

Balance Between Jobs and Housing from Perspectives of Real Estate Development and Management and Urban Planning

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Abstract Jobs-housing balance is the balance between employment and housing. Its philosophy has a long history and development process in urban planning. The concept of jobs-housing balance generally refers to that the number of employed people is roughly equal to the number of occupants within a certain range. This kind of balance is conducive to reducing the commuting time and the change of transportation mode on the way that the employed people spend at work. The realization of jobs-housing balance not only helps to optimize the structure between residence and employment in the region but also is conducive to improving the work enthusiasm and work efficiency of the employed in the region and reducing the commuting costs of workers in the region. In addition, the legalization of jobs-housing balance also has a certain impact and effect on alleviating the traffic congestion and improving the environment of the region. In summary, the realization of jobs-housing balance has a multi-faceted impact on the development of a city, and promoting the balance between occupation and housing is conducive to promoting the development of the city. The realization of jobs-housing balance involves many areas. In this article, In this article, the development history of jobs-housing balance is sorted out from perspectives of real estate development and management and urban planning, and its development enlightenment is discussed.

Keywords Jobs-housing balance, Real estate development and management, Urban planning

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1 Conceptual orientation of jobs-housing balance

To study the balance between occupation and residence, we must first make a professional explanation of the basic concept of jobs-housing balance. Foreign scholars define the jobs-housing residence as that there are enough houses in the vicinity of all the employment concentration areas in the city to meet the living of the employees, vice versa^[1]. The jobs-housing balance can enable the employed to live closer to where they work, and their commuting time will also be shorter. Combined with the current situation in China, due to the booming development of the real estate industry in cities, the real estate prices in cities are also consistently high in successive years. High real estate prices have greatly limited the choice of low-income or middle-income workers in their place of residence. On the one hand, they also want to choose to live in areas close to the workplace. On the other hand, the limited economic situation has forced them to live in the suburbs of cities, away from their workplace, and they have to spend a lot of time every day on their way to work. This has impeded the development of jobs-housing balance and caused the separation of occupation and residence^[2]. Therefore, the

development of the real estate industry and urban planning and design should coordinate with each other in promoting the balance between occupation and residence.

2 Development history of jobs-housing balance

The concept of jobs-housing balance can be traced earliest back to the “idyllic city” theory put forward by Ebenezer Howard in 1898. Targeted at the problems of the British capitalist city at that time, he pointed out that there were differences between the production lifestyle offered by cities in the context of industrialization and the environment people want^[3]. He proposed to restrict the unrestricted expansion and blind expansion of cities and consciously transplant and control the “magnetism” of cities to attract the population and did an idyllic city plan in terms of spatial layout of cities. In Howard’s thoughts, it was also mentioned that when the economy and population development reaches a certain level, city can build a new same city in the place not far from it to carry the population and industries of the original city and alleviate a series of problems caused by the original city. Howard’s idyllic city theory can be called the germination of the

separation of occupation and residence. At that time, there were also real estate companies operating large-scale communities targeting the small and medium-sized bourgeoisie in the name of “garden city” based on Howard’s theory.

As time went to the beginning of the 20th century, the problems that had arisen in capitalist cities had not been alleviated. The vicious expansion of big cities had become a major urban problem at the time, and “dormitory town” had emerged. The proposal of dormitory town was derived from the suburban residential construction norms formulated by Paris at that time, and the intention was to evacuate the over-expanded population in the city. These dormitory towns took residence as the predominant basis in the setting of the city, and the needs of residents in their work and life still needed to go to the main city of Paris to solve. Undoubtedly, the emergence of such towns had greatly contributed to the evacuation of the urban population and alleviated certain urban traffic and social problems. But on the other hand, they had also caused a lot of inconvenience. Residents living in dormitory towns were separated from their work places, resulting in the separation between residence and employment.

After the Second World War, the Greater

London Project was hosted by Patrick Abercrombie, and the representative city is Haro which moved a part of the industry and population out of London. The land area of Haro is only 2,590 ha, and its main form is to arrange a series of residential areas in the city and connect the residential areas and the industrial areas through interconnected roads, thereby realizing the purpose of jobs-housing balance^[4].

The third-generation satellite cities that had been developed are actually independent new cities, and the representative city is Milton-Keynes, which was built in the 1960s by the United Kingdom. Its city size is much larger than that of the first and second-generation satellite cities, and the public transportation and public welfare facilities have been further improved. In the city, a variety of employment opportunities are provided to the residents, social employment is balanced, and the resident's work place and place of residence are relatively balanced.

However, with the gradual development of cities, the phenomenon of urbanization in the suburbs has become more and more serious. A large number of people move out of cities and move to suburbs, and the relationship between occupation and housing has been gradually broken. As a result, many new towns have become dormitory ones. While developing urban planning, more attention is paid to the construction of functional partitions^[5].

3 Practice of jobs-housing balance in China

3.1 Guangzhou Development Zone

Guangzhou Development Zone was established as one of the first national economic and technological development zones in 1984. It is strategically located in the heart of the Pearl River Delta, and two-hour drive can cover Hong Kong, Macau, Shenzhen, Zhuhai and other cities. The Guangzhou Development Zone implements a new management model of "four districts in one", including Guangzhou Economic and Technological Development Zone, Guangzhou High-tech Industrial Development Zone, Guangzhou Free Trade Zone and Guangzhou Export Processing Zone. In 2005, Guangzhou City has established the "Luoguang District" on the basis of the Guangzhou Development Zone. Its positioning is not only a simple industrial zone, but a "comprehensive new city" for sustainable development, with relatively complete urban functions and social functions. The transformation of the industrial zone into a comprehensive new city at this time faces the problem of balance between occupation

and residence. According to the current status of China's industrial zones, it can be found that there is a problem of imbalance in the allocation of residential land in most industrial areas. Workers in industrial zones have limited living space, small housing areas, poor living environment and low living standards.

In response to the problems, Guangzhou proposed a planning project for the development of various industrial zones. Taking the "Luogang District Planning 2020" as an example, according to the industrial land area in Luogang District, the balance between occupation and residence for the employed population, the urban population and the residential land is estimated.

3.2 Jobs-housing balance in Beijing

In Beijing's 13th Five-Year Plan, some plans were made to promote Beijing's jobs-residence balance. Specifically, by 2020, it will be difficult for the central city of Beijing to see the wholesale market. In the 13th Five-Year Plan of Beijing, it emphasizes the functional dispersal of the six districts of the city to promote the balance between occupation and residence. The relevant person in charge said that the vacated space will be mainly used for the protection of the functional services of the capital, the protection of the normal living needs of the people, and the construction of ecological leisure space.

According to the person in charge of the planning department, the six districts of Beijing City account for 8% of the total area of the city, but they carry about 60% of the population and 70% of the industries. In the next five years, the six districts of the city will disperse the four categories of general manufacturing, regional wholesale markets, some educational and medicinal institutions and some administrative institutions. Through these methods, the population, resources and environment of the six districts of the city will be coordinated.

At the same time of dispersing the functions of the six districts, the suburban new towns must also enhance their carrying capacity to achieve a balance between occupation and residence, thereby reducing the pendulum-style tidal traffic^[6].

In 2015, 150 wholesale markets in Xicheng District and Xizhihe, Chaoyang District began to be withdrawn and upgraded, and 326 general manufacturing and polluting enterprises began to be shut down. This year, Beijing will continue to intensify efforts to disperse the wholesale markets including Dahongmen. Simultaneously, some hospitals and school resources should also be dispersed.

It is reported that the vacated space will

be used for the protection of the functional services of the capital and the construction and development of political centers, cultural centers, international exchange centers and science and technology innovation centers. The spaces will also be used for the protection of the normal needs of the people such as the construction of amenities (e.g. parking spots and food markets) and ecological leisure space. A small amount of the space will be used for developing the sophisticated industry.

From the perspective of real estate practice, Beijing has proposed "principal residence", "second-hand housing", "public rental housing" and purchase restriction policy in terms of jobs-housing balance. "Principle residence" means that the households in the districts and counties where the project is located and the families working there are preferred to purchase. "Second-hand housing" means researching and formulating relevant policies to encourage residents to live nearby in the employment area, and the purchase of such second-hand housing may be tax-free. The reason for this is also to encourage everyone to change their place of residence because of change in employment. "Public rental housing" means real-time renting. The applicant family can flexibly choose the property according to factors such as the carrying capacity for rent and the distance to work. After the family moves in the public rental housing, the rentable housing can be exchanged with those of other tenants of the same type agreed by the owner. In the purchase restriction policy, Tongzhou has long insisted that the population should not exceed 2 million, strictly controlled the development of real estate, strictly balanced the occupation and residence, and avoided the "big city malaise"^[7].

3.3 Jiangning District, Nanjing

Taking Jiangning District of Nanjing as an example, Jiangning District is a suburban county of Nanjing. In December 2000, it became the new urban area of Nanjing. The development of Jiangning Economic and Technological Development Zone, Jiangning Science Park, Binjing Development Zone and Lukou Airport Development Zone in the district has promoted the rapid rise of Jiangning's economy and attracted a large number of employed people outside the district. However, the function and structure of the city itself have not been matched. This has led to problems in employment commuting, occupational and residential land occupation and traffic pressure in and out of the region^[8].

From the perspective of real estate development, although the sales volume of real estate

is large, the vacancy rate is high. Although the proportion of residents living and working in the Jiangning Development Zone is higher, it does not mean that the matching degree between occupation and residence is high. Jiangning Development Zone is the main area for the development of real estate in Jiangning, Nanjing. According to the current situation, by the end of 2007, about 270,000 non-Jiangning population had purchased houses in Jiangning District. Among them, residents of Nanjing's main city account for a large proportion mainly for the purpose of investment and leisure, and only half of them live in Jiangning District for a long time, causing a large number of houses to be idle. Although the single development model of development zone plus real estate has brought the appearance of external prosperity and development to Jiangning District, the overlap between inhabitants and employees within the district is low, which has caused a waste of resources.

Real estate developers have developed a number of high-end villas and residential areas using Jiangning's superior location, attracting a large number of residents of the main city to come to buy. Most of the residential areas are originally designed as closed single units, which cannot provide employment opportunities or form an effective connection with peripheral public services and work functions, causing the separation of the residence function of Jiangning District from other functions.

The real estate industry is important for the realization of jobs-housing balance. In an area, only the balanced development of the real estate industry can promote the realization of jobs-housing balance. On the opposite, the imbalance in the development of real estate will hinder the realization of jobs-housing balance. The balance between employment and residence can promote jobs-housing balance.

4 Measures to promote jobs-housing balance

Urban planning determines the nature and positioning of the city and affects the direction of real estate development land use. Urban planning is the blueprint for the development of a city, determining the direction of development and the nature of a city. If the nature and positioning of cities are different, the main functions of the cities are different, directly affecting the direction and structure of real estate development. The scale of urban development and the layout of land use determined by urban planning affect the total amount of real estate

development, and only when the amount of real estate development meets the development scale expected by urban planning, the market supply and demand and the occupation and residence will be balanced. The layout of urban planning and the development direction of land use are also important basis for real estate development. The layout of the city determines the boundary of the urban planning area, i.e., urban space layout, functional partitions and location of the central area. The nature of city, the size of population, the spatial growth boundary of central urban area, the development timing, etc. all need to be analyzed and forecasted. They contain a large amount of forward-looking and instructive information, which can be used for reference by developers^[9]. The determination of the nature of city's land use and the improvement of urban land use structure is also an important part of urban planning, which guides the orderly development of real estate. Urban planning also stipulates the development intensity of different plots, such as building density, floor area ratio and green rate, thereby ensuring a beautiful and harmonious urban environment and urban landscape. These are very helpful for investors to enhance their investment confidence, clarify their investment direction and make good investment decisions.

Therefore, we must continue to strengthen coordination with the real estate industry through urban planning.

First of all, we must enhance the advance awareness of planning. Advanced urban planning will not only enable the real estate development department to have certain time and thought and material preparations to develop and construct according to the plan, but also influence the investment direction and strategy of real estate development, promoting the healthy development of the real estate industry. Second, we must strengthen the awareness of the legal system of the whole people. According to the actual situation, each city should formulate local regulations such as the implementation rules of the *Urban Planning Law* and the technical specifications for urban planning management based on the *Urban Planning Law* in the premise of market economy, making the legal effect of urban planning play an important macro-restrictive role in the whole process of real estate development. Third, it is necessary to enhance the functional awareness of the planning administrative department.

In planning, the interests of developers must be fully considered, and the flexibility and adaptability of planning must be enhanced. In

the market economy, urban planning does not have the right to decide on development in the process of urban development, but only has the power of veto. Therefore, urban planning must strengthen research on the real estate economy to drive the development of real estate development and urban construction with planning as the "leading", thus putting the planning ideas into practice. In addition, China's existing urban planning system still dominates with the ultimate ideal planning approach, which is difficult to face conflicts in reality. In the future, the flexibility and adaptability of urban planning should be enhanced. In response to new situations and problems in urban construction and real estate development, it is necessary to continuously adjust and supplement the plan to gradually realize the "rolling plan".

The new planning method control detailed planning that is compatible with real estate development management is a new level of planning developed to accommodate the paid use of urban land and real estate development management based on the experience of regional management in western countries in recent years. It generally specifies control indicators (land boundaries, building properties, floor area ratio, building height, entrance and exit, etc.) to control the land use properties, development intensity and architectural form of the designated plot. In order to attract investment, investors should be endowed with freedom in site selection. At the same time, this must meet the planning requirements. The control indicators of the control detailed planning should have certain flexibility, and floor area ratio reward and other means can even be used.

5 Conclusions

Jobs-housing balance is not only a policy goal, but a representative of the trend and goal of future urban and real estate development. Constantly achieving this goal is conducive to building a more harmonious and pleasant living environment.

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agricultural activities in such areas will lead to more serious soil salinization.

4 Changes in urban river ecosystems

4.1 Pollutants and sediments

Soil erosion and bank erosion in construction sites are the main sources of sediment in urban rivers. According to relevant investigations, sediments in many rivers generally result from bank erosion. The sediment content in non-urban rivers is generally lower than that in urban rivers. The water quality of urban rivers is very poor especially in the rainstorm season every year. At that time, high concentration of sediments, heavy metal elements and various nutrients will exist in the rainstorm runoff. However, it is still uncertain whether aquatic organisms will be affected by pollutants in the rainstorm runoff, but it is known that the pollutants in river sediments have serious impacts on aquatic organisms in the river.

4.2 Changes in hydrological characteristics

The increasing peak flow of rivers in cities is mainly due to the serious impact of urbanization at the present stage. The continuous reduction of underground water resources directly has caused the river's base flow to decrease in the less rainfall season. The frequency of floods in urban areas is increasing year by year, and the frequency of floods and the amount of floods will gradually peak as time passes. In order to better control the flood peaks formed by the rainstorm runoff, the river bed can be widened or deepened by increasing the cross section.

5 Conclusions

This study summarizes the impacts of some river basin development activities on the ecological environment. It is hoped that by summarizing the impacts of some river basin development activities on the ecological environment, the problems of ecological

environment can be highly valued when developing river basins. It is worth noting that foreign countries have paid more attention to the restoration of river ecosystem. The first step in the restoration of river basin ecosystems is to clearly recognize that the ecological environment is affected by river basin development activities, such as water conservancy projects, agricultural activities and urbanization. Establishing the concept of basin ecology on this basis can better plan and protect the ecological basin, so that the composition, ecological structure and functional restoration of river corridors can be better realized on the basis of the benign cycle of the basin ecological environment.

Specific suggestions are put forward in order to achieve the restoration of river ecosystems. ① Establishing a virtuous circle of grey water, rain water and the water supply with water purification as the basis of river ecological restoration. The first level of water environment can be used as an ecological bottoming to provide water quality protection, thus establishing a virtuous cycle of gray water, rain water and the water supply in the city. Water purification includes the sewage interception, runoff control, and self-purification of water bodies. As an ecological bottoming, water purification can provide water quality protection for river ecological restoration. ② Establishing a spatial correlation coupling between habitats and water purification with biodiversity as the link of river ecological restoration. The second level of water ecology can serve as a link between the water environment and the water landscape. The river channel is an important carrier of the water ecological environment. As an important link in the process of river ecological restoration, the creation of biodiversity plays an important role in the spatial correlation coupling between habitat and water purification. ③ Establishing correlations between shoreline landscape construction and recreation activities with cultural

service as the key to river ecological restoration. The third level of water landscape is the key to the comprehensive improvement of water ecosystem services. It is necessary to comprehensively use landscape elements such as river banks, habitats, spaces and local materials to enhance aesthetic value and increase recreation opportunities.

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