

Research on Rural Landscape Space Design Based on Immersive Experience: Taking Mantangli Village of Anji as an Example

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Abstract: With the development of tourism economy, the combination of rural landscape and immersive experience has become a new trend. Driven by this concept, giving tourists immersive experience in rural landscape design has become an effective way to attract tourists effectively. This paper expounds the concept and characteristics of immersive experience, analysis of the current problems existing in the rural landscape, and puts forward the immersive experience in rural landscape design principles. Taking “Light of the Earth Art Commune” in Mantangli Village of Anji as an example, this paper discusses the design method of effectively integrating immersive experience into rural landscape from the perspective of landscape design, in order to provide reference for other rural landscape design practices.

1. Introduction

In recent years, integrated development of “rural tourism” has become the new trend of rural revitalization. While mining rural tourism resources, it is particularly important to introduce new industries such as art and technology to help rural revitalization. It also effectively promotes the sustainable development of the concept of “beautiful countryside”, and during the process of building “beautiful countryside”, the design of rural landscape becomes particularly important [1].

For the countryside, each village has different regional landscape and cultural characteristics, but most of the elements used in the design are relatively fixed, with roads, fields, water features, plants, retaining walls and other elements as the main expression objects. This also leads to the common problems in rural landscape design, such as design homogeneity and insufficient consideration of people's spiritual experience needs. Each village is similar in landscape design and does not reflect its own characteristics, which to a certain extent will restrict the development of rural economy and culture [2]. Therefore, rural landscape should dig deeply into the environment and cultural resources of the countryside itself, in order to create a quiet, appropriate and natural production and living environment as the goal, through scientific and reasonable design to show the characteristics of rural landscape, give people immersive experience, so as to effectively improve the local village environment and promote rural development.

2. The Concept and Characteristics of Immersive Experience

2.1 Analysis of Concepts

Experience, usually refers to the personal feelings that can be recalled through participation in or exposure to events and subjects. Immersive experience, also known as immersion theory, in the field of positive psychology refers to the immersion state when people are fully immersed in the situation and pay attention to it, and filter out all irrelevant perceptions.

Immersive experience is a kind of positive and positive psychological experience, which can make individuals gain great pleasure when participating in activities, so as to encourage individuals to repeatedly carry out the same activities without boredom [3]. VR and other virtual intelligence, as we often say, provide users with immersive experience. That is to say, more humanized content is

incorporated into design works or services by utilizing unique cognitive and sensory experience, so that participants can be immersed in a certain state and enjoy it, so as to obtain rich experience and feelings. Immersive experience is mostly used in architecture and landscape to enhance the perception and interaction effect of the whole scene.

2.2 Features of an Immersive Experience

With the change of consumption forms, all walks of life begin to pay attention to service as the first and products as the second. For rural tourism, consumers begin to pay attention to the spiritual experience. This concept also makes the application of immersive experience in landscape more and more important, and the combination of rural landscape and immersive experience has become a new model.

When creating a landscape atmosphere with immersive experience, the senses of participants, as an important object of design attention, can use some modern light and shadow facilities to stimulate people's senses or resonate with regional cultural characteristics to make people feel immersive in the process of participation ^[4]. The emerging mode of immersive experience also provides a new consumption scene for the countryside in the continuous development. Its sense of experience and interaction greatly enhance people's deep understanding of the countryside and local culture, and make the purpose of tourists to visit the countryside change from sightseeing to enjoying rural life.

3. The Design Status of Rural Landscape

3.1 Rural Landscape Design Tends to Formalism

At present, many Chinese villages deliberately imitate the style and way of urban landscape in landscape planning and design, design grand squares, blindly reduce green space, increase hard pavement, not only does not play a corresponding role, to a certain extent will waste space, affect the overall effect of rural landscape. In addition, some rural landscape design and transformation copy other rural construction cases, and "taking over" is becoming more and more common, leading to the destruction of local regional culture in many villages, while the landscape experience is completely ignored. This practice of only focusing on the form will inevitably lead to the homogenization of style and cause people's visual fatigue ^[5].

3.2 Blind Development of Tourism in Rural Areas

Some villages do not respect local development conditions and blindly pursue economic benefits. In the name of urbanization and characteristic town construction, they tear down real villages, build fake ones and blindly imitate ancient ones, which does not really reflect the regional characteristics of the villages. Such practices may gain some benefits temporarily, but with the test of time, The sameness of rural style inevitably leads to people's lack of deeper spiritual needs in rural tourism, and the result is unsatisfactory ^[6]. In addition, due to the unity of rural construction in some areas, the positioning of rural tourism tends to be consistent. Tourists in rural tourism mainly focus on farmhouse music, picking activities and children's amusement projects, and do not really experience the tourism culture with local characteristics. Coupled with the fixed nature of rural tourism projects, it is easy to make tourists feel boring. Unable to meet the increasingly diversified and personalized needs of tourists, it is not conducive to the sustainable development of the countryside in the future.

3.3 The Ecological Environment of the Countryside is Constantly Being Destroyed

In recent years, with the acceleration of industrialization and urbanization, some factories have migrated from cities to surrounding villages, transferring urban pollutants to the countryside. Coupled with the increase of domestic water consumption in rural areas and the lack of sewage treatment system, a large amount of sewage and waste water are discharged directly into rivers without effective treatment, resulting in river pollution. In order to pursue the speed of economic development, rural areas increase the output of agricultural products, which leads to excessive reclamation of farmland and aggravation of desertification. In recent years, rural self-built houses

and overconstruction of new villages produce a large amount of construction waste, but there is a lack of centralized waste disposal sites. These wastes are randomly discarded in rivers and low-lying areas of rural areas, damaging the surface environment. Infiltration of harmful substances also leads to the deterioration of soil quality, leading to further destruction of rural ecological environment and the reduction of people's quality of life.

4. The Design Principles of Immersive Experience in Rural Landscape

As a unique design form, immersive experience creates a multi-angle scene-like environment for visitors through various rendering techniques such as lighting, scene-setting, holographic multimedia, and produces different visual impact, so that visitors can have a multi-dimensional immersion experience in the experience process. Therefore, it is the core and essence of immersive experience to excavate people's inner needs and create a lifestyle of harmonious coexistence with nature^[7]. This paper will elaborate the design principles of immersive experience in rural landscape from three aspects: integrating multi-sensory experience, deeply integrating local culture and protecting traditional regional scenery.

4.1 Incorporate a Multi-Sensory Experience

Sense is an important element of experiential design. Multisensory is to induce synesthesia experience by stimulating the superposition and stimulation of multiple senses of participants, and to allow users to mobilize multiple senses to interact at the same time as possible, so as to further strengthen their more real experience.

The lighting, material and color in landscape space all need the experiential senses to feel on the spot. In rural landscape design, the way of landscape construction and plant configuration and combination can guide the experiential users to interact with the landscape, so that the experiential users can have deeper feelings. For example, the sound generated by the rain on the plants can be used to create a special artistic atmosphere^[8]. Integrating multi-sensory experience can not only enrich the feeling of normal people for landscape experience, but also give some special people the opportunity to feel and experience. Therefore, creating multi-sensory experience in rural landscape will also become an important means for designers to try in design practice.

4.2 Deep Integration of Local Culture

With the development of modernization, more and more villages have disappeared, and people's feelings towards local culture have gradually faded, hindering cultural inheritance and development. However, there are also many villages with unique cultural characteristics and historical heritage, reflecting the unique spiritual style of a region^[9]. In the experiential design of rural landscape, urban or other rural landscape should not be used as a template, but the traditional regional culture contained in the countryside itself should be explored and transformed into specific rural landscape to create cultural landscape, while handling the relationship between human beings and the environment, so that people can get emotional and spiritual resonance^[10]. For example, you can experience the inheritance of history and culture by watching local folk performances. Experience the process of farming and picking, feel the fun of rural farming; Through tasting the characteristic food of the countryside, feel the unique local food culture.

4.3 Protect Traditional Regional Scenery

The village's natural topography, vegetation distribution and water resources play an important role in guiding the design direction. As the basic elements of the design, these natural conditions should fully show the local natural characteristics and unique advantages. With the accelerating pace of people's life and the increasing pressure of life, the rural idyllic life has become people's yearning lifestyle again, and the natural and beautiful idyllic scenery has also become people's spiritual habitat away from the noisy city^[11]. People's love for idyllic scenery shows the life attitude of harmonious coexistence between man and nature. It simulates rural landscape and retains original natural resources, which not only conforms to the living habits of local villagers, but also brings

physiological and psychological balance to people in the fast-paced social life, and finally creates certain economic income for local residents [12].

5. Research on Immersive Rural Landscape Design: Taking Mantangli Village of Anji as an Example

5.1 Project Overview

“Light of the Earth Art Commune” is located in the natural village of Mantangli, Lingfeng Street, Anji County, Huzhou City, Zhejiang Province. It is a small village with only more than 100 households and 400 people. The village is ancient in the daytime and peaceful at night, which is typical of a small village in the south of the Yangtze River (Figure 1). In the process of building a beautiful countryside, Mantangli Village fully excavates local cultural resources, retains the original ecological environment, integrates it into modern rural life, integrates rich rural elements such as the ancient stage, ancient buildings, old streets and rural homes.

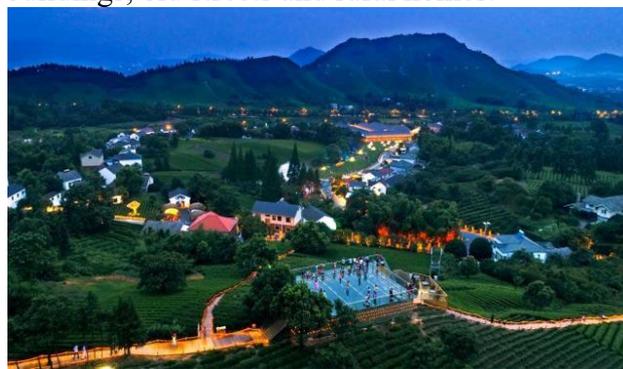


Fig. 1 Aerial View of Mantangli Village

5.2 Design Concept

In terms of design concept, the designer adapts to local conditions and starts from the local customs and cultural features of the countryside. Based on the original lighting in Mantang, the designer makes artistic improvement through technology, creativity and industrialization, and designs 10 groups of lighting exhibits full of artistic atmosphere by using the abundant local bamboo resources (Figure 2). By reshaping the rural night scene, combining the natural beauty with the humanities and art, highlighting the characteristics of “night tour” and developing the art economy, so as to make the village houses, woods and ponds in Mantangli glow with unique charm. Through the full expression of light and shadow and art, these elements greatly enhance the senior sense of the village, and make “Mantangli” a demonstration of rural cultural and creative lighting tourism. Make the village full of new “night tour” economic vitality.



Fig. 2 Distribution Map of Lighting Art Exhibition in Mantangli Village

5.3 The Embodiment of Immersive Experience in Mantangli Village

5.3.1 Set of Lights

Whether in the countryside or in the city, lighting should serve as an extension of the architecture and landscape, to set off the atmosphere and increase the ornamental effect. Mantangli Village abandons the noisy urban lighting concept, takes culture as the core, connects the dots into a line, uses new media and 3D projection and other art installations to guide entertainment experience consumption at night, forms a circular play route, and makes tourists integrate into the local environment to the maximum extent. Twenty laser projectors were used to create eight cultural and creative night scenes, such as “Old House”, “Bamboo Smoke” and “White Wall Projection”. They were equipped with corresponding short focal points in different environments, which perfectly fit with pavilions, pools and bamboo forests, creating eye-striking lighting images (Figure 3). In the exhibition project “Think Twice”, the designer uses multimedia lighting to add more elements to the building, excavates the traditional movable type printing culture, and uses images to fill the whole facade with words such as “happiness” and “longevity”, which on the one hand brings wonderful visual enjoyment to visitors, and on the other hand reflects the beauty of Chinese culture (Figure 4). In addition, light projection is also applied to some landscape walls and ground to obtain realistic visual and lighting effects, creating a strong romantic atmosphere for visitors. Mantangli Village finds a balance point between architecture, nature and night, and increases the interest in a dynamic interactive way, thus giving the village a smart beauty. This approach also establishes a new connection between the scene and lighting, transforming the light from a supporting role to a leading role, no longer an accessory to the scene, and the rural landscape and architecture become a new stage for the self-expression of light.



Fig. 3 Exhibition Item of “Bamboo Road” in Mantangli Village



Fig. 4 Exhibition Item of “Think Twice” in Mantangli Village

5.3.2 Scene Interaction

Rural outdoor landscape experience has various forms. For immersive landscape experience, it should not only create some characteristic landscapes like “passing through”, but also bring immersive sensory enjoyment from visual, auditory and tactile aspects through the combination of realistic scenes and large area projection, lighting and music. This interactive experience not only

increases the emotional connection between people and the countryside, but also allows visitors to participate in the landscape and further experience the unique cultural customs of the countryside. The use of light projection in Mantangli not only brings visual impact to visitors, but also combines rural memory with local performance. In the exhibition item of “Listening to the Moon Floor”, through the design and construction of the ancient stage, it introduces the most popular way of entertainment in old times -- listening to the opera. The projection equipment is used to project the opera image on the screen curtain, and the vivid sound and painting effect is added. It not only resonates with tourists, but also reflects the profound folk culture in the countryside (Figure 5). This method restores people's memory through shocking images and sounds, and the performance combined with it can fully interact with tourists, so that tourists can leave a good memory in the design experience. Therefore, a good rural design must be designed in accordance with the idea of theme parks in people's experience and interaction, to bring tourists a rich sense of participation.



Fig. 5 Exhibition Item of “Listening to the Moon Building” in Mantangli Village

5.3.3 Product Enablement

The advantages of the countryside lie in the beautiful ecological environment, rich natural resources and profound cultural heritage, and the immersive rural experience should also make full use of the country's own characteristics. “Light of the Earth” project presents the unique culture, landform and landscape of Mantangli through artistic forms, interprets the new rural life with innovative conceptual design, and constructs the rural cultural context with diversified artistic techniques. In rural development, there are sub-projects such as “Village market” and “Huzhou Teahouse”, which enable tourists to taste delicious farm food, buy ecological local products and stay in characteristic farm courtyard, and feel the real and warm fireworks in the countryside. Moreover, villagers are encouraged to participate in the operation of Mantangli family, food block, village market and other projects, so as to enrich the tourism business and revitalize the idle assets at the village level. Mantangli Village makes use of the original rural space, injects new formats, and creates a distinctive rural evening tour project, which not only transforms the beautiful countryside into a beautiful economy, but also drives the villagers to get rich, realizes the joint construction and sharing of the village, and opens up a new road for the development of rural undertakings in China ^[13].

6. Conclusion

In the process of building a beautiful countryside, good aesthetics and advanced design concepts are very important. We should excavate the real needs of The Times in the actual rural landscape design, instead of making the countryside “brand new” with the same and homogeneous behavior ^[14].

With immersive experience as the core concept of landscape design, modern technology and art can be brought into the countryside, so that the countryside can be revitalized. As a research method of rural landscape design, immersive experience combines landscape construction with people's perception to further strengthen people's experience. Therefore, in rural landscape design, more attention should be paid to the change of people's psychological needs. Through immersion

experience, tourists can transform from “bystanders” to “participants”, so as to realize the level of tourists' experience step by step according to sensory, cognitive and emotional gradient, so as to ensure that this kind of immersive experience can meet people's needs and conform to the development law of The Times.

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