

Application of Ecological Landscape Elements in Rural Landscape Design under the Background of Rural Revitalization

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Keywords: Rural Revitalization, Ecological Landscape, Rural Landscape Design, Application Research

Abstract: The State encourages the construction of beautiful villages, which has greatly improved the village environment. The progress of rural landscape design is inseparable from the continuous improvement and implementation of national policies such as Rural Revitalization Strategy and land space planning. Firstly, this paper analyzes the current national policy of developing rural construction in China, and makes a specific concept definition of Rural Revitalization Strategy and rural landscape design. Then it makes a strategic analysis on the application of ecological landscape in rural landscape. Through literature research and case study, taking Tachuan village in Anhui Province as an example, this paper studies the rural landscape design, hoping to provide ideas for relevant research in the future.

1. Related Concepts

1.1. Rural Revitalization Strategy

The summary of the 19th CPC National Congress shows that giving priority to supporting agricultural and rural development is the key to the implementation of the Rural Revitalization Strategy. The general requirements of the 20 character policy of "prosperous industry, livable ecology, civilized rural style, effective governance and rich life" proposed in the report accelerate urban-rural integration and provide direction for accelerating development and promoting agricultural and rural development [1]. The resource composition of rural modernization and agriculture and rural areas map each other, complement the short board, strengthen the long board, realize re upgrading, and promote the organic integration of urban and rural areas. *** The importance of poverty alleviation was emphasized. Unswervingly implement the new development concept, adhere to the party's comprehensive leadership, adhere to a smooth and orderly transition, adhere to the dominant position of the masses, adhere to the gathering of various forces, and realize

the comprehensive development of rural industries by creating and improving the "revitalization and ecological revitalization" system. Promote the mutual flow of various resources between urban and rural areas, strive to form a good situation of effective connection and organic integration between poverty alleviation and Rural Revitalization strategies, effectively connect poverty alleviation strategies and Rural Revitalization strategies, and strive to create a good integration situation [2]. Rural Revitalization is an important responsibility and value orientation of rural economy, including the creation of political, cultural, social and ecological civilization. The Rural Revitalization Strategy is based on the development and growth of rural economy. Rural Revitalization is an important decision-making and action at the national level and an important measure of China's rural agricultural modernization. It plays an important role in guiding China's agricultural and rural modernization, solving problems related to agriculture and rural farmers, and promoting the improvement of China's production, ecology and living space. The 20 character policy of rural revitalization, namely "industrial prosperity, ecological livability, rural civilization, effective governance and rich life", puts forward corresponding requirements for rural industrial development, ecological civilization, cultural construction and mechanism and system reform, covering all aspects of rural construction [3].

Table 1: Interpretation of Rural Revitalization policy

| Five levels | target | specific requirement |
|------------------|-----------------------|---|
| Industry level | Industrial prosperity | Improve the industrial development model and promote the integrated development of primary, secondary and tertiary industries |
| Ecological level | Ecologically livable | Protect the ecological pattern, build beautiful villages and improve infrastructure construction |
| Cultural level | Rural civilization | Inherit the excellent tradition and improve the family culture |
| Political level | Effective governance | The combination of villagers' autonomy, rule of virtue and rule of law has embarked on the road of good rural governance |
| Social level | Affluent life | Expand employment opportunities, strengthen the awareness of innovation and entrepreneurship, and provide relevant training |

1.2. Rural Landscape Design

1.2.1. Concept of Rural Landscape

Compared with urban landscape, rural landscape, as a complex "organic product", has different research categories in different perspectives and dimensions, and also has different connotations for different disciplines. From the perspective of geography, rural landscape is a kind of natural landscape, which is represented by one or more rural residents' settlements. Compared with cities, rural landscape has low land use efficiency, large land scale, small population density and pastoral rural style [4]. From the perspective of landscape ecology, rural landscape is composed of different land units. It is not only affected by natural environmental conditions, but also restricted by the size, shape, structure and other factors of these inlays. It has both social, ecological and aesthetic values.

The definition of domestic rural landscape is based on different disciplines, which mainly reflects the particularity of rural landscape different from urban landscape. Foreign scholars pay more attention to the interactive process between man and nature, focusing on the shaping of human activities and behavior for the rural environment. Rural areas generally refer to places with sparse population, far away from cities and towns and with agricultural production as the main economic source. At the same time, rural areas continue to evolve with the passage of time, which is the result of multi-dimensional interaction of ecology, land use and social economy within a certain spatial

range, and changes with the change of internal human land relationship [5]. Therefore, the rural landscape is not invariable, but evolves and develops with the changes of the countryside. It is a specific landscape type that can reflect the multi-dimensional ecological environment, land use mode, social economy and so on based on the relationship between people and land in the countryside.

Generally speaking, with the migration of time, the development of rural landscape mainly evolves from original landscape, traditional rural landscape to modern rural landscape. The development of China's rural landscape is mainly facing the process of transformation from natural landscape to modern landscape. Through reasonable planning and transformation of traditional rural landscape, we can realize the effective allocation of environmental resources, protect the rural ecological environment, tap the potential of agricultural tourism and create a good rural residential environment. In addition, we can also protect the integrity of rural context inheritance, which is important for promoting rural economic development, It is of great significance to realize rural livability and industry [6]. The so-called "rural landscape planning and design" refers to the development plan formulated in a certain period of time in a certain area. Generally, it is the rural landscape style construction led by the local government, which mainly uses the rural landscape for the economic development of the village, and finally improves the rural ecological environment and realizes the coordinated development of the social, economic, cultural and ecological aspects of the village. It can be said that rural landscape planning is an important basis for rural construction and rural management [7] .

1.2.2. Classification of Rural Landscape

Through the research of scholars on the composition of rural landscape, rural landscape takes regional culture or rural culture as the carrier to express the human landscape formed by human production and practice activities, as well as natural landscapes such as animals and plants, rivers and climate, which together constitute the whole rural landscape [8].

(1) Cultural landscape

Cultural landscape is formed by the joint influence of its geographical location, natural environment, history and culture, religious belief and other factors. It reflects the landscape environment formed by the mutual penetration and influence between man and nature. It is the expression of people's daily life and production mode, mainly in the spiritual aspect and the material created by its derivation [9]. Spiritual aspects include language, folk customs, etc; Materially, it is mainly reflected in residential buildings, agricultural tools, clothing, natural scenery and so on. Most of the cultural landscapes are visual and auditory. For example, the characteristic folk houses in the countryside are the characteristics formed by the influence of local national customs and history. Moreover, the folk houses themselves also reflect the practical processes such as the use of materials and the construction of buildings in the past, and contain the wisdom accumulated by people after long-term exploration, which are the embodiment of culture; Ethnic minorities wear distinctive costumes for singing and dancing, which is also a cultural landscape formed by human related activities. Cultural landscape is the soul of rural landscape. It is a regional and traditional landscape produced by the interaction between local residents and local natural environment [10].

(2) Natural landscape

The biggest difference between the countryside and the city is that the countryside is rich in natural environmental resources. The natural landscape includes a series of environmental factors that are less affected by human beings and not created by human beings, such as topography,

vegetation resources, waterscape and rocks. The natural landscape formed over a long time is more unique and unordered than the urban landscape. For example, the colorful forest formed by the mixing of *Sapium sebiferum*, maple and Ginkgo in Tachuan village, Anhui Province, has the reputation of one of the four autumn colors in China; The name of "Guilin landscape is the best in the world" comes from the karst landform of Guilin, Guangxi. Natural landscape is one of the important constituent conditions of rural landscape.

1.3. Ecological Landscape Elements

Landscape ecology is a comprehensive discipline that studies the interaction between landscape based spatial pattern and ecological process. The research on rural landscape ecology focuses on rural land resource consolidation, urban-rural ecotone and agricultural landscape [11]. After studying the similarities and differences between suburban landscape and rural landscape structure, and analyzing the driving factors, domestic scholars discussed the ecological characteristics of rural landscape and the ecological landscape construction on the edge of the city, and put forward unified ecological planning and regulation, as well as urban-rural overall planning, retaining characteristics and other measures. Other scholars use advanced methods and means such as GIS technology and statistical model, and apply them to the study of landscape pattern and landscape dynamics, constantly enriching the research scope of rural landscape ecology [12].

2. Problems Existing in Current Rural Landscape Design

2.1. Ignoring Regional Characteristics, Emphasizing External Rather Than Connotation

The overall planning of rural landscape has been very common in rural areas, but the planning can not be equated with the simplification and model development of rural areas. In many areas, the rural landscape is facing the pressure of lack of cultural connotation. With the continuous renewal and development of the countryside, it breaks the regional boundary of the formation of the rural landscape, destroys the original harmony and affects the protection of the traditional cultural landscape [13]. Due to economic conditions and time constraints, the construction of wide village roads and neat houses in the planning process seems to be the first choice for township construction. Although it has improved the people's living quality and living standard to a certain extent, the regional characteristics have disappeared. Each village has different ecological endowment and location conditions, and the congenital conditions are different. This is the natural attribute of the village and has a deep natural brand. Respect the true characteristics of the countryside, and do not modify the original landform and architectural style. Only by closely combining the regional characteristics with the local traditional culture can we ensure the identifiability of the rural landscape.

2.2. Decline of Local Culture And Blind Imitation Of Cities

In the process of rural development, in order to improve the living standards of rural residents, people pay more attention to the development of rural economy and ignore the level of landscape construction. Most rural development models are based on cities, which believe that everything in cities is a symbol of modern civilization. They blindly imitate cities in planning and construction, such as the construction of large squares and landmark buildings. The phenomenon of homogenization is serious, resulting in the decline of local culture [14]. Ignoring the importance of

design, there are a large number of flat roof buildings, even without decorative exterior walls, and ignoring the original ecological landscape elements, which have damaged the landscape texture of the village to a certain extent. These behaviors have caused the uneven level of the existing landscape in the countryside. The local folk culture rooted in the local is the soul of the countryside and an important characteristic that distinguishes the countryside from the city. In the process of rural landscape construction, it is urgent to reverse this inherent thinking.

3. Expression of Ecological Landscape Elements in Rural Landscape Design

3.1. Performance Content

Rural landscape refers to the specific spatial scope of the countryside, which is based on the relationship between rural people and land, and can reflect the specific landscape types of ecology, land use, social economy and other dimensions. The rural landscape planning and design is to formulate the corresponding development plan for a certain area within a certain period of time, take the local government as the main body, carry out the construction of rural landscape style, improve the rural ecological environment, change the original development mode, upgrade and transform the rural landscape to promote the economic development of the village, and finally realize the coordinated development of the village and society, economy and ecology [15]. The proposal of Rural Revitalization Strategy provides scientific guidance for the planning and design of rural landscape at the theoretical level. The improvement of rural landscape will inevitably promote the realization of Rural Revitalization. The relationship between the two is inseparable. In this context, landscape planning and design needs to have a higher intention and continuously expand and extend the relevant contents, so as to reflect the profound significance of Rural Revitalization Strategy. Therefore, starting from the general requirements of rural revitalization, look for the relationship between the two.

In the context of rural revitalization, in order to promote the implementation of ecological landscape planning in rural areas, we need to first clarify the specific problems faced by China's rural ecological landscape, so as to achieve twice the result with half the effort. Starting with the main ecological and environmental problems in rural areas in China, this paper summarizes the actual performance of rural ecological landscape in terms of ecological elasticity, living environment, landscape style, industrial and agricultural production, pastoral landscape, ecological service function, biodiversity and vegetation structure, and expounds the single performance of the mode in urban expansion and rural construction in China, from the deterioration of ecological landscape, reduction of biodiversity State the current situation of rural ecological landscape from the aspects of increasing environmental pollution.

The construction of rural ecological landscape includes three main parts. The first part is the construction and protection of landscape sensitive buffer zone. Landscape sensitive buffer zone is an area with special value and potential risk to natural disasters, such as environmental sensitive monitoring area, cultural resource jurisdiction area, resource utilization efficiency area and natural disaster sensitive area; The second is to create green space in the ecosystem. The sources of these areas are mainly public green space, residential green space, traffic green space and rural scenic green space. When designing ecological landscape, it is important to design as many ecological green spaces as possible, consider their distribution as evenly as possible, and expand the spatial composition. In addition, rural green corridors should be combined with street corridors as much as possible, that is, the government needs to create some vegetation coverage areas next to the roads. Third, rural appearance and architectural landscape construction. For the construction of rural

ecological landscape, we also need to pay attention to the overall design of rural appearance and architectural landscape, and design the rural appearance and architecture according to the rural appearance, scale and living conditions. The design should take into account the topographic characteristics of the countryside and formulate a plan taking into account the existing natural features to coordinate it with the countryside.

3.2. Performance Examples -- Taking Tachuan Village in Anhui Province as an Example

3.2.1. Project Background

Tachuan village is located in Hongcun Town, Yi County, Huangshan City, Anhui Province. It is on the only way from Hongcun to mukeng bamboo sea, a famous local tourist attraction. It is only two kilometers away from Hongcun, with convenient transportation and superior geographical location. Because of its rich and wonderful natural landscape, Tachuan has become a base for style collection and creation by many painters and photographers. Tachuan village is backed by huangdui mountain in the southwest of Huangshan Mountain. The village is built near the mountain and is between the two peaks of nunnery and low nunnery. From a distance, it looks like a pagoda hidden between the valley. The stream in the village flows down the mountain, passes through the village and flows into Qishu Lake in the distance, which brings infinite aura to the village and is also the origin of "Chuan". The village is similar to the pagoda. It is also more dynamic because Qingxi wears the "pagoda", so it becomes Tachuan village. In 2013, Tachuan village was listed in the second batch of Chinese traditional villages and in 2020, it was listed in the second batch of national key rural tourism villages.

3.2.2. Integration of Ecological Landscape Elements into Rural Landscape Design

(1) Integration of natural vegetation and village architectural style

Tachuan, one of the natural ancient villages in Huizhou, has completely protected 20 or 30 ancient buildings built close to the mountain in the village and retained the original Huizhou architectural form. White walls and grey tiles are stacked and scattered and hidden in the valley, as shown in Figure 1.

In rural construction, after a long period of training, native plants are more suitable for rural natural environment than urbanized plants, with strong vitality, easy maintenance and high survival rate. Therefore, giving priority to local plants in the selection of plant collocation can not only maintain the local ecosystem, but also have rural cultural characteristics. The reason why the autumn scenery of Tachuan is listed as one of the four autumn colors in China is related to the colorful forest formed by the local Chinese tallow tree, maple, persimmon, chestnut and ginkgo trees. The trees in and around the village are basically preserved. When building and transforming the countryside, bypass the ancient trees and properly protect them to reduce the damage caused by human activities. Under the protection of the ancient village buildings and natural plants in Tachuan village, today's autumn scenery in Tachuan is formed. A viewing platform is set outside the village to watch the whole village and enjoy the colorful mountain forests and looming farmhouse huts, the horse head wall looming in the red maple forest, and the thin fog will linger in the whole village in the morning, which is like a dreamland pastoral picture.

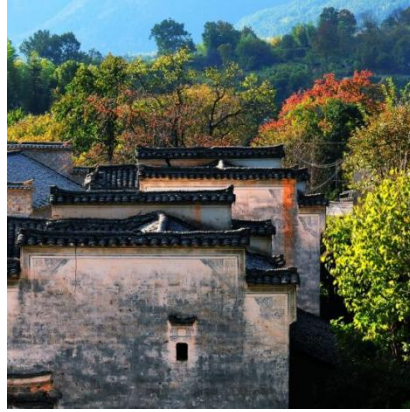


Figure 1: Vegetation and architectural style of Tachuan. Source: Anhui Tourism Network (Sina. Com. CN)

(2) Application of native plants and materials

The roads in the countryside are paved from local local materials, or follow the trend of the mountain, or continue along the stream. The slope is not high, which is convenient for walking. At the same time, it can slow down the pace of walking, enjoy the surrounding scenery, slow down people's pace of life and fully feel the leisurely rural life. In Tachuan village, there is no trace of urbanized landscape sketch facilities. What nature gives is the best landscape sketch. For example, there are no fixed and regular seats in the village. Instead, the thick tree roots exposed on the ground are used as a resting place, and the flat stones are simply put up as temporary resting seats. From nature, it can not only meet the function, but also perfectly fit with the rural natural environment, so that people can feel the power of life in it, as show in figure 2.



Figure 2: Landscape design of path in Tachuan Village. Source: Anhui Tourism Network (Sina. Com. CN)

(3) Diverse farming experience

The leisure agriculture developed in Tachuan village makes full use of the local agricultural landscape resources and agricultural production conditions. It can not only feel the rural landscape visually, but also pick, experience farming, taste local specialties and understand farmers' life, so as

to enhance the in-depth perception of local rural culture by foreign tourists,. It improves the attraction of rural landscape, strengthens and improves the foundation of rural culture, expands the communication scope of rural culture, and learns its dynamic experiential landscape to enrich the content of rural landscape and the communication of rural culture, as show in figure 3.



Figure 3: Rural landscape design of Tachuan Village. Source: Anhui Tourism Network (Sina. Com. CN)

4. Conclusions

Building a sustainable ecological urban landscape model is the trend and direction of urban development and an important measure to build a harmonious society and a livable city. In addition, eco city landscape is a complex system, a three-dimensional ecological space, rather than a pure humanistic natural system. We will examine the relationship between landscape and eco city construction and create an inclusive, sustainable and expanded rural ecological space that truly benefits the people.

Taking rural landscape design as the research object, this paper investigates the application of ecological landscape in village landscape construction, analyzes the current situation and problems, and puts forward the application ideas and methods of ecological landscape elements. This paper reviews and summarizes this paper. Firstly, by combing the literature and research overview at home and abroad related to this research topic, this paper makes a systematic study on the concept and types of rural landscape design under the background of Rural Revitalization. According to the different nature, the rural landscape is summarized into two categories: nature and humanities. The classification items are carried out one by one and discussed. Analyze the relationship between ecological landscape and rural landscape design, that is, ecological landscape elements can continue rural context, protect rural ecological environment and enrich rural landscape forms. Secondly, it summarizes the main problems of the application of local elements in the current rural landscape construction, that is, the rural landscape blindly imitates the city, flows on the surface, the design method is single, the application form of local materials is lack of innovation, and the extraction of

local cultural elements is not refined enough. Finally, in the construction of rural landscape, this paper investigates the villages in Tachuan village, Anhui Province, and puts forward the rational application of ecological landscape from three aspects: Village pattern, rural spatial materials and rural humanistic activities.

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