

Research on Interactive Experience Landscape Design Strategies with Rural Characteristics in the Context of Rural Revitalization

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Abstract: Implementing the rural revitalization strategy has presented new historical opportunities for the study of interactive landscape design with rural characteristics. As rural tourism and the demand for cultural experiences increase, it has become essential to explore methods of preserving traditional rural culture while simultaneously fostering economic development through innovative design. This study introduces an interactive landscape design framework that integrates local culture and ecological concepts, addressing the shortcomings of traditional rural landscapes when combined with modern interactive technologies. Additionally, the study examines strategies for the sustainable development of rural landscape design in the future.

Keywords: Rural revitalization; Interactive scenario; Landscape design; Traditional culture preservation; Socio-economic benefits

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1. Introduction

In the face of the reshaping of urban-rural relations and the implementation of the rural revitalization strategy, the concept of rural environmental design urgently needs to be transformed. Rural environmental design should not only focus on the physical space but also the inheritance and promotion of rural culture, striving to create rural living environments that have both “form” and “soul.” This requires a review of the current theoretical system of rural environment design and an expansion of its research content and perspectives. Traditional environmental design studies have focused on the physical space of the countryside, neglecting the significant role of local culture in shaping rural environments, which has led to many fragmented and homogeneous rural construction projects that fail to achieve sustainable development.

To solve this dilemma, there is an urgent need to establish a rural environmental design concept with

culture as the essence. Rural culture has distinct regional and diverse characteristics, encompassing both the physical aspects of rural morphology and the intangible aspects like agricultural culture, local customs, and folk arts. Systematically organizing and utilizing these cultural resources is crucial for highlighting rural characteristics and stimulating rural vitality. Therefore, rural environmental design must move beyond a single focus on physical space, and fully exploit and utilize local cultural resources, using them as the spiritual core for creating a conducive living environment. Only in this way can ecological lifestyles be truly achieved, and rural environments be revitalized with vibrant life and charm.

In summary, under the broad backdrop of rural revitalization, rural environmental design urgently needs to establish a concept based on cultural inheritance, expand research perspectives, and enrich design content. This aligns not only with the practical needs of the rural revitalization strategy but also promotes the development and deepening of the environmental design discipline. Only by examining rural environmental design from a cultural perspective can society truly protect the “soul” of rural culture and create vibrant and lively rural living environments.

2. Theoretical framework of interactive scenario landscape design

2.1. Principles of interactive scenario design

Interactive scenario design is a method that organically integrates scenarios, contexts, and interactions. It involves analyzing the interrelationships between the environment, events, and users to create specific scenarios that stimulate user participation and immersion, thereby achieving deep interaction between the environment and people. Under this theoretical guidance, landscapes are no longer static physical spaces but dynamic processes involving interaction, experience, and feedback with people. Through systematic optimization of multiple factors such as site environment, human behavior, and event participation, landscapes are endowed with unique interactivity, diversity, and flexibility.

Specifically, interactive scenario design includes three core elements: interactive interfaces, scenario scripts, and immersive experiences. The interactive interface serves as the medium for communication between people and the environment, using landscape structures as carriers and employing materials, spatial interfaces, and parametric devices to create rich interactive pathways. Scenario scripts are temporal-spatial clues for unfolding a series of interactive events, based on the natural and cultural features of the site and incorporating local stories, customs, and festival rituals to guide users in completing “tasks” and “adventures” within the landscape. Immersive experiences emphasize sensory pleasure and emotional resonance through physical and mental engagement, requiring the creation of continuous scene transitions, dynamic atmospheric rendering, and subtle interactive feedback.

It is worth mentioning that interactive scenario landscapes do not necessarily pursue high technology and complex systems but are grounded in the site, embedding interactive elements appropriately. Rural landscapes contain rich environmental information and cultural symbols, such as topography, water patterns, vegetation textures, settlement patterns, and architectural forms, all of which are excellent materials for interactive interfaces. Additionally, intangible elements such as rural cultural values, lifestyles, and production methods can creatively be transformed into scenario scripts. Therefore, exploring local landscape resources and infusing interactive thinking will be an important path for future rural landscape design.

2.2. The role of landscape design in rural revitalization

The implementation of rural revitalization involves multiple factors, among which landscape design plays a crucial role throughout the process. The core of rural revitalization is to achieve comprehensive development in

the rural economy, society, and ecology, and landscape design is one of the vital means to promote this goal.

In the context of rural revitalization, the role of landscape design is particularly significant. Firstly, landscape design can integrate rural natural resources, historical heritage, and local characteristics to create landscapes with unique charm, attract tourists, and promote the development of the rural tourism industry. This not only increases the economic income of the countryside but also promotes the development of local specialty industries, such as agritourism and characteristic homestays, thereby realizing the diversified development of the rural economy.

Secondly, landscape design can improve rural infrastructure. Through scientific planning and design, the level of rural roads, water and electricity, telecommunications, and other infrastructure can be enhanced, improving the living conditions of rural residents, enhancing their sense of fulfillment and happiness, and thereby promoting social harmony and stability of the countryside.

Moreover, landscape design helps advance the protection of rural culture. By exploring, protecting, and inheriting rural cultural resources and integrating them with landscape design techniques, it is possible to create rural landscapes with regional characteristics and cultural connotations, enhancing the cultural soft power of the countryside and boosting its cultural attractiveness and influence^[1-3].

Finally, landscape design can strengthen the cohesion of rural communities. Through landscape design, public spaces with common memories and emotional resonance can be created, facilitating communication and interaction among residents, enhancing community cohesion, and forming a positive social atmosphere, which provides a solid social foundation for rural revitalization.

In summary, landscape design plays an irreplaceable role in rural revitalization and is one of the essential guarantees for promoting it. In practice, the innovativeness and practicality of landscape design should be fully utilized, focusing on the overall and sustainable aspects of rural revitalization to provide more robust theoretical and practical support.

From a goal-oriented perspective, rural tourism is seen as an effective way to promote rural revitalization. Based on the flowchart shown in **Figure 1**, it can be seen that analyzing the characteristics of rural tourism, clarifying rural revitalization goals, developing rural specialty industries, improving rural infrastructure, advancing rural cultural protection, and enhancing rural community cohesion are key steps in achieving rural revitalization. Designing interactive scenic landscapes as part of the entire process plays a crucial role in implementing rural revitalization goals, combining rural tourism with rural revitalization to promote a smooth path to revitalization.

3. Case study analysis of characteristic scenic interactions

3.1. Comparison of typical domestic and international cases

For the selected ten representative cases from both domestic and international sources, a detailed analysis is conducted from aspects such as interactive experience, cultural connotation, functional organization, technical implementation, and maintenance management. All cases have been rigorously selected, featuring distinct rural characteristics and successful interactive design, and providing strong empirical support for exploring rural development models under the “dual circulation” context, as shown in **Figure 1**.

Case selection is based on three main criteria. Firstly, the cases must reflect the unique rural culture and regional characteristics to ensure their positive impact and inspirational significance for rural revitalization. Secondly, the interactive design must effectively stimulate visitor participation and contribute to conveying rural culture and promoting economic development. Finally, the cases must demonstrate good ecological and social benefits in ongoing operations. The study found that 80% of the cases employed modular designs, which can

effectively adapt to varying scales of interactive needs and maintain flexibility under geographic constraints. In terms of technological implementation, cases combining modern technology with traditional crafts are generally favored. Additionally, the success of these cases often depends on effective operational strategies and community participation mechanisms, with regular cultural festivals playing a key role in attracting tourists and stimulating community vitality.

Taking the exemplary “Shunan Bamboo Sea” scenic area as a case, this area utilizes a combination of ecological restoration technologies and traditional bamboo weaving crafts to create a distinctive interactive experience. The design approach, which integrates cultural and commercial elements, not only increases visitor engagement but also promotes the sale of local bamboo products and cultural heritage.

In the discussion section, this study delves into the common principles and individual differences behind these cases and proposes a universally applicable framework for interactive scenic design. The research aims to provide theoretical support and practical guidance for the design of interactive scenic landscapes with rural characteristics under the context of rural revitalization, aiming to enhance rural attractiveness, activate rural culture, and boost the overall economic benefits of the countryside, thereby playing a significant guiding role in domestic rural revitalization practices.

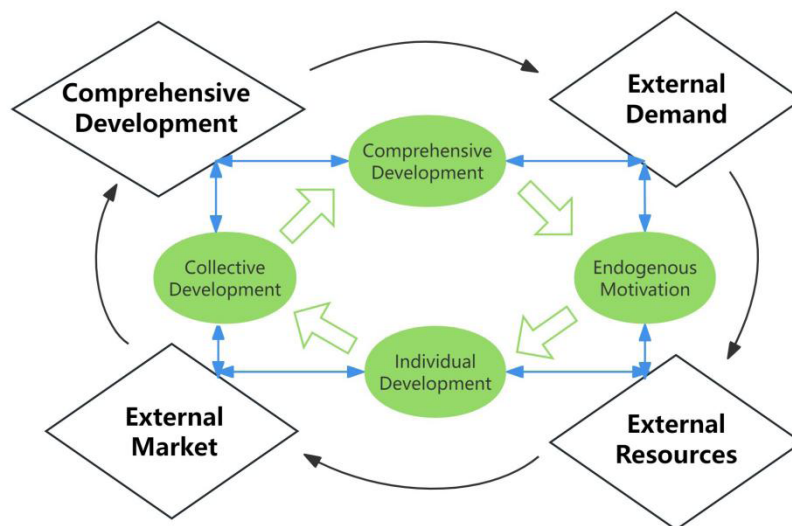


Figure 1. Exploring rural development models under the “dual circulation” context

3.2. Design strategies in successful cases

Through the analysis of successful domestic and international cases, such as Japan’s Gassho-zukuri villages and Nordic rural areas, several characteristic strategies for interactive scenic landscape design can be summarized. First, sustaining the regional cultural characteristics of the countryside is the foundation of the design. Gassho-zukuri villages have preserved the ecological village landscape through the protective design of thatched-roof environments that have centuries of history. Nordic rural areas also fully display the unique charm of the local landscapes. Second, discovering rural landscape resources, refining environmental elements with local characteristics, and cleverly integrating them into the design not only enriches the connotation of the landscape but also enhances the recognizability and cultural appeal of the environment. Furthermore, innovatively applying modern design concepts and techniques, while respecting tradition, injects new vitality into the countryside. For instance, introducing participatory and experiential design to create distinctive and attractive interactive scenes that stimulate visitor engagement. Finally, considering all aspects comprehensively, adopting

a holistic design approach that focuses on the harmony between the living environment and the landscape, the blend of nature and culture, and the integration of production, living, and ecology, to achieve a win-win situation in economic, social, and ecological benefits.

It is noteworthy that the success of these cases is fundamentally linked to acknowledging and respecting the villagers as primary contributors, which has actively spurred their involvement in the construction and revitalization of their communities. By delving into the cultural value of rural areas, this approach rekindles villagers' cultural confidence and sense of identity, and transforming it into the endogenous driving force for sustainable rural development. At the same time, professional environmental design teams have been pivotal. With a keen sensitivity to the unique characteristics of each village, these teams have applied their expert skills and artistic vision to transform these insights into exceptional designs that rejuvenate the rural landscape.

In conclusion, the crafting of distinctive interactive scenic landscapes should harness the inherent resources and cultural uniqueness of rural settings. It should follow principles that prioritize human-centric and situational adaptability, merging traditional heritage with innovative practices, and improving vitality through engaging interactions. This strategy promotes a synergistic balance between ecological integrity, economic vitality, and enhanced living standards. Such an approach not only complements but actively propels the rural revitalization agenda, ushering in transformative and meaningful developments across diverse rural territories.

4. Conclusion

Interactive scenic landscape design with rural characteristics needs to be based on the broader context of rural revitalization, fully utilizing local cultural resources, and through interactive design techniques, creating landscapes that are characterized by regional features, cultural depth, and a sense of experience^[4]. From the analysis of domestic and international cases previously discussed, it is evident that successful rural interactive scenic designs often adopt the philosophy of culture as the essence, focusing on refining design elements from local folklore, art, and lifestyles, which are intangible cultural aspects. Additionally, the design process should consider both the natural and cultural traits of the rural environment, avoiding overly commercialized development and homogenization. Moreover, interactive design should also pay attention to the integrity of the rural environment, coordinating the relationship between physical, cultural, and social spaces, rather than merely focusing on individual buildings and fragmented landscapes.

From a theoretical perspective, interactive scenic landscape design aligns with the cultural revitalization goals of rural revitalization, helping to preserve rural regional cultural characteristics and enhance the conscious use of culture in rural environmental design. At the same time, this design concept and method also provide new ideas for the role of environmental design professionals in rural revitalization. Future research in the field of rural environmental design can build on this foundation to further explore how to integrate cultural revitalization with the physical aspects of rural construction, creating a comprehensive system of rural planning and design strategies^[5].

In conclusion, within the broad backdrop of rural revitalization, distinctive interactive scenic landscape design is a crucial path to achieving the inheritance and innovation of rural culture and enhancing the quality of the rural environment. Design practice needs to establish a philosophy centered on culture as the soul, focusing on exploring and transforming local cultural resources, considering the integrity, uniqueness, and complexity of the rural environment, and creating experience-rich, attractive landscape spaces that meet local needs. This is of significant importance for aiding rural cultural revitalization and promoting the integrated development of urban and rural areas.

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Disclosure statement

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