rising property prices have led to a segment of buyers that are difficult to access, especially those with low and middle incomes (Morrison, 2014). Therefore, the implementation of policies to increase the provision of affordable housing for workers, especially low and middle-incomes, is increasingly concerned, in addition, the recommendation of different types of housing that is a necessary prerequisite to attract and retain the highly skilled workers create competitiveness and enhance local comparative advantage (Harvey, 1989; Vujicic et al. al., 2004; Mangham, 2006). Kolstad (2011) suggests that if the authorities provide good infrastructure, the probability that a far worker will take up job will increase by 34%. However, when formulating policies, it is also necessary to focus to the negative impacts associated with

increased housing supply, such as environmental problems, traffic congestion, fiscal effects on local public services, etc. (education, fire prevention, security, order...) and change the composition of the neighborhood (Malpezzi, 1996).

The Core Housing Strategy has been identified as one of the most popular strategies in the low-income housing facilitation approach (Greene & Rojas, 2008; Bredenoord & van, Lindert, 2010). Ibem & Amole (2013) surveyed workers' satisfaction with public housing using the Core Housing Strategy, in which workers rate satisfaction based on four key dimensions that are characteristic of housing units, facilities and neighborhood environment, management and services. The results show that satisfaction with Core Housing can be enhanced through improved management practices; provide spacious, airy living, dining, cooking and sleeping areas; cleaning services in the cottages are well provided.

Experience in the world on housing settlement policies for low-income workers can be summarized as follows: encouraging public investment projects to renovate and develop social housing for the poor, low-income (full support for housing access); credit loans for low-income people to help them improve their housing conditions, or credit support for low-income people to buy houses in installment basis (support to access credit and interest); lastly, support in housing management and planning, research and development of regulations, economic and technical indicators for social housing construction portfolio, improving informal housing and housing market turmoil that leaves low-income people vulnerable.

Or it can be divided according to the housing settlement approach: the economic (market) approach emphasizes the commoditized nature of housing and mainly through improving the supply capacity of the housing market, limit direct state intervention; a political approach that emphasizes political processes to provide housing for laborers, but encounters difficulties due to limited financial resources; a social approach emphasizes housing as a constitutive element of the social environment, embodying social relations, and aiming to ensure equal and non-discriminatory access for all, including low-income people (Hoang & Nguyen, 2009).

In Vietnam, along with the urbanization and industrialization process, transforming from a low-income country to a middle and high-income country, the housing for worker problem in industrial zones also become urgent. According to Housing Law issued in 2014: "House is a construction work built for the purpose of living and serving the daily-life needs of households and individuals" (National Assembly of Vietnam, 2014). In addition, Decree No. 188/2013/ND-CP dated November 20, 2013 of the Government on the development and management of social housing defines: "Social housing is a type of housing that is supported by the State for investment and construction, a non-profit organization that sells or leases to a number of priority groups in society (...), including low-income people, urban poor households, and industrial zone workers (Government, 2013).

The Communist Party and Government have issued guidelines and policies on the synchronous development of social infrastructure and housing infrastructure in

industrial zones. Resolution No.15 of the 11th Central Executive Committee meeting on June 1, 2012 on some issues of social policy for the period 2012 - 2020, identified basic social services (SCBs) for the people, including: minimum education, health care, housing, clean water, sanitation, information and communication. Emphasizing the provision of basic social services for people, including living needs, social integration needs and welfare needs in the community; this is the key to developing “human capital”, towards a more healthy and educated population that achieves economic independence and actively participates in the labor market. This Resolution also aims to ensure equity, everyone has the rights to participate in the social development process (The Central Committee of the Communist Party of Vietnam, 2012). Directive No. 52-CT/TW dated January 9, 2016 of the Secretariat Committee on strengthening the leadership of the Communist Party in improving the cultural and spiritual life for workers in industrial and processing zones state clearly: in reality that workers have yet enjoyed the cultural and spiritual life commensurate with the achievements of the national construction and development; The system of cultural institutions, welfare facilities, schools, hospitals, housing, etc. serving industrial workers has not been adequately invested (The Central Committee of the Communist Party of Vietnam, 2016).

Hoang (2018) conducted a study on the construction of affordable housing for workers in Hanoi and pointed out that although Hanoi has only 4 affordable housing projects for workers, of which there is only one Cheap accommodation in North Thang Long Industrial Zone is equipped a fully social infrastructure system (kindergarten, supermarket, medical station, cultural and sports center), while other projects lack the necessary essential social infrastructure. The total number of houses in the industrial park can only meet 10% of the accommodation for workers, while about 90% of workers still have to rent houses in narrow nearby residential areas with low quality of living conditions. Generally, most workers who have the opportunity to access social housing provided by the state or industrial zone firms are satisfied with some physical factors of housing such as apartment area, number of bedrooms, living room space and common hallway. The unsatisfactory criteria related to green space, electricity and water, public space. In addition, most workers consider the current house price to be too high for their income (MOPI & JICA, 2016; Ta & Pham, 2021). The construction of worker housing projects is often delayed due to obstacles in legal procedures, land access, site clearance, lack of capital and lack of incentives from the government (Hoang, 2018; Ta & Pham, 2021).

Especially, in the context of the current world economy where the restructuring of supply chains and fierce competition are taking place, solving the problem of developing synchronous social housing infrastructure in industrial zones in Vietnam is deeply affirmed in a number of aspects as follows: *First*, this is a measure to ensure long-term commitment for workers to work in enterprises and industrial zones, in order to sustainably develop industrial zones. Developing synchronous social housing infrastructure of the industrial zone is a condition to improve the working capacity and productivity of laborers and is also the basis for enterprises to stabilize labor - work relations. When housing is guaranteed, workers will work at ease and tend to stick with their workplace. On the contrary, when their housing situation is temporary, they have tendency to change jobs it

happens often, this will lead to low attachment between employees and the enterprise. Thus, solving the housing problem will ensure the loyalty of workers, they will be more dedicated to work and contribute to the employers, thereby making them really "settle down" to "have a stable life".

*Second*, develop synchronous social housing infrastructure while ensuring the sustainable development of the local, regional and national. We are aware that, for sustainable development, it is necessary to ensure effective economic development, equal society and a protected - preserved environment. But to achieve this, the Government, along with all economic sectors, social organizations... must work together to handle three factors: economy - society - environment. When the living and housing conditions of workers are not resolved, they tend to look for cheap rental housing areas with degraded and unsafe living conditions. As a consequence, this will form new slums next to urban areas and industrial zones, affecting the living environment and general beauty. Moreover, this has the risk of giving rise to social evils, crimes and pollution. While enterprises due to lack of stable labor source may find it difficult to maintain production, it will lead to a decrease in revenue, profit and decrease in contribution to the local budget.

*Third*, the synchronous settlement of social housing infrastructure associated with synchronous infrastructure development of industrial zones is one of the important factors to attract investment capital flows, especially attracting high-quality FDI flows and leading to the shift of global supply chains into Vietnam. This is also intelligibility because when industrial zones develop sustainably, with synchronous social and housing infrastructure, they will create attraction to attract and enhance high-quality human resources - this is an indispensable condition for attracting high-quality FDI flows from developed countries, along with the supply chains of transnational corporations.

In the situation of unpredictable Covid-19 pandemic, the US-China trade war, geopolitical conflicts (the Ukraine - Russia war) and the increasing cost of Chinese labor, causing the world to reconsider the investment decisions and find ways to diversify supply chains to reduce the risk of being too dependent on a few suppliers in this country. That situation also increases the attraction of Vietnam as a safe and potential investment destination. Vietnam has a stable political and social environment, a young workforce with more than three-quarters of the population aged 15 years and above. Besides, Vietnamese workers are highly appreciated for their hard work, education, trainable and low labor costs. Estimated production labor cost in China is 5.51 USD/hour, while this cost in Vietnam is only 2.73 USD/hour (Nguyen, 2021).

In recent years, many foreign investors and corporations have come and learn about investment opportunities or expand investment projects in Vietnam. Therefore, we need to prepare clean premises for investors so that they can be handed over immediately upon request, especially preparing industrial zones with synchronous infrastructure. At an investment symposium, the Prime Minister directed: "We must think about what investors need in order to discuss, cooperate, and meet their needs to develop successfully, and bringing benefits for both sides". The Prime Minister emphasized that Vietnam must have competitive

incentives, attract investment selectively, targeting large multinational corporations, high technology, modern and environmentally friendly. The Prime Minister also agreed to set up a special working group and set up a plan to solve blocking points with investors such as space and human resource issues (Chau, 2020).

### **Situation of development of synchronous housing infrastructure zones in industrial zone in Viet Nam and in Hung Yen Province**

By 2020, 381 industrial zones have been established nationwide with a total planned land area of 114,000 hectares, the area that has been allocated and put into use is 90,500 hectares, accounting for 2.31% of the non-agricultural land area and an increase of 23,850 hectares compared to 2010. In which, areas with high density of industrial zones such as the Red River Delta have established 94 industrial zones with an area of 26,000 hectares, the area that has been allocated and put into use is 19,950 hectares, an increase of 19,950 hectares increased 4,920 hectares; the North Central and Central Coast regions established 68 industrial zones with an area of 22,000 hectares, the area that has been allocated and put into use is 17,100 hectares, an increase of 7,240 hectares; The Southeast region established 119 industrial zones with an area of 44,000 hectares, the area allocated and put into use was 34,240 hectares, an increase of 50 hectares (Figure 1).

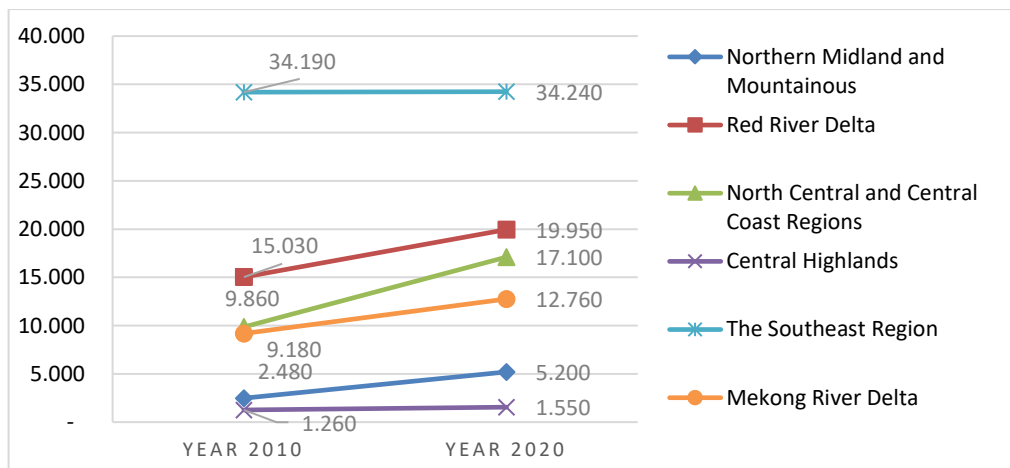


Figure 1. Development of industrial zones in Vietnam from 2010 to 2020  
Source: Ministry of Natural Resources and Environment (2021)

These are the industrial zones established by the Government and complied with the special regulations for production and export, mainly providing exemption from financial obligations such as tax exemption for export goods, imported raw materials, personal income, and property tax exemption, etc. Industrial zones have a special role in attracting investment, especially FDI, as creating a clean ground or lining the nest for "Eagles to lay eggs". By the end of 2020, Vietnam has attracted 36,531 projects with registered capital of 465 billion USD and implemented capital of 211 billion USD (Figure 2). There are 120 countries and territories investing in Vietnam. The largest investment sector is manufacturing -

investment, accounting for about 80% of investment capital. The export proportion of the FDI sector accounts for about 70% of the total export turnover of the country. Most FDI investments in Vietnam are invested in industrial zones. The number of direct workers in FDI projects is about 2.5 million people and millions of people work indirectly. With a significant scale of human resources, industrial zones need to have appropriate infrastructure to prevent overloaded facility, especially to ensure health and life, and to attract high-quality human resources (MPI & World Bank, 2018).

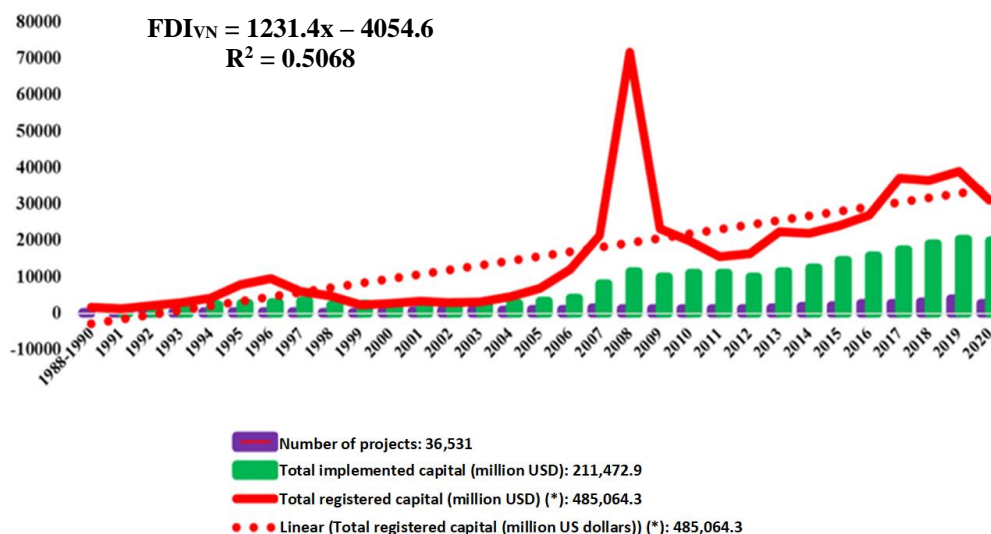


Figure 2. Attracting FDI into Vietnam in the period 1988-2020  
Source: Nguyen (2022)

Currently, there are 173 housing projects for workers nationwide with about 129,400 apartments, 100 completed projects with about 41,000 apartments. Assuming completed projects only meet about 28% of the total housing needs of industrial zone workers, while the remaining 72% of workers do not have access to housing. Although the development of social housing for workers in industrial zones has achieved some certain important results, the objectives set in the National Housing Development Strategy have not been achieved (Government News, 2020). According to the Vietnam General Confederation of Labour, there are currently 2,580,000 square meters of housing for workers in the whole country, enough to accommodate about 330,000 workers. It can be seen that the numbers of housing supply for industrial workers are very low compared to the huge demand for housing here (Vietnam General Confederation of Labour and Action Aid organization, 2013).

In Hung Yen province, the Prime Minister approved the addition of 15 industrial zones, with a total area of 3,887.23 hectares, into the development planning of Vietnam's industrial zones up to 2020. In which, there are 10 industrial zones with a total area of 2,317.24 hectares was granted Investment Certificate/Investment Policy; 7 industrial zones have been put into operation, receiving secondary investment projects. The total industrial land area for lease in industrial zones is about 909 hectares, reaching the occupancy rate of nearly

66.23% of the leasable area (909 hectares/1,373 hectares). By the end of August 31, 2021, industrial zones in the area have received 475 projects (208 DDI projects and 267 FDI projects), with a total registered investment capital of 4.86 billion USD and 28,000 billion VND. In which, 400 projects have been put into production and trading, accounting for 84.3% of the total number of active investment projects. The total realized investment capital by the end of August 2021 is about 3.7 billion USD (equivalent to 77% of the total registered investment capital of foreign investment projects) and 22,000 billion VND (equivalent to 78% of the total registered capital of domestic investment project) (Vu, 2021).

The receiving of investment projects in Hung Yen Industrial zone has contributed to the increase of production capacity of industries, especially foreign-invested projects, projects with high technical level, investment projects in the field of product research and development, etc. making an important contribution to promoting industrial development of the province. Projects put into operation in Hung Yen Industrial zones have provided stable jobs for around 71,000 workers, including 59,700 local workers (accounting for 75%). The number of foreign workers is about 700 people from 18 countries and territories working in industrial zones. Trade union of industrial zones in Hung Yen province is managing 200 grassroots trade unions with 45,815 union members/56,516 employees, of which there are 141 grassroots trade unions in FDI enterprises with 38,630 union members (Luyen, 2021).

However, most workers working in industrial zones in Hung Yen province do not have accommodation, they mainly rent houses built by local residents. In fact, housing for female workers in industrial zones is a very pressing issue, as the percentage of female workers renting in Hung Yen is the highest (60.1%), followed by Dong Nai (43.2 %) and the lowest is Da Nang (11.5%). In which, the number of female workers in Hung Yen has to rent a house with friends and family accounts the most percentage (35.7%) and solo renting (24.4%), of which 29.5% female workers are renting rooms with no toilets and other minimal conditions. While in Da Nang, the majority of female workers have their own house (65%) or live with their parents (21.5%), only 11.5% live in rented accommodation (Hoang, 2022). The situation of housing for workers in industrial zones in Vietnam and Hung Yen province shows the following shortcomings:

*First*, urbanization and industrialization together with the influx of migrant workers into urban areas and industrial zones have created serious social problems. Which is the situation of labor in general and female migrant workers in industrial zones in particular are facing challenges in housing, life and income. Enterprises tend to split wages, pay employees equal to the minimum wage and add allowances such as attendance, gas, lunch, etc. But once businesses have difficulties, they are willing to cut allowances, making workers' lives unstable, and life became more precarious. The actual income of most workers is not enough to cover the minimum living expenses. Most workers, including female migrant workers (88.8%) have to work part-time to increase their income and improve their lives, etc. (Hoang, 2022; Nguyen, 2020; Vietnam General Confederation of Labour and Action Aid organization, 2013).

*Second*, housing for workers in industrial zones is one of the most challenging problems and is exacerbating difficulties of workers. While the social housing fund for industrial zone workers is very insufficient, access to this housing fund also encounters tangible and intangible barriers. The design standard of the master plan in industrial zones (TCVN 4616: 1988) stipulates: When building industrial clusters or industrial zones, it is necessary to ensure convenience in organizing the living and working conditions of the workers; When arranging an industrial cluster in the city or in the suburb, it is necessary to combine it into an industrial-residential cluster. According to current regulations, 20% of the project's land fund must be set aside for social housing for workers working in industrial zones (Article 6, Decree 100/2015/ND-CP). But in fact, there are very few enterprises follow, instead, 20% of the land fund is sold to investors to develop commercial housing projects.

Besides, there is a paradox, that is, some industrial zones such as Thang Long Industrial Park (Hanoi) have built and put into use housing areas for workers, but have not yet attracted people to live in. One common reason is that in the worker's housing area, although the rent is cheaper compared to the rental price of the boarding house outside, the electricity and water prices are stable, but each room accommodate from 10 to 15 tenants; narrow and, inconvenient bathroom. On the other hand, many workers do not have access to social housing because the criteria for social housing qualifications are very strict, while the income level of most workers is very low, thus they cannot rent or buy social housing. (Do & Nguyen, 2020; Vietnam General Confederation of Labour, 2014).

*Third*, in which, housing for workers in industrial zones is one of the most pressing and difficult problems. Many workers in industrial zones across the country in general, especially the majority of female workers in industrial zones in Hung Yen province, have to live in rented accommodation with overloaded and degraded infrastructure. Self-built rental houses are characterized by disobedience to urban planning, poor quality, minimal amenities and living conditions, no security, safety, and expensive services. (electricity, water, etc.) Like a deadlocked circle logic: because of low income, workers can't afford to pay higher or solve their own housing issue in different ways; the housing difficulties deepen the situation of temporary living, precarious employment, low income and difficulty in accessing social services. There are major barriers in the access and use of housing, healthcare and education services for migrant workers in industrial zones today, negatively affecting their life, mental and physical health, these factors will have bad impact on their labor productivity (Hung Yen Confederation of Labour, 2021; Luyen, 2021; Nguyen, 2021).

Some areas around the industrial zones are overloaded with infrastructure, the social security system has not been able to keep up, especially schools from pre-school to high school and medical facilities. The number of students in all levels from kindergarten to high school exceeded the capacity, even in some places they had to arrange 3 shifts. Essential services for workers such as markets, supermarkets, amusement parks, etc. are mainly spontaneous, not yet invested, not attached to the locality and meet the actual needs of the people. The lack of services for workers, such as social welfare, housing for workers, training

services, entertainment activities or kindergartens for workers' children, etc. This makes the industrial zones have not yet attracted laborers to work.

*Fourth*, State management of housing for workers in industrial zones is still inadequate, which is one of the root causes of the current situation. Authorities at all levels in many localities have not fully grasped the viewpoints, awareness and application of mechanisms and policies on housing settlement for workers in industrial zones. There are obvious limitations and inadequacies in the planning and organization of implementation of synchronous social infrastructure development in the industrial zones, with housing projects, schools, medical facilities, amusement parks and entertainment areas.... (Nguyen, 2021; Nguyen, 2020; The Central Committee of the Communist Party of Vietnam, 2016).

Specially, in recent years, there has been a Covid-19 pandemic, a wave of workers returning to their hometowns due to fear of the disease returning. This shows that workers have not yet settled, affecting the material and mental life of workers and the socio-economic efficiency in general. One of the main reasons for this situation is that the local authorities have not really paid attention to the construction of workers' housing, so they cannot ensure the implementation of 3 places (eating, sleeping, working) at the industrial park. Leading to difficulties in production and trading in industrial zones, disruption of production supply chains, shortage of labor force, etc.

### **Advantages and challenges**

Over the past time, we have issued many legal documents, regulations, mechanisms and policies such as the Housing Law, legal documents and guidance on implementation of Decree 188/2013/ND-CP dated 20/11/2013 on the development and management of social housing, etc. This has gradually improved institutions and policies in the field of social housing development, housing for workers in the industrial zones. In addition, under the pressure of integration and competition, the construction of housing for industrial park workers and ensuring social security and welfare for workers has also begun to receive the attention of all levels, sectors, industries and business community. However, the construction of housing for industrial zone workers still faces several challenges:

- (1) Mechanisms and policies on housing development are still inconsistent and not specific. The mechanism of incentives when implementing still has many obstacles, and being resolved slowly so it has not created a push for enterprises to participate in construction investment. On the other hand, policies and legal documents on social housing are in the process of being completed, adjusted and changed in a short period of time.
- (2) The planning of industrial zones and housing for industrial zones is not serious and well planned. Many localities and industrial zones have not yet arranged housing land funds. The pressure on the number of workers in industrial zones is constantly increasing, putting housing settlement in a passive situation.
- (3) Due to the characteristics of social housing projects, housing for industrial zone workers has a long investment preparation time, difficulties in

compensation, site clearance, slow capital recovery and low profit, etc. In addition, infrastructure enterprises have limited capacity and investment capital for housing in industrial zones.

- (4) Technical infrastructure support outside industrial zone has not yet clearly defined the level of support. The management and operation mechanism of social housing and housing in industrial zones is quite complicated and inconsistent, that also makes businesses wonder when calculating housing investment.
- (5) Enterprises employing workers in industrial zones do not have the connection and responsibility to participate in social housing development, for a simpler solution, they choose to support a partial housing rent for workers.
- (6) Some technical infrastructure outside the fence has not been built synchronously, not well connected with the infrastructure inside the industrial park, thus reducing the attraction of social housing for workers.

### **Some solutions to complete synchronics of housing infrastructure for workers in industrial zones in Vietnam and Hung Yen Province**

#### **Perspectives, development orientation**

Thoroughly grasp the viewpoint of housing policy for workers as an important factor for sustainable development of industrial zones in particular and sustainable socio-economic development in general. Social housing is a special commodity, bearing social aspects and showing humanity, towards the development of workers as a special capital - Human capital. Solving the problem of social housing for workers in industrial zones must be placed in the relationship between the combination of the market mechanism and the State's management in the direction of socialism.

Development of workers' housing in industrial zones must: conform to the master plan on socio-economic development, housing development programs and plans; socio-economic development planning, national and local industrial zone planning; ensure standards, regulations, quality and conditions on architecture and landscape of construction works according to the provisions of the construction law; follow the type and design standards of houses specified in the Law on Housing and guiding Decrees and Circulars.

Housing for workers in industrial zones with the mobilization of social resources and socialized capital must be strictly managed, absolutely against re-subsidization and at the same time anti-corruption in housing; Units assigned to invest in construction, management and operation of workers' housing shall strictly comply with the provisions of law; conduct the sale, lease, or hire-purchase of the right objects, in accordance with the prescribed conditions, and must not arbitrarily change the purpose or transfer the right to use the house.

**Solutions to develop a synchronous housing infrastructure system to meet the sustainable development of the Industrial zones**

*First*, the relevant authorities should research and issue preferential mechanisms as well as policies to attract qualified investors to invest in building a social housing fund and housing for workers in industrial zones, creating favorable conditions and opportunities for investors to access credit sources to implement projects. There is a mechanism to support investment inside and outside the fence for social housing projects in general and worker housing projects in particular, an appropriate mechanism for land allocation and determining the land use right value to reduce rental or house purchasing for workers. Create favorable conditions for businesses in compensation, site clearance, and handover of clean land to implement social housing projects.

*Second*, localities shall develop industrial zone and housing planning and for industrial zones, in which planning land fund to build houses for workers. Regulating housing development projects associated with synchronous social infrastructure, ensuring the industrial zone, the connection between the internal and the external infrastructure (such as transportation, trading, services, education, kindergartens, healthcare, cultural institutions, and community sports, etc.) to serve essential needs for industrial workers. Resolutely withdraw social housing construction projects that are slow to implement, review the overall projects to supplement and adjust the social housing planning to suit the actual situation of each locality, region and each development stage of the country.

*Third*, the Ministry of Construction, People's Committees of provinces and cities research and promulgate a set of social housing standards for workers in industrial zones, at the same time design standard housing models, with optimal structure and functions, standardized, easy to adjust, easy to construct, to applicable to specific localities, regions, and industrial zones. Housing for industrial zone workers must be durable, simple structure, convenient for daily life, health and environmentally friendly, using common technology and construction materials, with affordable cost to match the living needs and affordability of low-income people in the industrial zone.

*Fourth*, encourage local communities to have industrial zone, attract domestic and foreign organizations and businesses to participate in the development of housing for workers, socialize resources and social housing development. Support to access interest rates on credit loans for housing construction, reduce land tax and housing business tax for workers. The locality should deploy the construction of necessary infrastructure works to connect with the housing area for workers. Establishing a social housing fund to support workers working in industrial zones with rent, house purchase, and social housing development projects in industrial zones. This fund is formed on the basis of contributions from businesses and local budgets.

*Fifth*, to facilitate regulations and administrative procedures for migrant workers in industrial zones and localities. Such as help with registration of permanent residence, registration of procedures for renting and buying a house; the right to join trade unions, social, professional and religious organizations; the right to

freedom of movement, cultural activities, medical care and protection; the right to education for their children and employees themselves.

*Sixth*, to investigate and study the housing needs of workers, and at the same time, complete the institutions and policies to develop the segment of the social housing market for low-income people in the industrial zone. Firmly grasp the characteristics of ownership form, quantity and quality requirements, access methods and housing affordability of employees. Good coordination between factors and providers involved in the supply of social housing: implementation of housing laws, mechanisms and policies; home development enterprises, labor-employment enterprises; State inspection, supervision, organization and management to ensure stability and development of the housing market segment for industrial workers.

### **Conclusions**

Housing development to meet the needs of industrial zone workers brings positive economic and social externalities. Stabilizing life and accommodation is one of the conditions to develop and nurture quality human resources, improve productivity, and at the same time help employees stay attached to their jobs and enterprises in the industrial zone. It also contributes to improving social security and environment, creating a premise for the construction of urban areas, industrial zones and sustainable socio-economic development. After all, the cause of industrialization and modernization of the country can only be successful with a generation of workers and their children fully developed, well-trained in both physical and mental aspects.

However, social housing development is not easy to implement when this type of goods may be beyond the capacity of the private sector to provide. Although workers' housing needs are big, they are unable to pay because of their low income. Housing for workers in industrial zones and other types of social housing, like a specific and high-social commodity, has low profitability, so it is rarely offered by the market. This can be considered a "market failure".

In principle, it needs the support of the State and an appropriate policy mechanism. The coordination between mechanisms, policies and competitive market rules in the development of social housing and housing for workers in industrial zones always poses challenges even in developed economies. We must simultaneously ensure the following objectives: both against re-establishing housing subsidies and against corruption in housing, and at the same time achieving efficiency in housing projects, and ensuring socio-economic sustainability in general. Housing development for industrial zone workers in Vietnam and Hung Yen province in the coming period should be promoted on the basis of good application of policies and principles and requirements above.

### **References**

Albouy, D. & Ehrlich, G. (2018). Housing productivity and the social cost of land-use restrictions. *Journal of Urban Economics*, 107: 101-120.

- Allen, J. & Farber, S. (2019). Sizing up transport poverty: A national scale accounting of low income households suffering from inaccessibility in Canada, and what to do about it. *Transport Policy* 74: 214–223.
- Bredenoord, J., & van Lindert, P. (2010). Pro-poor housing policies: Rethinking the potential of assisted self-help housing. *Habitat International*, 34(2010), 278–287.
- Cambridge Dictionary (2020): Social housing definition, retrieved from <https://dictionary.cambridge.org/vi/dictionary/english/social-housing>.
- Chau, N. Q. (2020). Prime Minister: Establishing a special working group to welcome "eagles" to Vietnam, retrieved from <https://dantri.com.vn/kinh-doanh/thu-tuong-thanh-lap-to-cong-tac-dac-biet-don-dai-bang-den-viet-nam-20200522202755145.htm>.
- Das, D. K. (2019). Exploring perspectives of the information technology industry in a South African city. *Sustainability*, 11(22), 6520.
- Do, N. H. & Nguyen, T. A (2020). Basic social services for young workers and problems in social management in industrial parks and export processing zones in Vietnam. Vietnam Youth Academy, retrieved from <http://ttxonline.vn/dich-vu-xa-hoi-co-ban-cho-thanh-nien-cong-nhan-va-nhungvan-de-dat-ra-trong-quan-ly-xa-hoi-tai-cac-khu-cong-nghiep-khu-che-xuat-o-viet-namnd92917>.
- El-Geneidy A, Levinson D, Diab E, et al. (2016) The cost of equity: Assessing transit accessibility and social disparity using total travel cost. *Transportation Research Part A: Policy and Practice* 91: 302–316.
- Glaeser, E. & Gyourko, J. (2003). The Impact of Building Restrictions on Housing Affordability. *Federal Reserve Bank of New York Economic Policy Review* 9(2): 21-39.
- Glaeser, E. , Gyourko, J. & Saks, R. (2005). Why Have Housing Prices Gone Up? *American Economic Review* 95(2): 329-333.
- Government (2013): Decree No. 188/2013/ND-CP dated November 20, 2013 of the Government on development and management of social housing. Hanoi
- Greene, M., & Rojas, E. (2008). Incremental construction: A strategy to facilitate access to housing. *Environment & Urbanization*, 20(1), 89–108.
- Harvey, D. (1989). From managerialism to entrepreneurialism: The transformation of urban governance in late capitalism. *Geografiska Annaler* 7B: 3–17.
- Hoang, Q. D. (2018). Infrastructure system planning for affordable housing for workers in Hanoi, Vietnam. *MATEC Web of Conferences* 193, 01003 (2018).
- Hoang, V. H. (2022). Developing synchronous housing infrastructure for industrial zones in Hung Yen province, current situation and solutions. Thematic report Researching and proposing solutions to improve synchronous social infrastructure to meet the requirements of sustainable development of industrial zones in Hung Yen province, Provincial Science and Technology Project.
- Hoang, X. N. & Nguyen, K. T. (2009): Housing for low-income people in big cities today, experience from Hanoi. National Political Publishing House. Hanoi. [https://www.jica.go.jp/english/our\\_work/social\\_environmental/id/asia/south-east/vietnam/c8h0vm0000anjtuy.html](https://www.jica.go.jp/english/our_work/social_environmental/id/asia/south-east/vietnam/c8h0vm0000anjtuy.html).
- Huang, Y. (2012). Low-income housing in Chinese cities: Policies and practices. *The China Quarterly* December: 941–964.

- Hung Yen Confederation of Labour (2021). Survey data on motels and the number of rented housing worker.
- Ibem, E. O., & Amole, D. (2013). Residential satisfaction in public core housing in Abeokuta, Ogun State, Nigeria. *Social indicators research*, 113(1), 563-581.
- Kolstad, J. R. (2011). How to make rural jobs more attractive to health workers. Findings from a discrete choice experiment in Tanzania. *Health economics*, 20(2), 196-211.
- Listokin, D. & Hattis, D. (2005). Building Codes and Housing. U.S. Department of Housing and Urban Development *Cityscape: A Journal of Policy Development and Research* 8(1): 21-67.
- Lucas, K. (2012). Transport and social exclusion: Where are we now? *Transport Policy* 20: 105–113.
- Luyen, P. N. (2021). Report of Union of industrial zones in Hung Yen province.
- Malpezzi, S. (1996). Housing Prices, Externalities, and Regulation in U.S. Metropolitan Areas. *Journal of Housing Research* 7(2): 209-241.
- Mangham, L. (2006). Addressing the Human Resource Crisis in Malawi's Health Sector: Employment preferences of public sector registered nurses in Malawi, ESAU Working Paper Series.
- Ministry of Natural Resources and Environment (2021): Draft national land use planning period 2021 - 2030, vision to 2050 and a 5-year land use plan (2021 - 2025).
- MOPI (Ministry of Planning and Investment Socialist Republic of Vietnam) & JICA (2016). The Study for Improvement of Living Conditions for Workers around Industrial Areas. Final summary report,
- Morrison, N. (2014). Building talented worker housing in Shenzhen, China, to sustain place competitiveness. *Urban Studies*, 51(8), 1539-1558.
- MPI (Ministry of Planning and Investment) & World Bank (2018): Draft Strategy and Strategic Orientation for FDI attraction 2018 - 2030.
- National Assembly of Vietnam (2014): Housing law No. 65/2014/ QH13. Hanoi
- Ngo, L.M. (2018): Social housing for workers - A new housing model for Ho Chi Minh City, Vietnam, IOP Conf. Ser.: Earth Environ. Sci. 143 012060, retrieved from <https://iopscience.iop.org/article/10.1088/1755-1315/143/1/012060/pdf> (2018).
- Nguyen, B. L. (2021). What does Vietnam need to do to continue to lead the race for FDI? retrieved from <https://doanhnhansaigon.vn/kinh-doanh/viet-nam-can-lam-gi-de-tiep-tuc-dan-dau-cuoc-dua-gianh-fdi-1108038.html>.
- Nguyen, D. C. (2020): Migrant workers and the system of social problems posed in industrial zones in Vietnam, Vietnam Academy of Social Sciences, retrieved from <http://trithucxanh.vn/lao-dong-di-cu-va-he-van-de-xa-hoi-dat-ra-tai-cac-khu-cong-nghiep-o-viet-nam-nd92940.html>/10:11
- Nguyen, T. L. (2022). Synchronously develop social infrastructure of Vietnam's industrial zones in the context of promoting industrialization and modernization and attracting high-quality FDI inflows. Thematic report Researching and proposing solutions to complete synchronous social infrastructure to meet the requirements of sustainable development of industrial zones in Hung Yen province, Provincial Science and Technology Project.

- Rollins, D., Sasser, A., Tannenwald, R., & Zhao, B. (2006). The lack of affordable housing in New England: how big a problem?: why is it growing?: what are we doing about it? (No. 06-1). Federal Reserve Bank of Boston.
- Severen, C. & Plantinga, A. J. (2018). Land-use regulations, property values, and rents: Decomposing the effects of the California Coastal Act. *Journal of Urban Economics*, 107: 65-78.
- Suryasa, W. (2019). Historical Religion Dynamics: Phenomenon in Bali Island. *Journal of Advanced Research in Dynamical and Control Systems*, 11(6), 1679-1685.
- Suryasa, W., Sudipa, I. N., Puspani, I. A. M., & Netra, I. (2019). Towards a Change of Emotion in Translation of Kṛṣṇa Text. *Journal of Advanced Research in Dynamical and Control Systems*, 11(2), 1221-1231.
- Sutherland, D. (2020). Modernising state-level regulation and policies to boost mobility in the United States. OECD Economics Department Working Papers 1628, OECD Publishing.
- Ta, Q. H. & Pham, D. T. (2021). Social Housing for Workers in Industrial Zones in Vietnam - Concepts and Practical Solutions towards Sustainable Development. The Case Studies of Hanoi City. *Journal of Sustainable Construction Engineering and Technology*, 12(1): 240-258.
- The Central Committee of the Communist Party of Vietnam (2012): Resolution 15 of the 11th Central Executive Committee meeting on June 1, 2012 on some social policy issues for the period 2012-2020. Hanoi.
- The Central Committee of the Communist Party of Vietnam (2016): Directive No. 52-CT/TW dated January 9, 2016 on strengthening the leadership of the Party in improving the spiritual life of workers in industrial parks and export processing zones. Hanoi.
- Vietnam General Confederation of Labour (2014). Taking care of the children of workers in kindergartens and kindergartens in industrial zones - current situation and solutions. Science Topic of Vietnam General Confederation of Labour.
- Vietnam General Confederation of Labour and Action Aid organization (2013). The current situation of living standards of female migrant workers in industrial parks and export processing zones. International cooperation research project, retrieved from <http://hanoimoi.com.vn/tin-tuc/Xa-hoi/641818/thuc-trang-muc-song-cua-lao-dong-nu-nhap-cu-tai-cac-kcn-khu-che-xuat>.
- Vu, Q. N (2021). Database on industrial zone planning, operation status of industrial zones, investment projects in industrial zones, Investment Management Department - Management Board of industrial zones in Hung Yen province in August 2021.
- Vujcic, M., Zurn, P., Diallo, K., Adams, O. & Poz, MD (2004). The role of wages in the migration of health care professionals from developing countries. *Human resources for Health* 2.
- Wasmer, E. & Zenou, Y. (2002). Does city structure affect job search and welfare? *J. Urban Econ.* 51,515-541.