Study on the Utilization of Vacant Houses in Rural Exurbs Under the Background of Rural Revitalization Strategy by Taking Shenjia Village in Hunan Province as an Example

Ying Zhang\textsuperscript{1*}, Zuzhan Chen\textsuperscript{1}, Hongkai Sun\textsuperscript{1}, Shili Zhang\textsuperscript{1}, Haoqian Liu\textsuperscript{1}

\textsuperscript{1}School of Design Art, University of South China, Hengyang, Hunan Province, 421001, China

*Corresponding author’s e-mail: zhangyingusc@163.com

Abstract. Large-scale urbanization construction leads to a large number of idle rural houses, resulting in a waste of social resources. The rural revitalization strategy proposed at the 19th National Congress puts forward higher requirements for the construction of new socialist countryside. In order to solve the problems of the rural vacant houses, this article analyzes the necessity of current rural exurb construction and rural vacant house utilization from the perspective of social development and policies. By virtue of investigation on the problems of vacant houses in Shenjia village, Loudi city, Hunan province, this article puts forwards three modes, namely the rural pension mode, rural short rent mode and the home stay facility reception mode as countermeasures for utilizing the vacant houses. These modes with independence from large-scale investment and special geographical location and good universality are capable of getting rid of the large-scale demolition and reconstruction phenomenon of rural construction and servicing the national development strategy.

1. Introduction

To study the vacant housing in rural areas, the relationship between rural land and vacant housing in rural areas should be clarified. The concept of rural homestead is broad and rural housing usually are included\cite{1}. At present, most reports focus on the study of idle homestead. The exploration of rural homestead renovation in China mainly occur in Jiaxing, Yuyao, Wenjiang and so on. All of these areas are developed towns. Due to different national conditions, there is no similar rural homestead system in foreign countries like china. "new village movement" in South Korea's and Germany's rural renewal programme are not suitable for China. Studies of abroad focus on serving the needs of urban development to solve the problem of rural idle housing. Studies in China concentrate in the more developed areas while the exurbs of rural are neglected.

2. From the perspective of rural revitalization, the emergence of rural leisure mode in the outer suburb

The rural revitalization strategy proposed in the report of the 19th National Congress for rural development focuses on the loss of rural population, hollowing out of rural areas, and left-behind problems caused by urbanization\cite{2}. A set of authoritative data shows that in 2017, the number of rural tourists nationwide reached up to 2.8 billion, and the tourism revenue reached up to 40 billion yuan, with the growth rates of 33.3 percent and 29.8 percent respectively. Therefore, the rural
transformation development guided by tourism development is one of the effective means for rural revitalization.
Exurbs are rural areas far from urban centers, usually with poor transportation and underdeveloped economy[3]. Urban residents choose rural tourism for leisure and relaxation on holidays, which provides market opportunities for the development of rural tourism in the outer suburbs. The exurb countryside has the natural ecosystem and unique folk customs which are relatively independent from the city. By virtue of comparing exurban country-club origin and connotation with goals of rural revitalization, both focusing on solving rural population loss and hollowing out, a large number of vacant house legacy problems and the like fit each other effectively, but the outer suburb leisure in domestic development is relatively laggard, and its development is imminent.

3. Resource analysis of shenjia village, gutang township, loudi city, hunan province

3.1. Natural environmental resources
Shenjia village is located in gutang township, northwest mountain district, lianyuan county, loudi city, hunan province, 40 kilometers away from the county town of lantian town. Home villages ShenJiaShan and DengJiaNao as two natural villages with a total area of 4.5 square kilometers have 2000 mu arable land, more than the mountain forest and mountain. The village southwest has the peculiar karst landscape. The territory is the low-peak denudation terrain which has high mountains, undulating ridges, 638m average altitude and superior natural conditions.

3.2. Industry resources
Gutang township, where shenjia village is located, is a traditional agricultural township mainly engaged in grain planting, medicinal material planting, pear planting and traditional aquaculture. Shenjia village's economic development level is low, the traditional agricultural economy ratio is significant, and the development rate is lower than the national average level for a long time. Under the background of rural revitalization, shenjia village began to explore the characteristic planting and characteristic breeding industry. Its characteristic industrial development projects are shown in table 1:

| Investment project | Profile data          |
|--------------------|-----------------------|
| Construction of camellia oil forest base | About 200 mu          |
| Construction of Jinguo forest base        | About 200 mu          |
| Development of Se-enriched rice           | About 100,000 kilograms |
| Development of pheasant breeding industry | About 5000            |
| Resume lianyuan xusheng snake industry co., LTD | About 10,000 vipers are raised |
| Construction of photovoltaic power station| About 40 kw           |

3.3. Tourism resources
Shenjia village has a high degree of afforestation and abundant tourism resources nearby (figure.1), such as golden pears, the car field river and the great river mouth reservoir, such as the fairy peak. Among them, the construction of the ten-mile azalea sea has its own characteristics. These tourism resources are a great treasure endowed by nature to shenjia village.
Figure 1. Tourism resources near Shenjia village.

4. Investigation and analysis of vacant house resources in Shenjia village, Gutang township, Loudi city, Hunan province

4.1. Survey on distribution and characteristic information of folk dwellings

Residential houses in Shenjia village are mainly distributed in the north side of the village, most of which are built with red bricks and clay masonry. There are some uninhabitable earthen houses and timber houses scattered at random with uniform specifications, which are not evenly distributed from west to east. Most of the houses in the village are red-brick houses. The common features of local residential buildings are as follows: 1, selection of building materials and local materials is extensive; 2, old buildings, renovated buildings and new buildings coexist at random; and 3, the lower part of the wooden building is enclosed and the upper part thereof is open, with distinct local characteristics. The vast majority of residential houses are not for people to live, but are idle or are used for accommodating debris, feeding livestock and so on. The main structure of these dwellings with local characteristics has not been damaged, but the appearance is dilapidated due to the disrepair, which can be used even with minor repairs (figure 2).

Figure 2. Status of vacant houses in Shenjia village.

4.2. The status quo and evaluation of vacant houses

The general situation of vacant houses in Shenjia village is ‘more houses and fewer people’, mainly because the young people in the village go out to work. Secondly, most of the characteristic buildings in the village have not been demolished, which have been idle and unused. According to statistics, every family has at least 3 vacant rooms, with abundant vacant house resources. The scale of folk houses is relatively small and the space used is relatively compact. The problems are as follows:
4.2.1. Infrastructure is inadequate.
The interior furniture is all made of a few kinds of wood and mainly concentrated in the hall. Old incandescent bulbs with low illumination and small number for lighting are mainly used in the hall and bedroom, so that there is dim light in room. Drainage is also lack of corresponding facilities, for example, there is no drainage pipeline set under the washing floor. The stairs without armrests in most houses are not accord with design specification on footfall and grade. The doors and windows of the building's facade are mostly made of wood, which can not withstand the impact.

4.2.2. Wall peeling and aging.
In the residential buildings of shenjia village, the walls are divided into decorative walls and non-decorative walls. Most of the decorative walls are decorated with plaster, and most of the non-decorative walls are bare internal wall brick structures. These walls are easily affected by damp during spring, resulting in the overall decline of the walls and loss of load-bearing capacity. What's more, the exposed red bricks can easily cause serious damage to the walls in rainy season.

4.2.3. Poor kitchen hygiene.
Most of the shens' kitchens are compact, about 4 square meters. Hearth is brick mix structure to build mostly and become, neatness is poorer. Some kitchens are stacked with wood for cooking, there are great hidden dangers in safety. Household garbage is often piled up in the kitchen, resulting in an untidy kitchen.

5. Study on the utilization of vacant houses in shenjia village under the background of rural revitalization strategy

5.1. The utilization and development of vacant houses in shenjia village under the mode of rural pension
China's aging population is growing rapidly, and the contradiction between blowout demand and insufficient supply is becoming increasingly acute. With the development of urbanization in China, the rising urban housing price and high living cost make the urban pension cost very high. The beautiful rural environment with fresh air is very suitable for the elderly to live; and rural courtyards and low-rise houses also can be used for solving the problem of urban overcrowding. Therefore, rural pension gradually become a trend[4].

5.1.1. Feasibility analysis of shenjia village vacant houses endowment model utilization.
The climate of shenjia village is suitable, the average temperature in summer is not more than 30 DEG C, the rainfall is medium on the upper side and the four seasons are distinct, so that the shenjia village is suitable for the elderly area. Most vacant houses in shenjia village are 2-storey houses with 4-6 rooms per house. The single building with low living area can be used for the elderly after barrier-free renovation. In recent years, shenjia village has improved its infrastructure with the help of the government and universities. Roads in the village are hardened and wheelchair-accessible; and a highway which is directly connected to provincial highways and highways and is convenient for the elderly to go out for medical treatment, shall be built. The assistance units have provided free vocational training to villagers and improved their service skills.

5.1.2. The utilization measures of vacant houses in shenjia village under the endowment mode.
The barrier-free transformation of the doors, stairs and passageways of vacant houses shall be carried out. Specific measures include widening the door scale, installing wheelchair lifts for stairs, setting low barrier-free handrails for walkways, and connecting indoor and outdoor by ramps. The problem that urban old-age housing is difficult to transform shall be solved. Shenjia village's vast pastoral space and vacant houses can be fully utilized to build leisure cultural exchange square; and the abundant water resources in shenjia village are used for constructing fishing, walking and scenic spots.
Free vocational and technical training are provided to villagers and migrant workers to improve their service skills. Idle house renovation construction are used in health clinics, medical reserves and rescue teams shall be increased, and medical facilities shall be improved.

5.2. The utilization and development of vacant housing in shenjia village under the model of short rent in rural areas

5.2.1. Analysis on the feasibility of shenjia village to develop short rent industry.
The development of short-term rural rent needs certain prerequisites, including house resources, living infrastructure, transportation facilities, characteristic projects, natural resources and so on. Shenjia village has the basic conditions for the development of short rent of rural land, as shown in Table 2.

Table 2. Shenjia village rural short-term rent prerequisites.

| House resources | Living infrastructure | Living resources | Main road accessible | Featured items | Natural resources |
|-----------------|-----------------------|-----------------|---------------------|---------------|------------------|
| Red brick house (244) | Village road hardening | Food self-sufficiency planting | X026 (County road) | Jinqiu pear | Warm in winter and cool in summer |
| Renovation room (225) | Safe drinking water | Homemade furniture | X036 (County road) | Se-enriched rice terraces | Close to tourist attractions |
| Plank house (48) | Photovoltaic power station (About 40 kw) | Convenient transportation | X047 (County road) | Chinese medicine plantation | 10 li azalea sea; The fairy peak etc |
| New building (60) | Village toilet conversion | Longlang expressway entrance and exit | | Camellia plantation | |
| Raw adobe (6) | | | | Artisan Gong tea | |

5.2.2. The utilization measures of vacant houses in shenjia village under the mode of short rent in rural areas.
Development of rural short rent in Shenjia village shall be carried out as follows: firstly, hardening the road, and achieving the clean road and road network coverage to meet the basic requirements and provide convenient traffic for guests. The appearance of the village shall be improved, and the tools of roadway production, construction materials piled up in random places, garbage accumulated before and behind houses, as well as silt and floating objects in ditches and ponds shall be cleaned up. The space environment of short-term rented houses, rural short-term rented communications and rural short-term rented entertainment services shall be optimized, and complete supporting facilities shall be provided for specific consumer groups.

5.3. The utilization and development of vacant houses in shenjia village under the home stay experience mode

5.3.1. Feasibility analysis of reconstruction of shenjia village residence.
The feasibility of home stay facility reconstruction mainly depends on shenjia village environment and its own conditions. Shenjia village has many tourism resources, vacant house resources, characteristic industries and cultural resources. There are a large number of tourist attractions around shenjia village, and there are two 4A scenic spots with tourist source conditions. Village traffic in the main border expressway and three counties, and the distance from the surrounding city is not far, so that it is more convenient. Shenjia village itself also has many characteristic projects, which can form characteristic industries. Shenjia village has a large number of available vacant houses with housing conditions.
5.3.2. Shenjia villagers accommodation reconstruction plan.

The first is the reconstruction of wooden and raw earth houses. Local carpenters and bricklayers adopt local construction techniques to repair and rebuild, so as to achieve the dialogue and integration of ‘new’ and ‘old’, and build a homestay with characteristics, so that tourists from other places can experience local customs and customs. The second is strengthening reconstruction of red-brick houses. The red-brick houses of Shenjia village are built by adopting clay to mix things into a cementing material, with build time already exceeding 30 years, so that they are dangerous houses and the number is numerous more. For such houses, firstly, the structure reinforcement must be carried out. To reserve the original architectural style, bricks can be utilized to add reinforcement scheme, and the decorative arts shall be linked, so that a new living experience can be provided for visitors. Finally, the transformation of new houses and new buildings shall be carried out. The majority of these houses, which are sturdy, are mostly used by local residents and are the main type of homes that generate revenue. Accordingly, hutchess shall be transformed to defend establishment only, simple indoor adornment is needed, and functional furniture shall be added. These two types of house modification homestay are less in investment, and can improve the living environment of local residents.

6. Conclusion

Rural revitalization is a new strategic deployment put forward by the country for rural construction. With the improvement of rural industrial structure, improving rural environment and realizing sustainable development of rural economy have become the core tasks of rural development. It is necessary to activate the vacant houses in rural areas and avoid the large demolition and construction in rural areas. This paper investigates and studies the current situation of a large number of vacant houses in Shenjia village, Loudi city, Hunan province, deeply analyzes the current predicament, and puts forward three solutions to invigorate the vacant houses, namely rural pension mode, rural short rent mode and homestoom reception mode. Compared with other modes, the three modes are simple and clear in operation and implementation, universal in applicability and suitable for nationwide rural promotion. Countermeasures aim to solve the problem of farmers’ original capital insufficiency. The countermeasure of fully utilizing rural vacant houses focuses on deep developing the local environment, characteristic industry and cultural resources, and realizing characteristic rural construction, thus finally realizing the comprehensive revitalization of the rural economy and building beautiful countryside with the character of "hope to see his homesickness, see the future[5]".

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