

URBANIZATION PROCESS AND URBAN NETWORK OF THAI BINH PROVINCE, VIETNAM

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ABSTRACT

Urbanization is inevitable in the process of socio-economic development taking place in all countries around the world, including Vietnam. Depending on the development characteristics of each country, the urbanization process will be different, and urbanization is a positive trend that creates new momentum for each country. This article studies the urbanization process and urban network through the reality of Thai Binh province, Vietnam. The main methods used in the research process are: Synthesis and analysis methods; Field methods; Expert methods and forecasting methods. The main content of the article focuses on: (1). Approach theoretical issues about the urbanization process and urban networks; (2). Assessing the current situation of the urbanization process and urban network in Thai Binh province, Vietnam; (3). Proposing some solutions for sustainable urban development in Thai Binh province, Vietnam.

Keywords: *Urban; Progress; Urbanization; Urban network; Thai Binh Province.*

1. INTRODUCTION

Thai Binh Province is entering an important stage of urbanization corresponding to the process of modern economic development. The province's urban system has been invested in and developed both in terms of quantity and quality. Some new urban areas have been formed and developed; many old urban areas have been renovated and upgraded infrastructure to meet the new development needs of the country. Urban areas play both the role of economic, political and cultural centers and the driving force for the development of the province. However, Thai Binh is facing many problems related to urban areas and urban development, such as Unsynchronized planning, Infrastructure quality not keeping pace with development speed, The increasing unemployment problem putting pressure on the quality of life of urban residents, Urbanization takes place unevenly and uncontrolled, causing negative impacts. The study of the urbanization process and the current status of the urban network in Thai Binh province, thereby proposing appropriate urban development solutions, towards sustainable urban development is very necessary. Currently, Thai Binh province is in the top 10 provinces with the largest population in the country. With a tradition of agriculture, Thai Binh indigenes often live in rural communities. However, with the development trend of the economy, urbanization is an inevitable process that will take place, and therefore the problems of urban development, residents and the environment still need to be solved today and in the coming time.

2. RESEARCH METHODS

In this article, we approached the following research perspectives: Territorial perspective, System perspective, Historical perspective, Sustainable development perspective. The study of urban and urbanization works; analyzes and synthesizes theoretical issues to build the research theoretical framework.

The research methods used include: Synthesis method, Document analysis method, Field method, Expert method, Forecasting method. The methods are used to verify the statements, documents, and the reliability through the forms, field surveys in the research locality.

3. RESEARCH OUTCOME

3.1. General problems about urban, urbanization process and urban network

Urban development is an inevitable trend for all countries worldwide in the era of advancement in science and technology. Urban recognition is a necessary endeavor to accurately assess the current state of development and to build future development orientations. Each country has its own criteria for defining urban areas. However, a generalization of the concept of urbanization across countries globally reveals criteria and methods that can be categorized into the following groups: based on administrative criteria; based on population size or density; based on economic characteristics; based on the availability of urban infrastructure.

According to the Vietnam Encyclopedia: “An urban area or urban district is a region with an increased density of human-built architectural structures compared to surrounding areas. Urban areas can be cities, towns, densely populated centers, but this term usually does not extend to rural settlements such as villages, communes.”

“Urban areas are densely populated areas primarily engaged in non-agricultural economic activities; they are centers of political, administrative, economic, cultural, or specialized activities; they play a role in promoting the socio-economic development of a country or territory, a region, or a locality; including the inner city, suburbs of cities, urban areas, suburbs of towns, townships.” [1]

According to research by many scientists around the world and in Vietnam, urbanization is an inevitable global trend. Urbanization is not only the development of an urban area in terms of size and population, but is also associated with changes in the socio-economic and natural environment of an urban system. In other words, urbanization is the process of expanding and developing the urban network and popularizing the urban lifestyle, gathering the population in the territory. The urbanization process is associated with the development of productive forces, social relations and is promoted by the scientific and technical revolution; is the process of transforming the structure of production, occupation, social activities, and architectural and construction planning space from rural to urban form. The level of urbanization is the percentage of the urban population over the entire regional population, depending on different levels, such as the urbanization rate of the entire country, the entire region, the entire province or of a city or a town..., usually evaluated at a certain time. Urbanization speed is an index showing the increase or decrease in a period compared to the previous one. Urban development is the comprehensive expansion of economics, culture, society, space as well as the urban living environment; Development content includes material and non-material development. Urban development differs from urbanization in that urban development only considers individual urban areas, while urbanization considers the entire urban network [5][6].

Urban network is a collection of urban areas within a territorial space or a region with boundaries defined by the relationships among these. Urban networks or systems usually contain large, major cities acting as dynamic centers, medium-sized and small cities having relatively dependent relationships with central cities. Functionally, the network consists of urban areas with different prominent functions such as administrative, industrial, port, transportation hubs, service, tourism, or comprehensive and specialized sectors. [1][6]

Regarding urban classification in Vietnam: To facilitate planning and investment management, the urban system in Vietnam is currently classified into 6 types based on 5 criteria: (1) Location, function, structure, level of socio-economic development; (2) Population scale; (3) Population density; (4) Non-agricultural labor ratio; (5) Level of infrastructure development and architectural landscape. [2]

3.2. Current status of the urbanization process and urban network in Thai Binh province, Vietnam

Thai Binh is a coastal province located in the southern part of the Red River Delta region, with geographical coordinates ranging from 20°18' North to 20°44' North and 106°06' East to 106°39' East. Thai Binh borders 5 provinces: Hai Duong to the north, Hung Yen to the northwest, Hai Phong to the northeast, Ha Nam to the west, Nam Dinh to the west and southwest, and the East Sea to the east.

In 1945, the entire province consisted of 12 districts and 1 town with 829 communes and hamlets. By 1954, Thai Binh province had 13 administrative units, including Thai Binh town and 12 districts: Dong Quan, Duyen Ha, Hung Nhan, Kien Xuong, Phu Duc, Quynh Coi, Thai Ninh, Thu Tri, Thuy Anh, Tien Hai, Tien Hung, and Vu Tien.

Throughout its history, Thai Binh's administrative divisions have undergone various changes. In 1969, Dong Quan and Tien Hung districts merged to form Dong Hung district; Hung Nhan, Duyen Ha districts, and 5 communes from Tien Hung district merged to form Hung Ha district; Quynh Coi and Phu Duc districts merged to form Quynh Phu district; Thai Ninh and Thuy Anh districts merged to form Thai Thuy district; Vu Tien and Thu Tri districts merged to form Vu Thu district. In 2004, Thai Binh town met the conditions and was recognized as Thai Binh city. [7]

As of 2022, the administrative units of the province include 1 provincial city (Thai Binh city), 7 districts, 9 towns, 10 wards, and 241 communes.

Thai Binh is a province with favorable conditions for urban development and urbanization. This is evidenced by the expanding urban network, increasing urban population ratio, and improving quality of urban life. In recent years, with rapid and robust development of technical infrastructure, economy, and maintaining social security, Thai Binh has steadily ensured rapid, efficient, and sustainable development, enhancing the ability to support and link urban areas within the province.

The total population of Thai Binh province in 2022 is 1,878.54 thousand people, with an urban population of 220.90 thousand people. The urban population and urbanization rate tend to increase.

Year	Total population (Thousand people)	Urban population (Thousand people)
2006	1781,0	135,2
2010	1786,0	178,6
2012	1787,4	178,7
2014	1788,8	179,0
2016	1789,9	187,9
2022	1.878,54	220,90

Table 1. Population size, urban population of Thai Binh province period 2006 – 2022

Source: [10]

The urban population tends to increase in line with population growth and the socio-economic development of the province. From 2006 to 2022, the urban population increased from 135.2 thousand people to 220.90 thousand people, a 1.63-fold increase.

Although the scale of the urban population and the urbanization rate of Thai Binh province are gradually increasing, they remain slow due to Thai Binh's status as an agricultural province transitioning into industrialization, with a low ratio of non-agricultural labor. Compared to the national average, the urbanization process in Thai Binh is slower. In 2022, it accounted for only about 12%, much lower than the national average of 40%.

Regarding the urban network of Thai Binh province: in recent years, urban development in Thai Binh province has undergone significant changes, affirming the role and position of urban areas as drivers and pioneers of socio-economic development. According to the Thai Binh Department of Construction, there are currently 12 urban areas within the province, integrated into the national urban network, including 01 urban area meeting Grade II standards; 01 urban area meeting Grade IV standards, and 10 urban areas meeting Grade V standards; 100% of urban areas have comprehensive urban planning.

Grade II urban area: Thai Binh City consists of 19 administrative units, including 10 inner-city wards and 9 suburban communes, namely:

Inner-city wards: Le Hong Phong, Bo Xuyen, De Tham, Ky Ba, Quang Trung, Phu Khanh, Tien Phong, Tran Lam, Hoang Dieu, Tran Hung Dao.

Suburban communes: Dong Hoa, Vu Chinh, Vu Phuc, Phu Xuan, Tan Binh, Vu Dong, Vu Lac, Dong Tho, Dong My.

Thai Binh City has an urban population of over 100,000 people, with an urban land area of 19.71km², and the highest urban population density in the province at 5892 people/km².

Throughout its history of formation and urban development, Thai Binh City is currently experiencing rapid and robust development in many aspects and sectors. Specifically, along with the affirmation of the development of industries, handicrafts, agriculture, and services-commerce in recent years, they are also rapidly developing. Furthermore, in recent years, the city has been investing in social infrastructure development as well as urban technical infrastructure, focusing on investing in constructing, developing, and improving urban transportation infrastructure, developing the urban road network; investing in urban infrastructure, renovating the urban landscape, etc.

Thai Binh City is the provincial capital of Thai Binh province, serving as the political, economic, cultural, scientific, and technological center of the province; an industrial-service-tourism urban area, a leading economic engine, and a key urban center in the province's urban system. It also serves as a trading hub in the economic-technical-urban corridors of Thai Binh province, the capital region of Hanoi, the Red River Delta, and the Northern Coastal Economic Zone.

Grade IV urban area: Diem Dien town has been planned and adjusted to urban standards, officially recognized as a Grade IV urban area in 2014.

Grade V urban areas: Including Quynh Coi and An Bai towns (Quynh Phu district); Hung Ha and Hung Nhan towns (Hung Ha district); Dong Hung town (Dong Hung district); Diem Dien town (Thai Thuy district); Tien Hai town (Tien Hai district); Thanh Ne town (Kien Xuong district); Vu Thu town (Vu Thu district).

The current process of developing the urban network and urbanization in Thai Binh province still faces many issues that need to be addressed. Urban planning, urban development management, and environmental issues, and inconsistent infrastructure among urban areas are still existing problems in the current urban system. Therefore, more specific measures are needed for the planning and development of Thai Binh's urban areas to minimize these constraints and create a modern, civilized Thai Binh urban area.

In addition, the urban population density reflects the concentration of population in urban areas. Thai Binh is a province with a relatively high urban population density, averaging 2000 people/km². There are many urban areas with high population concentrations such as Thai Binh City (5896 people/km²), Kien Xuong district (1345 people/km²), Thai Thuy district (1236 people/km²), all at levels >1200 people/km²... This indicates significant population pressure in urban areas of the province.

In terms of urban construction and management, technical infrastructure systems, and social infrastructure are being fundamentally invested to meet urban criteria. Urban transportation infrastructure is comprehensively and smoothly invested. Broadband internet infrastructure covers over 80% of households in urban areas, with widespread access to 4G, 5G mobile networks, and smartphones; the proportion of adult urban residents with electronic payment accounts exceeds 50%. A modern infrastructure system ensures sufficient electricity supply for production and living needs. 100% of urban solid waste is collected and treated; 100% of urban residents are supplied with clean water.

3.3. Development orientation and proposed solutions for sustainable urban development in Thai Binh province, Vietnam.

3.3.1. Development orientation

a. General orientation

By 2030, Thai Binh aims to become a relatively developed locality and one of the leading industrial development centers in the Red River Delta region. It envisions having a modern economic structure driven primarily by industry to achieve rapid, comprehensive, and sustainable development. Investments will be made in synchronized and modern technical infrastructure, social infrastructure, and urban areas. Science, technology, innovation, and the knowledge economy will play pivotal roles in enhancing the quality of growth, while there will be a strong emphasis on developing high-quality human resources. By 2030, the urbanization rate of the entire province is targeted to reach 35% or higher, with Thai Binh's urban system comprising 25 urban areas, including one Grade I urban area (Thai Binh City), one Grade III urban area, five Grade IV urban areas, and eighteen Grade V urban areas. The expansion and development focus of Thai Binh City will be towards the East and Northeast. The total natural area of the entire urban area will be 131.87 km², with a projected total urban population of approximately 566,479 people by 2030, including around 496,000 urban residents. [9]

The development orientation for urban areas by 2030, towards 2050 in the province includes [8][9]:

Key spatial development orientations: Northeast, Northwest, East, and Southeast. Priority will be given to the development of the Northeast and Northwest directions. Urban development will follow a model of two nuclei on both sides of the Tra Ly River, ensuring polarity and multi-functionality. Existing urban land south of the Tra Ly River and urban development land north of the Tra Ly River will be combined with beltways, transportation axes (national highways, provincial roads, and some new main urban thoroughfares). Connecting the two development poles will expand space and develop urban areas in a direction that leverages the Tra Ly River as the landscape axis of the center.

The city will be divided into 12 functional zones, including: The existing central urban area, serving as the administrative, economic, cultural, and commercial service center. The new urban central area, focusing on cultural and artistic activities, entertainment areas, and ecological parks. The medical center area, concentrating on developing the southern gateway area of the city. The western development area, designated for new residential areas connected with commercial and service areas, as well as human resource training, among other functions.

Efforts will be made to promote the development of new urban areas in suburban areas to create land reserves for the city's comprehensive socio-economic development. This will involve areas adjacent to major rivers and other water systems, as well as bordering areas.

Linking the economic-social activity spaces of the province will involve establishing three economic corridors: the coastal economic corridor to the East; the Northeast-Southwest economic corridor; and the Northwest economic corridor connected to Ring Road 5 of the Capital Region.

b. Specific orientation

Multi-polar urban development model:

Central polar: Develop the current urban area within the wards of De Tham, Quang Trung, Le Hong Phong, Tran Hung Dao.

Northeastern polar: Develop the area of Hoang Dieu ward, leveraging the capacity of Highway 10, which connects to Hai Phong City and the northern coastal region.

Eastern polar: Develop the area of Vu Lac commune, leveraging the capacity of the southern beltway transportation route.

Southern polar: Development in the area of Vu Chinh commune, leveraging the capacity of Route DT 454 (formerly Route 223), which is oriented towards Nam Dinh Province.

Northwestern polar: Develop the area of Phu Xuan commune, leveraging the capacity of Route DT 454. This polar faces Hung Yen City.

Urban Space: By 2023 and with a vision towards 2050, Thai Binh Province will organize into four areas [9]:

Central Economic-Social Space (Thai Binh City and its vicinity): Developing urban economic, commercial, and service activities, serving as a hub connecting services with other provinces in the Red River Delta and nationwide.

Coastal Economic-Social Space (including Tien Hai district and Thai Thuy district): Connected to coastal provinces in the Red River Delta (Quang Ninh, Hai Phong, Nam Dinh, Ninh Binh), developing economic and social activities influenced by the maritime economy of Hai Phong with a focus on transportation, logistics development, seaports, and production and import-export.

Border Economic-Social Space (including Hung Ha, Quynh Phu districts and the northern part of Dong Hung district): Affected by economic-social activities, especially industrial development, from the Capital Region; focusing on developing functionally linked areas with neighboring territories (Hung Yen Province, Ha Nam Province...); building urban-industrial chains along transportation corridors and the beltway of the Hanoi Capital Region. Attracting industrial, service, and urban activities.

Southern Economic-Social Space (mostly Kien Xuong district and the southern part of Vu Thu district): Focused on developing agricultural, service, cultural, and receiving activities, widening economic space towards Nam Dinh Province through coastal roads and other planned routes.

3.3.2. Proposed solutions for sustainable urban development in Thai Binh province

Sustainable urban development has been and is currently a global goal for cities. Along with cities worldwide, the urban system of Vietnam in general, and Thai Binh province in particular, is developing in line with the trend of sustainable urbanization. Sustainable urban development ensures and enhances the quality of human life in economic, social, and other aspects. To meet the direction of sustainable development, urban planning plays a particularly important role.

To achieve sustainable urban development, aiming towards green and smart cities, Thai Binh province needs to focus on the following solutions in the coming time:

1. Decentralization, empowerment, and improvement of the effectiveness of urban development management. Promote innovation, modernization, and establish a foundation for transitioning to a results-based urban development management model, enhancing the efficiency of urban development management, standardizing the capacity of urban development management professionals, coupled with strengthening decentralization, empowerment, emphasizing the responsibility of local authorities and the role of the community in urban development management.

2. Focus on reviewing and adjusting general urban planning to suit the actual development situation of urban areas. Organize zoning planning, detailed planning of urban functional areas, towns, and areas with development potential or investment attraction capabilities.

3. Enact regulations for management according to planning, especially the publication of construction plans for rapid and effective implementation by the people. In addition, attention should also be given to the issuance of architectural and landscape management regulations for each urban area.

4. Accelerate the implementation progress of infrastructure construction in industrial zones, industrial clusters to attract investment projects. Strengthen inspection and supervision of the implementation of urban planning construction in the province.

5. Prioritize investment with state budget funds in key technical infrastructure routes, creating the ability to attract other investment projects, promoting the socio-economic development of urban areas, and infrastructure routes with the potential for land exploitation.

6. Actively mobilize and develop reasonable plans to mobilize resources from urban residents to invest in constructing small-scale technical infrastructure in neighborhoods, residential areas; encourage organizations and individuals to invest in building houses for sale, for rent, encourage organizations and individuals to invest in building public welfare, creating revenue sources through the mechanism of using some infrastructure services.

7. Coordinate closely with businesses, infrastructure operating units (electricity supply, water supply, postal and telecommunications services, environment...) to develop efficient investment plans for urban technical infrastructure from the capital of enterprises, units.

8. Urban authorities build investment plans and select priority investment projects for synchronized implementation annually, such as urban infrastructure development projects (transportation, water supply, drainage, electricity, waste treatment, urban cemeteries...).

As a province in the coastal delta region, Thai Binh province is also affected by climate change, so the province needs to build urban areas coping with climate change based on comprehensive solutions, from urban planning (focusing on flood prevention and control for urban areas, combined with overall planning for irrigation and hydropower development in river basins...) to infrastructure and non-infrastructure solutions. From evaluating climate change scenarios, risk analysis to choosing urban development scenarios, from national, regional, provincial, urban planning to solving local issues in each urban area such as flooding, drainage, landslides.

Developing smart cities needs to focus on three pillars: smart planning, smart urban management, providing smart urban utilities based on the smart urban database platform, and applying science and technology. In addition, it is necessary to promote the assessment and supervision of green growth urban development goals, while enhancing the capacity for evaluation and supervision. Currently, all green growth programs/plans have specific assessment and supervision regulations. Close monitoring will determine the results of green growth urban development goals in each stage, thereby making effective adjustments and interventions.

Urban system development must be in line with natural conditions, current situations, and the economic and social space of the province; the urban system becomes a driving force and supports the comprehensive development of industry, services, and agriculture. Developing cities towards sustainability, green cities, with synchronized modern technical infrastructure and social infrastructure, managed according to the smart city model. The urban system in the province needs to be organized according to a multi-polar urban model consisting of central cities and small urban areas.

4. CONCLUSIONS

Thai Binh is a province in the delta region, and in recent years, the urbanization rate has increased quite rapidly but still remains at a low level compared to the whole country; the urban distance is short, the urban density is high, and the urban network is continuously expanding; mostly small and medium-sized towns; infrastructure has been and is being improved and upgraded. Urban areas in the province are distributed in the direction of: developing along major transportation axes and developing from a core urban center, which is Thai Binh city.

To achieve the goal of urban development in Thai Binh by 2030 and vision to 2050, the province needs to take more measures regarding both socio-economic development and urban economic development in the direction of rational planning, towards green and smart urban development. There, the development of Thai Binh city and its surrounding areas play a central role, being the driving force for development and gradually becoming a major urban center in the region.

5. REFERENCES

- [1]. Do Thi Minh Duc (2005), *Analysis of Vietnam's urban network and regional development issues*, Hanoi University of Education.
- [2]. Dao Ngoc Nghiem (2015), *Classification and decentralization of Vietnamese urban areas - Current status and requirements for innovation*, Vietnam Architectural Magazine.
- [3]. Fu-chen Lo and Yue-man Yeung (1997), *Emerging Cities in Asia-Pacific*, United Nations Univ.
- [4]. Hirotugu Uchida (2010), *Agglomeration index: Towards a new measure*, United Nations University (UNU).
- [5]. Michael Spence, Patricia Clarke, Annez and Robert M. Buckley (2010), *Do town chemistry and increase Head*, World Bank.
- [6]. Nguyen Xuan Phi (2023), *Do town green, pine Minh*, House export copy Main National governance the Real.
- [7]. Department of Science and technology Thai Binh province, *De scientific talent about broadcast development network net muscle department Summer floor dollar town*, Thai Binh.
- [8]. Department Next plan and Investment in Thai Binh province, *Planning ants bamboo dollar Thai Binh town arrived year 2030*, Thai Binh.
- [9]. People's Committee of Thai Binh province (2023), *Decision No. 1773/QĐ-UBND dated September 20, 2023 on approving the Urban Development Program of Thai Binh province for the period 2021-2030 with a vision to 2050*, Thai Binh.
- [10]. Website: gso.gov.vn (Year director system Vietnamese millet)