Research on the planning strategies of the urban village reconstruction based on the concept of "Urban Regeneration"

Taking Haishu District of Ningbo as an example
Yonglong Mao, Ningbo Urban Planning & Design Institute, China
Mindong Ni, Ningbo Urban Planning & Design Institute, China
Yifan Shi, Ningbo Urban Planning & Design Institute, China

Abstract
The High-quality new urbanization and the construction of ecological civilization have put forward higher requirements for urban development, and solving a series of urban problems arising from such inefficient space as "urban village" has become a key move to stimulate the vitality of urban development and achieve higher quality, more efficient, more equitable and more sustainable development. Based on the concept of "Urban Regeneration", this paper proposed three planning strategies as "Intension Regeneration", "Space Regeneration" and "Mechanism Regeneration" based on the regional function, resource elements and implementation mechanism, with a view to providing effective planning strategy guidance for the reconstruction of urban village in the new period and forming a positive effect on urban development.

Keywords
Urban Regeneration, Urban village, Planning Strategy
1. Introduction

The 19th CPC National Congress proposed that the main social contradictions have been transformed into the contradiction between people's growing needs for a better life and unbalanced and inadequate development. As the concomitant product in the process of new urbanization development and urban construction evolution, “urban village” becomes the shortcoming that left behind by the rapid and extensive urban sprawl. The series of urban problems caused by "urban village" is the most typical manifestation of current main contradictions in China. "Several Opinions of the Central Committee of the Communist Party of China on the Establishment of the Land Space Planning System and the Supervision of Implementation" issued in 2019 as a programmatic document that guides land space development, proposes new requirements to conduct the intensively and efficiently high-quality development. Delineating various types of space control boundaries strengthens the bottom-line constraints, indicating that the land space development will change from incremental expansion to vitalizing stock land space, and the urban land use will change from development and construction to renewal and optimization. Against this background and development trend, the “regeneration” of inefficiency stock spaces such as “urban village” has become a key move to mitigate the imbalanced and inadequate development contradictions, for higher quality, more efficient, equitable and more sustainable development.

The high-quality urban village reconstruction is an important measure for Ningbo to implement the integrated strategy of the Yangtze River Delta and the "four major" construction goals of Zhejiang province. It promotes Ningbo to seize major development strategic opportunities, as well as improving urban functions and to optimize urban spatial pattern, which accelerates the development transformation of cities from extensional expansion to connotative improvement, thereby enhancing the quality of urban construction and promoting the integrated development of urban-rural areas. Under the guidance of the concept of "Urban Regeneration", and combining the planning practice of urban village reconstruction in Haishu District of Ningbo City, this research discusses the planning strategies of urban village reconstruction in the new period to aim at providing a reference for similar planning practices.

2. Urban regeneration connotation and Urban village reconstruction

2.1. Urban Regeneration connotation

The word "regeneration" is derived from biology, referring to "the process by which an organism self-repairs, replaces, and grows a lost or damaged tissue structure". A city as an organism, accompanying the development and transformation of economic models, lifestyles, cultural innovations and other factors, is
always facing the challenge of new birth and decline during the development process. The essence behind is a decision on how to achieve regeneration. Therefore, the term "Urban Regeneration" is derived from the biological interpretation.

"Urban Regeneration" is gentler than the conventional renewal and reconstruction. It gets rid of simply discussing about the technical treatment of space with space theory. Its real goal is not only to replace old spaces with new ones, but also to focus on the long-term goal, to properly repair the internal order of urban development from a regional perspective, and to achieve sustained prosperous development vitality through integration and regeneration. This is precisely the proposition of high-quality new urbanization development concepts.

2.2. The concept and reconstruction trend of urban village

The concept of "urban village" is defined differently from several perspectives. From the location and spatial characteristics, it is a village in the urban planning area or the urban-rural junction area, which is called "village in the city". From the social structure and demographic characteristics, the urban village area in the city is usually a mixture of citizens, villagers and a large number of floating population. It is often a gathering place for floating migrants and an important transition site for them to change into urbanites. From the land element characteristics, urban villages are often villages that have been requisitioned a lot of cropland, lost their productive farmland, and dominated by collective construction land.

The definition of an urban village varies, the reconstruction of urban villages is often characterised by the complexity of land ownership, the large number of interested parties affected and large changes in policy. This is the reason why urban village transformation has been recognised as an arduous and complex systemic project. After decades of exploration, combined with the requirements of national policies, local practical experience and the appeal for people's livelihood, urban village reconstruction in China is gradually getting rid of the previous idealism of quick success, instant benefits, and the focus of reconstruction has been shifted from the transformation of physical space to the achievement of comprehensive goals. The government's participation method has changed from leading reconstruction to guiding support and multi-party cooperation. The implementing idea of reconstruction has also shifted from pursuing the improvement of economic benefits to the sustainable development. In the current situation of major social contradictions, the urban village reconstruction needs to achieve the overall continuous improvement of regional value with concept of "Urban Regeneration", which is more grounded, gentler and more sustainable.
3. General situation of urban village reconstruction in Haishu District

3.1. New round of urban village reconstruction scope in Haishu District

The new round of urban village reconstruction plan in Haishu District is 147.7 square kilometers within the circle thruway, involving a total of 89 villages (communities), of which 22 villages (communities) have been completed in the first two rounds of reconstruction, so the remaining 67 villages (communities) are the main reconstruction object, as shown in the Figure 1.

![Planning scope schematic diagram](image)

Figure 1 Planning scope schematic diagram. Source: Author.

3.2. The realistic dilemmas of Urban village reconstruction in Haishu district

3.2.1 The dilemma of urban construction benefit

Haishu District has visible advantages in terms of location, infrastructure, ecological resources and so on, but the analysis of land value indicates that the benefits of urban construction have not been effectively reflected. Taking rail transit construction as an example, the subway has only driven the development of areas near the stations, but the overall development intensity is low in the core influence area of the station. Moreover, there are still a large number of villages, cropland and industrial land, which is against to TOD's development concept (See Figure 2). Meanwhile, the surrounding areas of the station is lack of a long-term plan for the functional orientation and development positioning, which has led to disjointed the land development, the timing of the reconstruction and the construction of major infrastructure. Therefore, the opportunity to maximize the benefits of land appreciation has been missed, and the virtuous cycle of urban construction investment and social economic benefits has not been achieved.
3.2.2. The dilemma of overall management

In the past two rounds of urban village reconstruction in Haishu District, more attention was paid to the promotion and implementation of land parcel. Land acquisition, demolition and resettlement compensation were completed, and achievements were made in the total amount of reconstruction. Whilst the regional value cannot be promoted due to the lack of systematic consideration for regional development. The lack of overall management of land factors resulted in inability to use transformed land in intensive and efficient way. The lack of overall management of reconstruction projects led to disorderly and unclear propulsion, and insufficient integration with major urban infrastructure and major projects. The dilemma of overall management led to the effectiveness of the reconstruction not converting into a sustainable force for urban development to the greatest extent. (See Figure 3).

3.2.3. The dilemma of supporting policy

All parts in urban village reconstruction are inseparable from policy support. A sound policy system is a
significant guarantee to ensure the smooth progress of urban village reconstruction. At present, the supporting policies for the planning, land resource, funds, and management of urban village reconstruction are not perfected. There is a lack of effective long-term planning, and the reconstruction plan has not been effectively integrated into the current planning system at all levels, making it difficult to implement the reconstruction smoothly. Affected by the limited borrowing on government financing platforms and the tightening of local government implicit debt management and other policy backgrounds, the traditional financing model is unsustainable. Funds is a shortfall in terms of capital needs for the new round of urban village reconstruction in Haishu District, simply through government debt issuance and financial contributions.

4. Urban village reconstruction planning strategies of Haishu District, Ningbo under the concept of Urban Regeneration

In view of the three dilemmas in the reconstruction of urban villages in Haishu District, this research relying on the concept of "Urban Regeneration" and from the three dimensions of regional function, element resources and implementation mechanism. It proposes three planning strategies as "Intension Regeneration", "Space Regeneration", and "Mechanism Regeneration" , in order to further tap the potential value of urban villages, activate the driving force of urban villages, and enhance the sustainability of urban village reconstruction. (See Figure 4)

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Figure 4 Schematic diagram of urban village reconstruction planning strategies under the concept of "Urban
4.1. Intension Regeneration Strategy: focus on the core functions to promote the synchronization of reconstruction and development strategies

In the context of tight resource constraints, urban village reconstruction is an important response to the urban development trend of stock optimization and tapping potential value of the inefficient land. In order to repair the previous urban-rural separation and confrontation, and to solve urban problems such as space fragmentation, land inefficiency, and resource encroachment, the promotion of urban village reconstruction should proceed from the urban development strategy and regional core function, combining various dimensions such as development potential, economic benefits, the construction time sequence as overall consideration, focusing on manpower, material and financial resources to solve the development constraints of key areas and important nodes, and integrating into regional development.

Based on the strategic spatial structure of “One Belt, Two Centers and Three Axis” built by Haishu District, combined with the strategic region of the new development strategy, five major functional plates are sorted from the current round of urban village reconstruction, which respectively are the Yaojiang New City Plate, the Air Rail Transport Hub Plate, the West Bank Of Fenghua River Plate, the Jishigang Satellite City Plate, and Wangchun Industrial Park Plate. On the basis of the five functional plates, the seven reconstruction units are comprehensively delineated based on the perfect functional structure as orientation and the actual transformation conditions as foundation. The reconstruction unit is a relatively complete region used as a platform for the coordination of comprehensive benefits and the coordination of land and capital elements to promote the reconstruction of urban villages, to ensure that urban village reconstruction and urban development strategies are synchronized. (See Figure 5).
4.2. Space Regeneration Strategy: Coordinate and integrate resources to ensure the implementation of elements for urban village reconstruction

4.2.1. Define the scope of reconstruction with overall perspective

In order to solve the previous issues of insufficient focus and low efficiency of land use, the new round of urban village reconstruction in Haishu District takes a regional perspective and comprehensively considered factors such as the current land use situation, major infrastructure layout, historical and cultural protection, major construction projects, etc. Meanwhile, quantitative assessments of the building quality and analysis of land economy will be given to define the reconstruction scope, combined with the requirements of different reconstruction models and the demands of each urban villages. Based on the defined scope, the merits and demerits of the reconstruction will be further sorted out, and the key points of reconstruction, regional development mode, planning positioning and core functions will be clarified. Through the integration of element resources and the optimization of land use layout, targeted planning guidance and control measures will be formed for each unit to promote the overall reconstruction. (See Figure 6)
4.2.2. Prioritize the implementation of "3-Public-Spaces" and guaranteed land

For the space vacated by the current round of urban village renovation, priority is given to "3-Public-Spaces" such as public service facilities, public utilities, public open space, and the guaranteed land such as resettlement land and reserved development land. On the basis of satisfying the relevant subject plans, public service facilities and public utilities are recalculated according to the new construction intensity, to ensure that the new needs for the service capacity of related facilities after the reconstruction are met and the layout and indicators of specific land use are implemented. The space on both sides of Yao River, Fenghua River, Xitang River, Zhongtang River, and Nantang River will be reserved and controlled with the transformation, to ensure the continuity of the main public open corridors, and to promote the formation of a livable and moderate living space. On the basis of satisfying resettlement needs and reasonable interests, the guaranteed land for urban villages to transform the livelihood and welfare of villagers shall be given priority in the implementation of land use plan and construction plans. (See Figure 7)
4.2.3. Advance the reconstruction orderly with clear focus

The new round of urban village reconstruction in Haishu District is based on the urban development structure and space control requirements determined by the master planning, zoning planning and other superior planning. The reconstruction emphases are closely aligned with the development strategies of the significant areas such as “the spatial planning of the Airport Economic Demonstration Zone” and “the development strategy of The Yao River New City”. Seizing the opportunity of the construction of major projects, such as the Lishe Airport Phase IV and West Railway Station, the timing of the reconstruction is closely integrated with the urban infrastructure construction plan. Furthermore, comprehensively considering the sustainability of the funds, the 3rd round of major reconstruction areas is delineated as the focus promotion boundary in the next 5-10 years. (See Figure 8)
4.3. Mechanism Regeneration Strategy: Integrate into the planning system to ensure the implementation of the reconstruction plan

4.3.1. Closely connect with the territory planning
The subject plan of urban village reconstruction in Haishu District has laid a solid data foundation for the current status of the territory planning of Haishu District. At the same time, the "1+N" subject plan grading system of urban village ("1" for “One district One overall planning”, "N" for one village one implement planning) closely connects with the requirements of the district territory planning. Among them, the "One District One Overall Planning" is the overall layout of promoting the urban village reconstruction in Haishu District. The functional layout and reconstruction scale determined by the overall planning will serve as strong supports for the classification of land development, the control indicators of land use, and the allocation of land elements in the district territory planning. The "One Village One Implement Planning" is an execute solution that effectively guides the implementation of urban villages reconstruction, and will correspond to the level of regulatory planning of the territory planning. The space land plan made according to the different transformation directions of each village is an important basis for land use control and urban space governance.

4.3.2. Compile reconstruction schemes for demolition villages to match up with land reservation
In the past, the transformation of urban villages only focused on the issue of land expropriation. The lack of consideration for subsequent links such as land reserve and supply was one of the main reasons for the problem of unsustainable progress such as idle land and capital shortage. In 2019, Haishu District prepared the “One Village One Implement Planning” for the demolition villages before starting the reconstruction of the six villages. On the basis of mastering the basic data of the urban villages, the reconstruction schemes made the overall plan on the operability of land and funds element guarantee, the rationality of the overall renovation plan arrangement, the development direction of the plan, etc., and clarified the mature conditions for the start of the transformation. Applying the schemes as the basis to connect with the land reserve planning, ensures that the project meets the land reservation and supply conditions after the start, speeds up the operation cycle of the land elements throughout the transformation process, and promotes the efficient implementation of the second half of the reconstruction work.
4.3.3. Pre-compile optimized adjustment plans to coordinate the implementation of urban village plans

The urban village areas often lag behind the rhythm of urban development. When the reconstruction conditions are mature, the current planning is often unable to meet the current construction needs and development demands. In order to avoid the waste of land resources and to achieve the intensive and efficient use of land, Haishu District carries out an evaluation on the current planning during the preparation of the subject planning of urban village reconstruction. Based on the assessment, combined with the land use situation of the villages and the actual transformation needs, separately considering three land use scenarios such as “the implementation of the stock indicator”, “the transference of the stock indicator” and “the support of incremental indicator”, the plan proposes adjustment proposals for the planned land and make relevant economics analysis, in order to fully predict the feasibility of planning adjustment and implementation. Through pre-compiling land use adjustment plans, the new planning and guidance are carried out for urban village regional planning development, so that the urban village reconstruction is more in line with the requirements of ecological civilization construction and the territory planning, and also the comprehensive benefits of land use could be maximized under the premise of ensuring people's livelihood.

5. Conclusion

As Munford mentioned in "The City in History", "think of a city as an organic entity, and place it in an interconnected ecological balance structure or even a larger area to infuse it with life and initiative, it is simple, rapid, and pure solution to urban problems". Urban village reconstruction is an important issue that must be faced in the era of stock land development. In the new period, urban village reconstruction must adapt to the trend of quantified and quality urban construction, respond to refined and savvy urban management methods, and advocate a sustainable urban operation concept, which puts forward higher requirements and expectations for the urban village reconstruction plan. It should not only carry out rational layout and scientific planning for the transformation of the physical space, but also care about the guiding measures provided by planning strategies on issues such as the reconstruction of social relations, the redistribution of land rights and interests, and social security. Based on the review and summary of the urban villages reconstruction in Haishu District and the practical dilemmas, and combined with the concept of "Urban Regeneration", this research proposes three planning strategies of "Connotation Regeneration", "Space Regeneration" and "Mechanism Regeneration" to form an effective planning strategy guide for the transformation work on regional function, resource element, and implementation mechanism. However, in order to completely solve the problem of urban village reconstruction, it is bound to simultaneously carry out targeted research and exploration on fiscal policy,
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land policy and other directions while optimizing the planning strategy, and give a certain degree of support from a policy perspective to promote urban village reconstruction in high-quality and high-efficiency advancement, and effectively improve the scientific and operability of the urban village reconstruction work, leading to a positive effect on urban development and promote urban village reconstruction to achieve the goal of "Urban Regeneration".
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