

Study on Renovation of Rural Public Landscape and Environment: A Case Study of Dongquan Village in Jinan City

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Abstract: *With the rapid development of the social economy in China, protecting and inheriting the ecological environment and cultural heritage in rural areas has become an important issue. According to the situation of Dongquan Village, Caishi Town, Jinan City, this study discusses the importance of rural public landscape and environment design. Through field research, it is found that the public landscape of many rural areas has not been fully renovated in the process of pursuing modern B&B design. In order to renovate the landscape of Dongquan Village, some suggestions are provided on the landscape design of public space. By analyzing the landscape design case of Xijiegang Village in Zhangjiagang City, the importance of ecological livability and regional culture in the landscape design of the rural public environment is explored, which shows that the sustainability and adaptability of landscape design are one of the key factors of the whole village landscape. It also provides some ideas for the better development of Dongquan Village. Generally speaking, the landscape design of a rural public environment needs to comprehensively consider ecological, cultural, community and economic factors to ensure its long-term sustainability. The changes in villages are closely related to farmers' income, rural tourism, and rural community construction, which provides a guarantee for rural sustainable development.*

Keywords: rural public landscape and environment, Renovation design, Regional culture, Ecological livability

1. Introduction

With the rapid development of the social economy in China and the proposal of a rural revitalization strategy, the environmental problems in rural areas have attracted much attention. In the process of modernization, the public landscape and environment of many traditional rural communities have been affected (Jiao, et al., 2022). This impact not only disrupts the rural ecological balance but also affects the physical and mental health of residents.

As the core components of rural space, public landscape and environment play multiple roles. They exist not only in the places where rural community members live but also in the centers of their social interaction and cultural activities. More importantly, the public landscape and environment are closely linked with the local ecology, culture, and history, and are a symbol of rural communities. However, due to various reasons, such as economic pressure, lack of technology, and lack of design concepts, many rural areas' public landscapes and environment

are facing challenges. These challenges include ecological degradation, cultural loss, and community differentiation (Yu, & Jing, 2023).

This study takes Dongquan Village in Caishi Town, Jinan City as an example. Although the government has realized that Dongquan Village is rich in natural resources and cultural traditions and has paid attention to the village style and the development of tourism, these resources and traditions have not been properly handled, especially in the aspect of public landscape and environment. The ecological balance is often ignored in the pursuit of economic growth. Therefore, through field investigation and case study, this study provides some suggestions and methods for better improving the public landscape and environment design of Dongquan Village, so as to realize the harmonious coexistence of ecology, culture, and communities.

2. Case Study: Xijiegang Village, Zhangjiagang City

In order to better provide ideas for the landscape design of Dongquan Village in Jinan City, Xijiegang Village in Zhangjiagang City is analyzed as a case, from which the design concept of Xijiegang Village is explored, so as to provide suggestions after the investigation and analysis of Dongquan Village in the later period.

2.1 The Concept of Ecological and Livable Design

Xijiegang Village is in the Yangtze River Delta, where the economy is prosperous, with unique geographical and climatic conditions. Livability has become the core of landscape design. First, the improvement of rivers and water bodies is a key project. Following the principle of "urban and rural planning, source reduction, taxonomic treatment, and systematic treatment", the project not only cleaned up garbage in the river but also added rich water plant communities, such as emergent aquatic plants, wetland plants, submerged plants, etc. (Figure 1). In addition, the design of footpaths also shows the concept of livability. Along the Sanqian River in Xijiegang Village, a two-tier sightseeing platform is set up, which provides a space close to the water, and also provides a public living place for villagers to fish, wade, and talk (He & Xia, 2022).



Figure 1: The pictures come from the Propaganda Department of Zhangjiagang Municipal Party Committee

2.2 Integration of Regional Culture

The landscape design of Xijiegang Village is affected by its regional culture. When renovating old buildings, the design team chose to renovate an abandoned warehouse from the aspects of its function and appearance, in order to create a demonstration effect for the villagers. It is not only the protection and renovation of old buildings but also the inheritance of regional culture. Newly-built public buildings, such as street markets, art paddy fields, Qinxin teahouses, etc.,

all incorporate the elements of traditional houses, such as open courtyard design and sloping roofs, in order to reflect local characteristics and local customs. In addition, the design of the village entrance also shows the connotation of regional culture. The newly-added Linjiang characteristic identification system not only improves the image of Xijiegang Village but also shows the charm of the Yangtze River Delta (He & Xia, 2022).

3. Research Methods and Data Collection

3.1 Field Research: Dongquan Village, Jinan City

Field research, also known as Ethnography, has a long history in anthropology and sociology. It is a qualitative research method, which is mainly used to deeply understand and describe the lifestyle, habits, and beliefs of a specific social group. Researchers need to live with the research objects for a long time and collect data through observation and interviews. In this paper, field research and semi-structured interviews are used to collect data.

3.2 Field Trip

In order to have a comprehensive understanding of the public landscape and environment of Dongquan Village, Jinan City, a field trip has become the initial step of this study. Dongquan Village is a village located in the suburb of Jinan City. It is famous for its water spring, surrounded by mountains and rivers, with ancient trees, ancient wells, ancient bridges, ancient monuments, ancient buildings, and ancient stone roads, which are full of regional cultural characteristics. Moreover, the government has created a B&B with the theme of "Ju culture", which is located on both sides of the landmark stone gangway of the ancient village and surrounded by stone tablets, stone bridges, and stone wells. Although Dongquan Village has made great achievements in B&B, its public landscape still needs to be improved. During the field trip, the public landscape areas of the village, such as street landscape, entrance landscape, sketch landscape, and so on, are observed. In addition, the interaction between B&B and the public landscape was observed and analyzed, which provided data for the later landscape design (Wang, & Zhu, 2019).

3.3 Semi-structured interviews

Semi-structured interview is a flexible method, which allows researchers to discuss some issues in depth with interviewees. In order to have a deeper understanding of the needs and expectations of the residents of Dongquan Village, a semi-structured interview is conducted with 15 residents from different backgrounds (Bernard, 2017). It is found that most residents are satisfied with the existing public environment, but they generally hope that the public landscape in the village can be more livable and can use some elements of local culture. For example, Participant #1 (personal communication, May 2023), a farmer who grows corn, said he was very concerned about the ecological balance. He mentioned that some land has begun to degrade due to over-exploitation, and he hoped that soil protection and water conservation could be taken into account in public landscape design, and at the same time, a better environment could be provided for crops. He also argued that he hoped to see more cultural elements related to agriculture in the landscape, such as traditional farm tools or farming culture. Participant #2 (personal communication, May 2023), a rural teacher, said that she hoped that there would be some elements related to local culture and history in the public landscape. She mentioned that Dongquan Village is rich in historical and cultural heritage, but the younger generation doesn't know much about it. She hoped to set up some cultural exhibition areas in the public landscape so that young people could better understand local culture. Participant #3 (personal communication, May 2023), a fruit farmer, is concerned about ecological harmony. He said that the growing environment of some fruit trees was threatened

due to an unreasonable development pattern. He hoped that the ecological requirements of fruit trees could be taken into account, and at the same time, it could provide villagers with an environment that is in harmony with nature. Participant #4 (personal communication, May 2023), the owner of the homestay, believed that the improvement of the public landscape could attract more tourists. She hoped to see more elements related to local culture in the landscape, such as traditional architectural style or local vegetation.

4. Findings and Suggestions

4.1 Analysis of the Current Situation of Public Landscape and Environment in Dongquan Village

During our on-site inspection of Dongquan Village of Caishi Town, we observed that guesthouses have been established, preserving the architectural elements and textures of the ancient village. The purpose of these guesthouses is not only to boost the local tourism economy but also to enrich the lives of the residents, allowing visitors to immerse themselves in the village's cultural ambiance. However, we noticed that the public landscape of the village evidently does not meet the standards of ecological livability. Although there have been some preliminary public landscape renovations in the area, these modifications seem to cater more to short-term living needs rather than long-term ecological and community demands. Some of the original landscapes have been transformed into barren roads, and the village's unique features have not been utilized as landscape highlights. During the renovation process, construction waste damaged some vegetation, emphasizing the need for a comprehensive approach to design that considers the village's ecological environment (Figure 2). Apart from the guesthouses, some newly built public facilities, such as waste sorting stations and resting areas, do not harmonize with the surrounding and natural environment (Zhao L. & Li X., 2020).



Figure 2: Part of Dongquan Village, Caishi Town (Source: The author)

4.2 Interview with Villagers

They hope that the public space can be more natural, and can reflect the historical and cultural characteristics of Dongquan Village. Most villagers said that they hoped that there would be more green spaces in the village, such as parks, gardens, etc., which would not only provide them with places for leisure and entertainment but also bring many benefits to their daily lives, such as fresh air and pleasant climate. This sentiment aligns with the findings from the study which highlights that the interrelationships between gardens and their environment may be seen to contribute to an improved quality of life and mental well-being (Milligan, Gatrell, & Bingley, 2004)

4.3 Cultural and Ecological Integration of Villages

Most of the streets and walls in Dongquan Village have similar colors and lack the characteristics of regional culture. The old design method makes the village lose its unique cultural characteristics, which are not much different from other villages. In addition, the existing landscape design does not consider ecological sustainability, which leads to some

ecological problems, such as soil erosion and the reduction in biodiversity. In order to solve these problems, it is suggested that in the future, it is needed to pay more attention to the preservation of regional culture and the sustainability of the ecological environment. For example, we can consider using local building materials and vegetation and combining local culture and history to design public spaces with regional characteristics. This can not only improve the attraction of the village but also provide a more pleasant living environment for the villagers.

5. Suggestions and Strategies

5.1 Emphasis on the Integration of Ecology and Design

To ensure that the public environmental landscape of Dongquan Village is both aesthetically pleasing and functional, designers should incorporate ecological principles into the design (Leitao & Ahern, 2002). This means selecting vegetation that is adapted to local climate and soil conditions, creating ecosystems rich in biodiversity, and utilizing natural resources such as rainwater and sunlight to provide energy and water sources for the village. Integrating ecological principles can enhance the sustainability and functionality of landscape designs. Taking the case of Xijiegang Village in Zhangjiagang City as an example, the ecological restoration of rivers and water bodies became a major highlight of the project, offering valuable insights for Dongquan Village. The design can emphasize the water resources of Dongquan Village and focus on creating water landscapes, ensuring the sustainability of the aquatic ecosystem (Figure 3). Ecological livability is not just a design concept but a long-term development goal that requires continuous effort and investment.



Figure 3: The design sketch is sourced from the author

5.2 Combining with Local Culture and History

The public landscape design of Dongquan Village should be deeply rooted in its regional culture. In the case of Xijiegang Village, designers successfully integrated local culture and history into the landscape design, providing villagers and tourists with an environment rich in cultural ambiance. To achieve this goal for Dongquan Village, we suggest strengthening collaboration with the local community during the renovation of its public landscape. This involves delving deep into their local culture understanding the needs and expectations of the residents, and then incorporating their feedback into the design modifications. Furthermore, traditional building materials and techniques, such as stone masonry, wood, and brick, along with local vegetation, can be considered to create a harmonious environment with nature. This approach not only enhances the village's appeal but also innovates and reutilizes regional culture, offering villagers a living environment in harmony with nature (Xiao, 2017).

5.3 Eco-friendly and low-energy consumption strategy

In terms of lighting design, it is necessary to pay attention to the perfect combination of ecology and culture. Considering the rich natural and cultural resources in rural areas, soft lighting can

be used to highlight natural elements such as streams, fields, and trees, and Chinese traditional lanterns can be used to show the charm of local culture. The lighting design should pursue harmony, ensure the balance of all parts, and avoid excessive lighting. At the same time, energy-saving and environment-friendly lamps, such as LED or solar lamps, can not only reduce energy consumption but also reduce light pollution at night (Xiaoxi, et al. 2018). The most important thing is to ensure adequate lighting in key areas such as roads and bridges to ensure safety. The lighting design should help to create a beautiful rural night scene.



Figure 4: The design sketch is sourced from the author

6. Conclusion

The design of rural public landscapes and environment is particularly critical under the current social and economic background. Facing the rapid progress of urbanization and the ecological and cultural problems in rural areas, how to properly renovate the public landscape and environment has become an urgent problem to be solved. Taking Dongquan Village, Jinan City, and Xijiegang Village, Zhangjiagang City as examples, this study reveals the core role of ecological livability and regional culture in rural public landscape and environment design (Shunqian, 2022). These two concepts not only show the uniqueness of rural areas but also are the key to ensuring their long-term sustainable development.

At the same time, the sustainability and adaptability of design have also been proven to be crucial (Jinxian, 2012). Therefore, designers should maintain close communication with residents to ensure that the design can not only meet the current needs but also adapt to future changes. This design idea not only reflects the respect for ecology and culture but also ensures the long-term development of rural public landscape and environment.

In conclusion, the design of rural public landscapes and environments is a multi-dimensional and multi-level comprehensive topic. It needs to consider not only ecological and cultural factors but also community, economy, and sustainability. In order to understand this topic more comprehensively, scholars should further explore various issues related to farmers' income, rural tourism, and rural community construction, and at the same time make an investigation and case study in order to provide more strategic suggestions for rural sustainable development.

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