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Research on New Rural Housing Construction

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Abstract. Building a new socialist countryside is a strategic measure to build a socialist harmonious society and a historical task in the process of China's modernization. At the same time, the industrialized residential industry will be an industrial project with strong system, outstanding personality, large investment scale and excellent comprehensive benefits. Here, the new countryside will be combined with the industrialization of buildings to explore the development path of new rural construction.

1. Background

1.1. Problems in China's New Rural Housing Construction

The expansion of the urban-rural gap has led to more and more young people work in cities to make a living and gradually move to cities; The decline of the countryside makes it unable to meet the needs of modern life, and villagers with certain economic strength and labor capacity gradually move out; The construction of the new village hollowed out the old village.

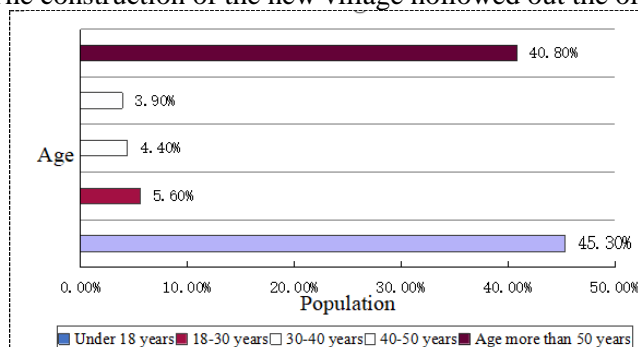


Figure 1. Age distribution of rural left-behind population (Source: According to Jin Youfang's "Research on Community Construction in the Background of Rural Hollowization")

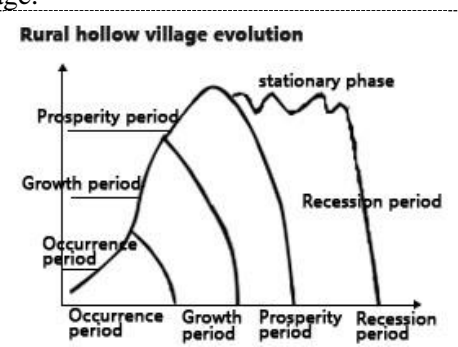


Figure 2. Rural hollowing out evolution map (Source According to the rural hollowing Baidu Encyclopedia)

At the same time, the urban architectural style was completely westernized; the blind copying of urban rural houses seriously lost the unique regional characteristics of the rural areas. Without cultural inheritance, rural culture will gradually be lost in the long run. In addition to urban and rural areas, China has a large number of urban and rural integration. With the transformation of the economic

development center, it is easy to become a “village in the city” and bring many incalculable social problems.

1.2. Foreign new rural construction experience

Developed countries such as Japan and South Korea have also encountered these problems in China. In the 1970s, the gap between Korean urban industry and rural areas was very large, and rural areas could not escape poverty. After the Second World War, the Japanese economy was hit by an unprecedented impact, so the focus shifted to urban reconstruction, its core strategy: not to engage in re-investment and large-scale investment in engineering construction, but "seeking the roots of culture from where it grows." Main results: a win-win situation between regional culture and rural economy. In addition, countries such as the United States and Germany have also carried out a new rural movement.

In many countries, the early planning and construction of rural communities has been basically completed, and rural public facilities are relatively completed. Not only has the gap between urban and rural life narrowed, but it has also promoted the development of local rural tourism and greatly improved production, living and ecosystems in rural areas. This is also the only way for other countries to promote the development of industrialization.

Table 1. Foreign new rural construction experience

Foreign Research and Practice	Related Main Content
American Rural Environmental Planning	Balance between economy and environment; Multi-participation; ased on the needs of the people; Study the creation of rural characteristics and local consciousness, township planning; Encourage rural communities to become self-reliant and reduce dependence on the external economy; Differentiating local characteristics, cultural connotation and industrial structure have formulated corresponding development strategies .
Germany's "Country Update"	Conducting a rural landscape and design competition; Combining rural tourism with tourism, cultural construction, and ecological civilization .
South Korea's "New Village Movement"	Protecting traditional rural styles and values; Promoting the development of rural tourism and ecotourism .
Japan's "Mingmachi Movement" and "One Village One Product"	Improve rural appearance and environmental sanitation; Revitalizing the industry and improving the economic income of the villagers; Protection and inheritance of traditional culture and style; Cultivate regional landmark products or projects; Carrying out characteristic ecotourism .

2. Architectural culture

Our ancestors lived in the countryside and our culture originated in the countryside. Traditional rural houses have a traditional life history. Architecture is an important carrier of culture.

Take the current Longjing Changcai Village as an example. Changcai Village was rebuilt from 1975 to 1979 after the unified planning and design of the brigade at that time. Before the renovation, the village occupied an area of about 6 hectares. The old houses were old-fashioned adobe houses. The straw was used as the roof. After decades of wind and snow, it has suffered serious natural damage. After the renovation, the layout of the entire village is neat, bright and organized. From the perspective of the residential construction model, the overall feeling of the village is very strong. The whole village is about 270 meters wide and has 7 east-west lanes. The road surface is 4 meters wide and the drainage ditch on both sides of the road is 6 meters wide. There are 4 houses in each house for two villagers to live in. Each house has 4 meters wide on both sides of the house for his use.

The basic principles of the protection and renewal of Changcai Village during the reconstruction are: the basic principles of complementarity, the principle of priority protection of cultural heritage in waste, the unique principle of national protection, the principle of locality and simplicity, and the principle of overall renewal.



Figure 3. Before the renovation (Source: Protection and Renewal of Korean traditional villages in folk tourism development Taking Longcai Village, Longjing City as an Example)



Figure 4. After the renovation (Source: Protection and Renewal of Korean Traditional Villages in Folk Tourism Development - , taking Longcai Village, Longjing City as an example)

The differences in regional ethnic groups have led to huge differences in regional tourism resources. The principle of uniqueness requires that in the process of developing a new rural construction, it is necessary to fully protect unique tourism resources with regional or ethnic characteristics. The principle of uniqueness emphasizes the emphasis on national characteristics and folk culture, including Korean folk customs, cultural tastes, and folk customs. Folk culture Tourism culture is the soul of tourism. The traditional Korean village is a country, simple and natural. The Korean folklore tourism resources in Changcai Village are diverse and colorful, and they are also part of the regional tourism route of the Yanbian Korean Autonomous Prefecture. The development and utilization of Changcai villagers' tourism resources should be included in the Yanbian Korean Autonomous Prefecture Tourism Development System Project. From the perspective of regional tourism, we will make overall arrangements and comprehensive planning to form a unified regional tourism route and promote the overall development of the Yanbian Korean Autonomous Prefecture. Efforts will be made to promote industrialization, increase agricultural input, develop characteristic agriculture, promote agricultural modernization, intensively adopt and scale the road, continuously promote the pace of new rural construction, promote industrial development, and develop "civil" tourism.

The advantage of the Korean folk house is that it is built with natural materials such as stone, wood and loess. It is a combination of man and nature. It is also artistic, and its beautiful lines and shapes are highly praised by the world. However, with the changes of the times, the traditional houses with Koreans are gradually disappearing, which means the disappearance of the Korean dwelling culture. Through the discovery, protection and inheritance of the precious cultural heritage of the Korean people, we shoulder the mission. At the regional cultural level, materials are selected based on local conditions, preferably materials with high availability, such as soil, wood and ceramic tiles. These regional materials are well adapted to the local climate and the living habits of the residents. In the architectural space, northern residents enjoy plenty of light in the large courtyards of the north; southern residents use small yards in the south to regulate the microclimate.

3. Construction products

The main application materials for residential buildings are wood, stone and soil, while beam and bucket are the two main structural forms of wood. Modern building materials such as concrete and steel have advantages such as low cost, short construction time and high material availability compared to logs and materials. Because of its various characteristics, it has become China's main building structure system.

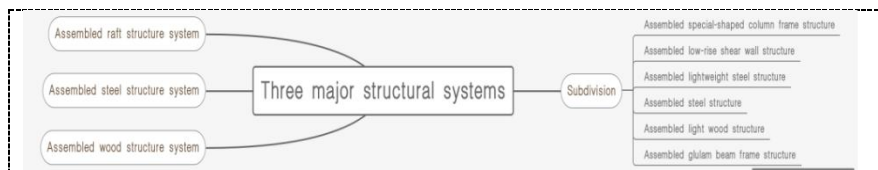


Figure 5. Three major structural systems and their division

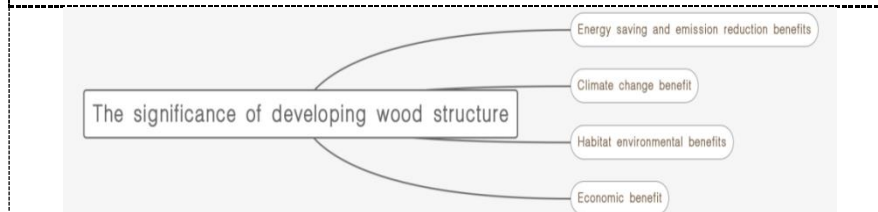


Figure 6. Significance of developing wood structures

The innovation of structural systems is the three main structural systems: concrete structural systems, steel structural systems and wood structural systems. With the change of people's housing concept and the renewal of housing demand, the wood structure is lighter, more environmentally friendly, better in texture and more comfortable, and more and more occupy the residential building materials market. The United States, Canada, Finland and other countries in the modern wood structure from planting trees to assembly production, production and processing integration and other industrial chains are very mature. Ancient Chinese wood structures have the longest historical and cultural heritage, but they are relatively backward in terms of building type and technology development.

At the same time, the three major structural systems have been specifically refined into six structural systems. If it is from the perspective of housing habits, durability and safety, it is more inclined to the structural system of concrete materials; if it is shorter from the construction period and less manpower allocation, it is more inclined to the steel structure system. If it is green, energy efficient and environmentally friendly, it is more inclined to the wood structure of the residential system. In China, where the population base is so large, if only one or a few solutions are available, it will not be able to meet the various selection needs. How to meet the housing needs of people, how to satisfy the durability and safety of rural houses, and what structure is adopted is a direction worth studying.

4. Processing and manufacturing

In the rural culture of rural China, whenever a family needs to build a house, neighbors in the same village generally provide free services, and they help build houses. The so-called “main family” only needs to provide meals during the construction process without additional compensation. Social relations are actually self-issuance in the mutual aid model. Helping each other, saving money, and enhancing the feelings between neighbors. The process of building houses in villages in Europe and the United States is very similar to the process of building houses in rural China.

The process of building and parts processing under the industrial construction mode is completely different from the traditional construction method. Regardless of the choice of building materials, the processing of building components and the construction of houses, from traditional construction sites to modern parts processing plants; from architects, bricks and tiles, to industrial production lines; from architects, bricks and tiles, to industrial production lines; cutting ink from bricklayers and carpenters' slings and transforming them into mechanized lifting and precision assembly. Every change and progress will lead to progress in productivity and production relations.

In fact, whether it is modern processing architecture or humanized mutual aid building, there is a relationship between tradition and modernity. Modern architecture does not mean high-tech content.

The modern construction process of new rural housing needs to pay attention to the inheritance of rural auxiliary culture, so that modern architectural mode and traditional culture can be combined and mutually tolerant.

In the rural areas of China, participating in the “industrialization” process at different times, in a very different international and domestic spatial order, in a completely different international and domestic environment and under “industrialization” conditions, this should not have a major impact on the content and form of their respective “industrialization” processes. The content and form of the process have a major impact, and there are some significant differences in the content and form of the “industrialization” process. Reasons for the backwardness of rural industrialization in China: The entire country and the entire world is an economic system based on regional division of labor; In this economic system, each region is divided into “core”, “half-edge” and “edge” due to different economic status. The role of the core area is to transport manufactured goods to marginal and semi-edge areas; the role of marginal areas is to transport agricultural primary products, industrial raw materials and natural resources to two other types of areas; in marginal areas, “marginal products” Being transported to the core area, the “core products” are transported to the fringe. These regions are an interdependent relationship; The so-called development is to transform the status of the economic system from a marginal position to a core position. Therefore, the goal of development is relative, immutable, and not fixed. However, this development is constrained by the overall structure of the economic system. Since the core status is always limited, the emergence of new core areas is bound to accompany the decline of the old core areas, and the simultaneous development of all areas is impossible. Thus, although the location of each economic region can be changed, the structure of the entire economy consisting of three core half-edges cannot be changed.

Under the industrialization construction mode, it will definitely have a revolutionary impact on the traditional architectural model, bringing about technological progress and changes in cultural heritage. Our current vision and prospects are still only in imagination. How the progress of productivity will change the relationship between production and society, there is no conclusion at this stage, but each culture has its own rules for the development and extinction. We should strive to inherit and develop, and we should calmly face it. Ways to move toward industrialization: First, overall planning and classification; second, industrial integration, increase production and income; third, technology implantation, information support; fourth, rectification, urban and rural isomorphism; fifth, subject confirmation, rights Return; sixth, social linkage, and build results together.

5. Economic strategy

There are two main economic strategies for the construction of industrialized new rural housing. The first is traditional residential and the second is the development of emerging industries such as tourism. Total cost management is the core and complement of the traditional residential industry.

The characteristics of the traditional residential industry: First, the vast territory and numerous ethnic groups. Develop protection and inherit the inheritance of geographical uniqueness. From the perspective of investment and construction, regionality also determines the scale of development and the speed of development, which determines the supporting construction of public service buildings and municipal facilities. Therefore, it is possible to achieve good social functions in a small regional rural society and establish sound construction goals in a large regional township. Second, the traditional housing industry should still be based on the life and production of primitive people. Therefore, in addition to the development of residential buildings, the green industry in the region needs to complement each other. It is possible to build buildings that are not only built for buildings, but are built for the benefit of the people and achieve sustainable development of the regional economy. Third, the formation and development of the traditional housing industry must be based on industrialization. Only three features are integrated, that is, the integration of design, production and construction in the construction process; the construction results form the integration of architecture, structure, electromechanical and decoration; the new model of integration at the organizational level,

engineering construction, management and production The complexity of residential projects can be unified.

First, the cost consciousness of the entire industry is implemented throughout the industry: a simple and versatile approach, a standardized and flexible combination of multi-product concepts, and a unified concept of space-time management form a basic awareness. Second, we will give full play to the role of large enterprises in terms of institutional costs, factor costs, operating costs and management costs. We also need to work with relevant government agencies to study land, real estate, trade and tax policies. It is expected that relevant laws and regulations will be promulgated to effectively control system costs and promote the industrialization of residential buildings. Third, from the perspective of the entire process of personal residential products, it can be roughly divided into three stages: research and development, production and construction, and operation and maintenance. From a business perspective, it is the overall contracting process for the EPC process, and of course the later operations and maintenance. Mutual conditions, only systematically carry out cost control throughout the process, the input and consumption of each link are close to appropriate measures. This measure is closely related to the level of investment in other sectors. That is to reduce costs through the whole system.

6. Conclusion

To do a good job in building new rural housing, we must have an innovative concept of inheritance, that is, traditional development and industrialization. This study has studied how to build a new countryside from several perspectives:

Geographical perspective: The traditional form of living space is the result of the combination of regional natural factors and national folk culture, social, economic and technological evolution.

Construction perspective: good things worth inheriting, must be retained; at the same time, the selection of appropriate industrial products and new construction methods with a prudent attitude will be used to update all aspects of current social, economic and technological development. At the same time carry out innovative upgrading.

Industry chain perspective: The construction of new residential areas in new residential areas has promoted the development of three industries: tourism, rural manufacturing and local agriculture. At the same time solve the "hollow village" problem.

Only by combining "emotion" and "science and technology" can we achieve harmony and integration, in order to form an innovation, adjustment, green, open, and shared construction situation,so as to achieve the goal. A vision for the construction of a new rural housing project that "builds the happiness of the village and returns to the beauty of the minefield".

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