

The urban reconstruction mode in Chinese old urban zone under the development of Two-Oriented Society

---Illustrated by the example of reconstruction practice in Hankou old waterfront commercial district in Wuhan.

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1. Background and opportunities of Wuhan as the national pilot reform area under the development of Two-Oriented Society

1.1 Development Policy

Located itself in the geographic center of China, Wuhan is an important industrial base, a scientific and educational center as well as a transportation hub of the country. In 2003, the development strategy Wuhan 1+8 City Network was proposed by Hubei provincial government. It indicates an integrated development mode that with Wuhan as the core city, nine cities supplement one another, share resources and markets, and enjoy benefits.

On December 14, 2007, approved by the National Development and Reform Commission, Wuhan 1+8 City Network was selected as the pilot reform area of Resource-saving and Environment-friendly Society (abbr. Two-Oriented Society). Resource-saving society means Using legal, economic and administrative measures to reduce resource consumption intensity and to improve resource utilization efficiency in economic, political, cultural and social aspects. It aims to generate maximum economic and social returns by using minimum resources. Environment-friendly society means based on environmental bearing capacity, through administration during the process of production and consumption, limiting human activities and reducing negative impacts on the environment.

1.2 Analysis of Two-Oriented Society

Two-Oriented Society is an urban development theory born in the specific development period of Chinese cities as well as globalization. For urban planners, it means focusing on the planning of resources. The effective and intensive use of urban space, the harmony between urban development and ecological system, sustainability and low-carbon development are the main concerns for urban planning in the perspective of developing a Two-Oriented Society and integrated physical urban spaces.

1.3 Meanings and Indications of Two-Oriented Society for urban reconstruction in historical urban areas in Wuhan

Three years after the approval, Wuhan 1+8 City Network has explored to solve conflict

between resource, environment and economic development. The reconstruction of many old urban zones of Wuhan is an important part of the development towards the Two-Oriented Society goal.

In the process of urban reconstruction and improvement, it is necessary to not only reduce energy and resource consumption and protect the environment, but also put the development of resource-saving and environment-friendly society at the foremost position of industrialization and modernization strategy. For urban reconstruction and improvement in old urban zones, it is necessary to protect cultural heritages, industrial infrastructure and streetscape, and more importantly, to realize development breakthrough, accomplish the balance between development, resource and environment, and explore an urban reconstruction mode different from traditional ones.

2. Problems and enlightenments of Chinese and foreign urban reconstruction practices

Urban reconstruction practices in the west started earlier than that of China. Their practices have enlightenments for the problems of Chinese old city reconstruction and the exploration for new reconstruction modes in the context of Two-Oriented Society development.

2.1 Enlightenment from foreign urban reconstruction practices

After the Second World War, in order to recover the cities damaged by the Great Depression of 1930s and two world wars, many western nations started their 'urban reconstruction' activities. The main contents included downtown area renovation and demolition of slums. The enlightenments of these practices are:

- (1) Many problems occurred in the early stage of urban reconstruction in western nations. Simple big scale reconstruction and slum demolition had created many unfavorable problems.
- (2) In later stages of urban reconstruction in western nations, more importance was attached to 'humanism'. Big scale demolition was replaced gradually by integrated neighborhood management and revitalization of communities.
- (3) Reconstruction in physical way only was replaced by the integrated reconstruction combining social-economic development and physical environment together, and the continuity of urban reconstruction was emphasized.
- (4) Sustainable development had become a consensus of the whole society. The 'modernism' of simple big scale reconstruction with few objects and narrow content was replaced by comprehensive development of 'sustainable human settlements' with many objects and a wide range of content.

2.2 Modes and problems of Chinese urban reconstruction

Since 1950s, massive reconstruction activities were initiated in old urban zones of Chinese cities. The renovation modes have changed along with time, economic development and policies.

2.2.1 Modes of Chinese urban reconstruction in three stages

According to development stages, the modes of urban reconstruction include: (1) physical environment restoration; (2) physical environment reconstruction and redevelopment; (3) preliminary stage of physical renovation which stresses the importance of social benefits. The characteristics, contents and implementation mechanisms of different modes are also different.

Time	Stage	Characteristics	Contents	Mechanisms
1950 ~ 1970	Physical environment restoration	It satisfied the needs of industrial production and basic living standard	Repair of low-quality residential communities of worker built in 1950-60s.	The government led the projects, provided special policies and funds.
1970 ~ 1990	Physical environment reconstruction and redevelopment	In the context of political and economic reforms, it stressed the optimization of land use structure in downtown area and the reconstruction of old city	Improvement of infrastructure and environment of historical urban areas during the process of construction in new areas,	The government led the projects. The frame of laws and regulations was available.
1990 ~ now	Preliminary stage of physical renovation which stresses the importance of social benefits	In the context of economic restructuring and reform, it stresses commercial real estate development, small scale reconstruction, optimization of land use and participation of residents in urban reconstruction.	Accelerated urban reconstruction in historical urban area because of the commercialization of houses.	Government/land using right owners and real estate developers.

Table 1: modes of Chinese urban reconstruction (Source: the authors)

The above table indicates that in different stages of urban reconstruction, though the government has been playing the leading role, after the implementation of paid land using policy, the role of real estate developers has become more and more important.

2.2.2 Problems of the Chinese urban reconstruction

When urban reconstruction gradually changed into lucrative real estate development, many problems occurred:

(1) Extensive reconstruction squanders resources. Simple reconstruction methods pose threats on urban planning. Unplanned constructions result in failure of investment and economic instability. Moreover, large scale reconstruction also brings damages to cultural heritages.

(2) The original target of reconstruction 'universal housing' was replaced by the pursuit of economic returns. The massive reconstruction mode is not sustainable;

(3) The residents have no right to refuse the reconstruction, and their chance to participate in decision-making is absent. Together with simple coordination method, many social problems occurred in the process of resettlement.

3. Developing mode and methods of urban reconstruction in the context of Two-Oriented Society development

In the context of Two-Oriented Society development, based on experiences abroad, the modes of urban reconstruction ought to meet the needs of the new era. Besides of the two targets—improvement of physical environment and balance of economic benefits, urban reconstruction should also attach importance to governmental leadership, restructuring of urban structure, efficiency of resource consumption, energy-saving and low carbon emission strategy.

3.1 Government led urban reconstruction to establish complete operation mechanism

(1) Government leadership in urban reconstruction can balance the interests of relevant parties, safeguard the right of underprivileged groups, reduce the transaction cost between various parties, and enhance the fairness and efficiency of urban reconstruction. In this way, new balance between government, market and the society will be created to promote the sustainable development of historical urban areas.

(2) Government leadership in urban reconstruction can improve the efficiency of resource deployment, break the boundaries between public and private parties, combine the government policies with market mechanism, and control the market for the benefits of the public.

(3) Government leadership in urban reconstruction can lever the positive role of the public who have been ignored, encourage the participation of residents, divert some decision-making right to the grass-root communities from the governing elite, and promote the formation of multilateral decision-making mechanism. The cooperation between the residents and the management of a community can guarantee the harmony of reconstruction process.

3.2 Implementing land replacement mechanism and reinforce sustainable regeneration of urban structure

The implementation of land replacement mechanism in urban reconstruction can boost the regeneration and restructure of functional structure of cities. The guiding effect of differential land rent can help realize the transfer of old industrial zones, accomplish the reuse of the recycled land, improve the efficiency of land use, promote the updating of regional functions, boost industry upgrading, improve the environment of old areas, obtain the balance between economic, social and environmental benefits, and realize the sustainable regeneration of urban structure.

3.3 Implementing intensive reconstruction mode to improve resource efficiency

(1) Preliminary plan is vital for intensive reconstruction

During urban reconstruction planning process, guided by the frame of master plan and zoning, detailed market investigation and prediction must be carried out, and yearly development plan and detailed construction plan must be worked out. Responsible governmental department must determine the location and quantity of reconstruction and its usages.

Investigation and research on every plot of land should be carried out before commencement of planning process. Reasonable adjustment in accordance with land using layout in city development plan is also necessary.

(2) Replace massive reconstruction with small scale incremental reconstruction

Small scale incremental renovation has higher flexibility. Prof. Wu Liangyong has discussed this in his work *Juer Hutong and the Urban Reconstruction in Beijing*. Old urban zones have very complicated social, economic, property ownership and environmental conditions, small scale reconstruction can offer the chance of solving individual problems one by one. At one hand, the solution for resettlement, protection of cultural heritages and step-by-step implementation can be guaranteed, while at the other hand, small funds are sufficient for the implementation of incremental reconstruction. Besides, small scale reconstruction can incorporate the involvement and opinion of the public.

3.4 Introducing energy saving and low-carbon strategy to realize sustainable development

Energy saving and low-carbon strategy and relevant government policies can be introduced into urban reconstruction process. China is the first developing country that has included energy saving and low carbon emission into its national development plan. According to the Ninth Five-year Plan, the yearly energy saving rate is 5%, and the emission of main pollutants must be reduced. In 2006, the Ministry of Construction issued a slew of policies in support of application of recyclable energy in construction, for example, *Some Opinions on the Application of Recyclable Energy in Construction by the Ministry of Construction and the Ministry of Finance*, and also established an office to manage and promote the application of recyclable energy in construction. Currently, 25 projects of 5 regions have started this initiative.

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The government has provided 100 million Yuan of funds. The rates of funding are: water source heat pump 35-40 Yuan/m², ground source heat pump 50 Yuan/m², sea water source 90 Yuan/m², solar power heating 30 Yuan/m² and solar power generation 90 Yuan/m².

The application of recyclable energy in urban reconstruction projects can expand the renovation fund-raising channels by applying for government subsidies. With the implementation of such projects, the successful practices and experiences can help promote the application of recyclable energy in construction.

4. Case study: renovation plan of the Hankou old waterfront commercial district

With good commercial tradition and advantageous location, the old waterfront commercial district of Hankou is a power house of modern service industry in Wuhan and even the whole Hubei Province. But the constant change and development of the market and the city has brought many restrictions and challenges to this area. To protect and rejuvenate it, protection and reconstruction of this district explores planning methods under the development of Two-Oriented Society. The following points will be considered:

4.1 Spatial structure based on Wuhan Master Plan to realize environment-friendly society

The reconstruction plan will highlight strategic industry structure reshuffling, space resource rearrangement, historical street view protection, open space establishment and the improvement of comprehensive competitiveness of the Riverside Commercial Area. In order to implement the concept of building a Two-Oriented Society, the reconstruction plan will incorporate the “low carbon emission city” concept, establish green belts, and form ecological frame and boulevards running through the construction areas of Wuhan City. These concepts will have profound significance for the overall development of Wuhan.

The reconstruction plan explores the cultural heritage and natural features of Hankou, constructs a unique commercial quarter with cultural background, and serves as a pilot project for Wuhan 1+8 City Network as Two-Oriented Society.

4.2 Restructuring of industrial structure and intensive development mode to realize resource-saving society

Appropriately reshuffle the industry structure and extend peripheral industry chain to build a resource-saving society.

The traditional industrial structure of Hankou is not suitable for the new urban space development. The renovation plan will reshuffle the industry structure in an appropriate way: keep the commercial quarters, spin off the processing industry, provide services near commercial areas, construct production center in peripheral areas, extend the industry chain

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of historical commercial area, and direct the resource-oriented extensive development to intensive eco-development, with the aim of building a resource-saving society.

To cope with the ill-ordered space development mode of the Hankou historical commercial district, the reconstruction plan will divide Hankou historical commercial district into different functional zones and give them specific themes to integrate the resources of Hankou historical commercial district. The plan will also build a goods transportation platform, build a new logistic service system, optimize the introverted development mode, and change the government forced involuntary renovation into voluntary multi-form renovation.

4.3 Link with cultural lines and use industrial heritages to improve the overall environment of Hankou old commercial district

There are many scattered ancient streets in Hankou old commercial district. The protection methods include block protection and organic revamping to improve the overall environment in an incremental way. The plan integrates traditional streets with modern metropolitan, links the cultural lines with the historical streets, encourages comprehensive use of land, and forms many theme blocks. For the industrial heritages along the river side, they will be recycled for new use. For example, the abandoned freight wharf will be converted into a tourist site. This will inherit the unique wharf culture of Wuhan.

5. Conclusion

Reconstruction of old city can accomplish the task of city planning and updating, and solve social problems related with the city. The policy of building a Two-Oriented Society poses new challenges for the original modes of urban reconstruction. The city planners must meet the new requirements and revamp the old reconstruction modes. This paper interprets the contents of Two-Oriented Society development, analyzes the problems in previous reconstruction activities, and proposes new modes of renovation, in the purpose of offering a new concept for sustainable urban reconstruction.

6. References

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