

Case Study on Ecological Reconstruction Technology of Hollow Village in Mountainous Hilly Area

Na Lei^{1, 2, 3, 4}, Jinyang Zhang^{1, 2, 3, 4}

¹Shaanxi Provincial Land Engineering Construction Group Co., Ltd., Xi'an, China

²Institute of Land Engineering and Technology, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., Xi'an, China

³Key Laboratory of Degraded and Unused Land Consolidation Engineering, the Ministry of Land and Resources, Xi'an, China

⁴Shaanxi Provincial Land Consolidation Engineering Technology Research Center Xi'an, China

Abstract

The ecological reconstruction of hollow village should gradually improve the rural living environment, regulate the features of farm houses and courtyards, beautify the village, protect and restore the village facilities such as ponds and ditches, natural landscape and pastoral landscape, and keep the overall style of the village in harmony with the natural environment. We will formulate plans for the protection and development of traditional villages, protect traditional culture, improve the lists of historic and cultural villages, traditional villages and residential houses, and establish and improve mechanisms for protection and supervision. The development of leisure agriculture, rural tourism, cultural and creative industries, the use of small town infrastructure and commercial service facilities, the overall drive to improve the quality of rural living environment.

Keywords

Ecological Reconstruction; Hollow Village; Mountains and Hills; Green Development; Ecosystem.

1. Introduction

With the development concept of "green, low-carbon and circular", aiming at the efficient use of regional land and the optimization of urban and rural land use space, taking reduction, reuse and recycling as development measures, focusing on the construction of beautiful villages, adhering to the principles of making forest better, making agriculture better and building according to appropriate conditions, giving classified guidance according to local conditions, and supported by ecological engineering technology, With the ecological living environment close to nature as the landscape symbol and cultural inheritance as the basis, the ecological reconstruction of the hollow village is implemented, and the inheritance and protection of traditional cultural monuments in the hollow village, the improvement of the living environment, and the construction and restoration of the ecological landscape are carried out[1-3]. Improve the living environment of the residents in the agricultural production area, and enhance the cultural and entertainment function of the farmers' new village; Protect the natural ecological environment of the ecological conservation area, maintain the ecological environmental protection function of woodland, grassland and water body; Maintain and enhance the ecological service value and versatility of each land use type, increase the total ecological service value of agricultural production areas, ecological conservation areas and research areas, form a new countryside with mountains, rivers, fields and roads as a whole, and create a healthy, ecological and livable living environment for local villagers[4].

2. Case Study – Chang Shou District of Chongqing

2.1. Status Quo of Hollow Village

Chang shou District is located in the center of Chongqing, bordered by Fu ling District in the southeast, Ba nan District and Yu bei District in the southwest, Dian jiang County in the northeast, Lin shui County in Sichuan Province in the northwest, and Yu wan Expressway runs through the whole district from southwest to northeast. Chang shou District is located in the branch of the Da ba Mountains, the terrain is high in the northeast and low in the southwest, and the three anticlines form the Tongluo Mountain, the Xi shan Mountain and the Huang cao Mountain, and the two synclines of Hong hu and Chang dan form the flat dam, which constitutes the typical geomorphic feature of "three mountains with two DAMS". The registered population of the region is 906,300, including 787,200 permanent residents and 448,400 non-agricultural residents, with an urbanization rate of 56.96% [5].

Chang shou District has jurisdiction over 4 streets, 14 towns and 226 administrative villages. According to the current classification, the rural residential area system of Chang shou District is "established town and administrative village". The established town is a senior central place, including 14 towns such as Ge 'an Town, Yun tai Town and Hong hu Town [6]. It plays an important role in connecting urban and rural areas and driving the development of surrounding rural areas. Administrative village is a lower-level central place, as the most basic residential place engaged in agricultural production activities in the rural residential system, its main function is to live, and its public service configuration is only for the villagers.

2.2. Problems Existing in Hollow Villages

Population size decreases and villages are hollowed out. With the acceleration of the transformation from rural to urban, a large number of rural people flow to urban areas, the population size of rural residential areas decreases, the proportion of migrant workers in Chang area reaches 31.87%, and the permanent resident population in villages is basically the elderly and children. The population size in villages cannot meet the threshold of public service facilities, the existing infrastructure cannot operate normally or is abandoned, and the vacancy rate of residential areas is high. Villages are hollowing out seriously [7-8].

The layout of residential areas is scattered and the degree of aggregation is low. In the east, west and south of Chang shou District, the density of rural residential areas is low, the distribution is scattered, the scale is small, the degree of agglomeration is low, the system of residential areas is not strong, the production and living service infrastructure construction is backward, and the inefficient and extensive use of land is plaguing and hindering the development of rural areas and agriculture. The traditional system pattern of rural residential areas can no longer meet the needs of rural economic and social development [9].

The distribution of rural settlements is greatly affected by terrain and the ecological environment is fragile. Chang shou District is located in a low hilly area, the overall distribution of rural settlements has a high correlation with the natural geographical conditions (elevation, slope), and the distribution density has a large regional difference. The distribution of rural residential areas in central China is relatively dense, and the distribution is sparse in the form of steps in the east, west and south. The mountainous and hilly area where the case is located has a fragile ecological environment, and natural conditions such as terrain also have a great impact on the ecological environment of rural settlements. The central "Liang ba" area has better natural conditions, relatively wide terrain, dense traffic network, and relatively good ecological environment of rural settlements, while the "San shan" area has poor natural conditions, large terrain fluctuations, and low traffic accessibility. The density of rural residential areas is relatively low, and the ecological environment of rural residential areas is poor.

2.3. Classification of Village Industry Types

Relying on the Chongqing (Chang shou) Chemical Park, Yan jia Industrial Park and Heavy Steel relocation projects, as well as the creation of Chang shou Lake scenic and tourist area, Chang shou District will become a new manufacturing base, urban agricultural base, leisure and tourism area and regional logistics center in Chongqing's new urban development zone. Based on this goal, the functions of 226 villages in 14 townships in Chang shou District are divided into agricultural production service functions, industrial production service functions and tourism service functions:

Agricultural production service type. The local agricultural production base is good, and agricultural products can be used to vigorously develop the processing of agricultural and sideline products, so as to promote the development of local economy. Including Ge Town, Shuang long Town, Ji Ji Town, New town, Shi yan town and adjacent Feng town, these areas are the grain base of the longevity area, with fruits and vegetables, livestock and poultry and other rich agricultural and sidelining product resources, gradually formed a group of strong economic strength and market competitive advantages of small and medium-sized agricultural industrialization leading enterprises, and the layout of a number of production demonstration parks.

With trade circulation and material distribution as the economic basis, relying on convenient transportation conditions, it has become a business center within a certain region, such as Yun tai Town, Hong hu Town, Ba zhi Town, Hai tang Town and Dan du Town. These towns have a good commercial base, but also an important business center in Chang shou District.

To develop tourism with local natural resources, ecological landscape, historical and cultural landscape and other resources, thus driving the rise of related industries and enterprises, active local economy, and promote the development of township construction. The development of tourism resources in Chang shou Lake and Da hong Lake has promoted the development of regional tourism in Chang shou Lake Town, Long he Town and Wan shun Town.

2.4. Ecological Reconstruction Measures of Rural Residential Areas

Improve the residential system and protect the ecological environment. Based on the location, resource endowment and industrial foundation of the rural residential areas in Chang shou District, the rural residential areas are divided into central towns, general towns, local urban residential areas, central villages, grass-roots villages and relocated villages. Different guidance strategies are adopted for the residential areas at each level, the central towns are actively promoted, the general towns are moderately developed, the local urban residential areas are promoted, the central villages are focused on construction, and the grass-roots villages are controlled and developed. Merging and integrating villages. Based on the characteristics of terrain, landform and ecological environment, the residential areas in geological disaster-prone areas should be moved out, effectively avoiding the losses caused by geological disasters such as landslides and dangerous rocks to the construction of residential areas, and pay attention to the protection of ecological fragile areas and forest resource reserves.

The distribution of medical resources in Chang shou District is unbalanced, mainly concentrated in the township, with few medical stations and poor quality facilities, few cultural and recreational service facilities, and low utilization rate of garbage disposal facilities. Emphasis should be placed on strengthening the construction of medical, cultural and recreational facilities in residential areas, increasing the utilization rate of environmental sanitation facilities, expanding the service scope, service fields and beneficiaries of infrastructure facilities, and promoting the extension and coverage of public service facilities to residential areas in the whole region. In addition, the three forces of government, society (farmers) and market (enterprises) should be fully integrated, the government should play a leading role in the construction and maintenance of public service facilities, improve the

initiative of local residents in the system planning of rural residential areas and the construction and maintenance of public service facilities, and encourage local associations, local enterprises and non-governmental organizations to participate in the construction and management of public service facilities. In order to form a diversified "new public main body", to ensure the sustainable development of public service supply at all levels of residential areas. Optimize the industrial spatial pattern and promote the construction of rural residential system. Industry is the continuous driving force for the development of rural residential system, and the industrial spatial structure is closely related to the spatial structure of rural residential area, and the optimization of industrial spatial structure can actively promote the construction of rural residential area system. In the future, the industry of Chang shou District will be developed according to the spatial pattern of "One belt, four districts and three parks", with the state-level economic and technological development Zone as the core, extending to the north to form the Jie zhen industrial development belt, developing the southern industrial agglomeration zone, the central characteristic industrial zone, two ecological industrial cultivation zones on the east and west side, as well as the modern animal husbandry park, the modern agricultural planting demonstration park, and the Sha tian pomelo planting demonstration park. Promote the reconstruction of rural residential system and realize the ecological reconstruction of hollow villages.

3. Conclusion

The agricultural economic foundation in mountainous and hilly areas is weak, and the traditional production mode of high input, high consumption and low output leads to serious environmental pollution and restricts the transformation of agricultural production. Only by building an integrated system of ecological recycling technologies and taking the path of green, low-carbon and circular development can urban and rural development be coordinated, agricultural production and farmers' incomes be increased, and a beautiful countryside featuring production, life and ecology be built. However, problems such as fragile ecological environment, serious agricultural pollution, low utilization rate of waste resources, and weak awareness of ecological protection restrict the development of ecological agriculture in mountainous and hilly areas. The construction of ecological recycling technology integration system of hollow villages in mountainous and hilly areas should start from developing circular agriculture, implementing the recycling and recycling mode of agricultural and forestry waste resources, and the reduction mode of agricultural resource input.

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