

Application and enlightenment of sponge city concept in landscape construction of rural tourist destinations

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Abstract: With the promotion of ecological civilization construction, the concept of sponge city has become the construction guide of current urban development. The application of the concept of sponge city in the landscape construction of rural tourist destinations can protect the natural ecosystem through the principle of ecological priority, improve the efficiency of water resources utilization by drawing lessons from the method of resource recycling, pay attention to sustainable development and balance the economy, society and environment, encourage the community to participate in increasing the sense of belonging of scenic spots, strengthen education and publicity and improve the public's awareness of environmental protection. This paper will elaborate the concept of sponge city and the development direction of rural tourism landscape construction, infer the application of the concept of sponge city in rural tourism landscape construction, and provide enlightenment for ecological priority, resource recycling, sustainable development, community participation, education and publicity in rural tourism landscape construction.

1. Introduction

The application of the concept of sponge city in the landscape construction of rural tourist destinations provides us with valuable enlightenment. By paying attention to ecological priority, resource recycling, sustainable development, community participation, education and publicity, we can create more beautiful and sustainable rural tourist attractions and provide better tourism experience [1]. These revelations can not only protect and restore the natural ecosystem, but also improve the utilization efficiency of water resources, balance the development of economy, society and environment, increase the sense of participation of community residents and raise public awareness of environmental protection. Let's learn from the concept of sponge city, contribute our wisdom and strength to the landscape construction of rural tourist destinations, and jointly realize the sustainable development of rural tourism.

2. Sponge city concept

The concept of sponge city is a sustainable urban planning and design concept, which aims to transform the city into a "sponge" that can independently treat and utilize rainwater by simulating the natural ecosystem (Figure 1), so as to solve the problems faced by the city such as flood, water

pollution and urban heat island effect [2].



Figure 1: Sponge City's "Sponge" Mode of Autonomous Treatment and Utilization of Rainwater

The concept of sponge city originated from the Netherlands. With the acceleration of urbanization and climate change, more and more cities began to pay attention to and adopt this concept. The core idea of sponge city is to improve urban water environment and ecological environment through diversified water resources management, natural ecological restoration and urban greening. In sponge city, a series of measures are taken to realize the collection, storage and utilization of rainwater [3]. For example, by building rainwater gardens, green roofs, rainwater collection systems and underground water storage facilities, rainwater will be led to underground storage and used when necessary, such as irrigation, toilet flushing and fire-fighting. This can not only reduce the load of urban drainage system, but also improve the utilization efficiency of water resources. Sponge city also emphasizes ecological restoration and urban greening. By increasing the coverage of green space, wetlands and forests, the natural water cycle and ecosystem functions will be restored, and the ecological adaptability and resilience of the city will be improved. At the same time, sponge city encourages the use of permeable pavement and biological detention facilities (Figure 2) to reduce the hardening of the city and increase the permeability of the surface, so as to reduce the flood risk and improve the urban heat island effect. The implementation of the concept of sponge city needs the joint efforts of the government, planners, designers and citizens. The government should introduce relevant policies and standards to encourage and support the construction of sponge cities. Planners and designers need to consider the principles and requirements of sponge city in urban planning and design to ensure the sustainable development of the city. Citizens should also actively participate, raise awareness of environmental protection and take actions to reduce the consumption and pollution of urban water resources [4].

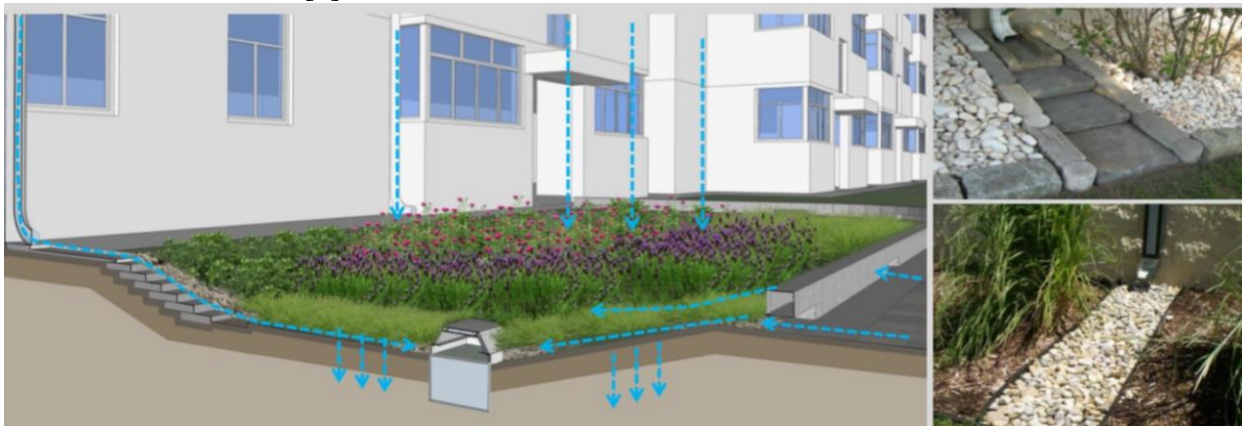


Figure 2: Simulated natural seepage model of sponge city

Sponge city concept is a sustainable urban planning and design concept, which solves the water environment and ecological environment problems faced by the city by imitating the natural ecosystem. Applying the concept of sponge city to the landscape construction of rural tourist destinations can improve the utilization efficiency of water resources in rural tourist destinations, reduce flood risks, and improve the ecological adaptability and resilience of rural tourist destinations.

3. Present situation and development of rural tourism landscape construction

Landscape construction of rural tourism destination is an important part of rural tourism development, which is of great significance to enhance the attraction of rural tourism, enhance the tourist experience and promote rural revitalization. At present, the landscape construction of rural tourist destinations has different construction status and development direction in different regions [5].

First of all, the present situation of landscape construction in rural tourist destinations is diverse. In some areas, the landscape construction of rural tourist destinations has achieved good results, and a number of fine scenic spots with local characteristics have emerged. These scenic spots create a unique rural landscape by protecting and restoring traditional buildings, traditional villages and farmland scenery (Figure 3), attracting a large number of tourists. However, there are also some areas where the landscape construction of rural tourist destinations lags behind, lacking overall planning and design, and the image of scenic spots is single, the content is monotonous and unattractive. Secondly, the development direction of rural tourism landscape construction is diversified. In the future, the landscape construction of rural tourist destinations should pay attention to protecting and inheriting rural characteristic culture and promoting local culture and folk customs. By tapping resources such as rural history and culture, folk traditional skills and local specialties, we will create rich and diverse cultural experience projects and provide more attractive and participatory tourism products [6]. At the same time, the landscape construction of rural tourist destinations should also pay attention to ecological protection and green development, protect and restore the natural ecosystem, create ecological agriculture, ecological tourism and ecological leisure scenic spots, and provide healthy and sustainable tourism experience. In addition, rural tourism landscape construction should also focus on innovation and improve service quality. By introducing modern scientific and technological means, such as virtual reality, augmented reality, etc., the interaction and experience of scenic spots are enhanced, and more rich and diverse travel experiences are provided for tourists, at the same time, strengthening infrastructure construction and service facilities, improving the reception capacity and service quality of scenic spots, and meeting the needs of tourists [7].



Figure 3: Case study of landscape construction project in rural tourist destination

The present situation of landscape construction in rural tourist destinations is different in different regions, but it shows diversity on the whole. In the future, the landscape construction of rural tourist destinations should pay attention to protecting and inheriting rural characteristic culture, ecological protection and green development, and at the same time innovate and improve the service quality to provide tourists with more diverse tourism experiences [8].

4. The application of the concept of sponge city in the landscape construction of rural tourist destinations.

The concept of sponge city can be applied to rainwater management, green building, water protection and restoration, wisdom management, community participation and education and publicity in rural tourism landscape construction [9]. Reasonable application of the concept of sponge city can improve the sustainability of rural tourism landscape and provide better tourism experience for tourists.

4.1. Rainwater Management

The concept of sponge city emphasizes the rational management and utilization of rainwater. In the landscape construction of rural tourist destinations, rainwater collection system can be used to irrigate farmland, landscape greening, fish pond culture and other aspects to improve the utilization efficiency of water resources [10]. In addition, landscape facilities such as rain gardens and rain wetlands can be built to improve water quality and provide a better landscape environment by naturally filtering and purifying rain [11].

4.2. Green Building

The concept of sponge city advocates green architecture and pays attention to the integration of architecture and natural environment. In the landscape construction of rural tourist destinations, sustainable building materials and technologies can be adopted to build green buildings with rural characteristics. At the same time, by means of roof greening, three-dimensional greening and vertical greening, the vegetation coverage area of the scenic spot will be increased to provide better ecological environment and ornamental value [12].

4.3. Water Protection and Restoration

There are usually lakes, rivers, reservoirs and other water bodies in rural tourist destinations, and the concept of sponge city can be applied to the protection and restoration of water bodies. Through the construction of wetlands, river ecological restoration and other projects, the ecological function of water bodies can be restored, the water quality can be purified and the landscape value of water bodies can be increased [13][14]. At the same time, relevant departments should pay attention to the ecological landscape planning around the water body, create a beautiful waterfront landscape (Figure 4), and provide a better sightseeing experience.



Figure 4: Waterfront Landscape of Rural Tourist Destinations

4.4. Wisdom Management

The concept of sponge city emphasizes intelligent management and technical application, and can introduce the technical means of smart city into the landscape construction of rural tourist destinations. Through the construction of intelligent scenic spot management system and information-based tourist guide system, the efficiency of scenic spot management and tourist experience can be improved [15]. At the same time, combined with big data analysis and artificial intelligence technology, the tourist behavior and scenic resources are intelligently managed and optimized.

4.5. Community Participation and Education Publicity

The concept of sponge city emphasizes community participation and public education. In the landscape construction of rural tourist destinations, community residents can be encouraged to participate in the construction and management of scenic spots, and their sense of belonging and responsibility for scenic spots can be improved. At the same time, by carrying out environmental education and publicity activities, the public's understanding and awareness of the concept of sponge city will be improved, and the development of sustainable tourism will be promoted.

5. The inspiration of the concept of sponge city in the landscape construction of rural tourist destinations.

The application of the concept of sponge city in the landscape construction of rural tourist destinations has brought us enlightenment in ecological priority, resource recycling, sustainable development, community participation, education and publicity. Through the rational use of these inspirations, we can create more beautiful and sustainable rural tourist attractions and provide better tourism experience for tourists.

5.1. Ecological priority

The concept of sponge city emphasizes the principle of ecological priority and pays attention to the protection and restoration of natural ecosystems. In the landscape construction of rural tourist destinations, we should pay more attention to the protection and utilization of local natural resources, respect the laws of nature and minimize the damage to the ecological environment. Through reasonable planning and design, we will create a landscape with ecological value and ornamental value, so that tourists can feel the power and beauty of nature while enjoying the beautiful scenery.

5.2. Resource recycling

The concept of sponge city emphasizes the recycling of resources, especially the rational management and utilization of water resources. In the landscape construction of rural tourist destinations, we can learn from the rainwater collection, purification and utilization system of sponge city, and use rainwater for irrigation, landscape greening and other aspects of scenic spots to reduce the dependence on groundwater and improve the utilization efficiency of water resources. At the same time, organic waste can be composted and used as organic fertilizer in farmland to realize the recycling of resources.

5.3. Sustainable development

The concept of sponge city emphasizes sustainable development, that is, meeting the current demand without damaging the future development. In the landscape construction of rural tourist

destinations, we should pay attention to balancing the development of economy, society and environment, and avoid blindly pursuing economic benefits while ignoring the protection of ecology and culture. Through scientific planning and management, the number of tourists is reasonably controlled, the ecological environment and cultural heritage of scenic spots are protected, and good conditions are created for the sustainable development of rural tourism.

5.4. Community participation

The concept of sponge city emphasizes community participation and attaches importance to residents' dominant position and participation in decision-making. In the landscape construction of rural tourist destinations, we should encourage community residents to participate in the construction and management of scenic spots and increase their sense of belonging and responsibility to the scenic spots. Through cooperation with community residents, we can better protect and inherit rural culture and traditions and improve the quality and attractiveness of scenic spots.

5.5. Education and publicity

The concept of sponge city emphasizes public education and publicity, and improves the public's understanding and awareness of sustainable development. In the landscape construction of rural tourist destinations, we should strengthen environmental education and publicity, popularize the concept of ecological civilization to tourists, guide them to care for the environment and cultural heritage, abide by the rules of sightseeing, and jointly safeguard the sustainable development of scenic spots. Through education and publicity, tourists' awareness of environmental protection can be improved and the sustainable development of rural tourism can be promoted.

6. Conclusion

The application of the concept of sponge city in the landscape construction of rural tourist destinations provides us with enlightenment in ecological priority, resource recycling, sustainable development, community participation, education and publicity. The application of the concept of sponge city in the landscape construction of rural tourist destinations can protect the natural ecosystem through the principle of ecological priority, improve the efficiency of water resources utilization by drawing lessons from the method of resource recycling, pay attention to sustainable development and balance the economy, society and environment, encourage the community to participate in increasing the sense of belonging of scenic spots, strengthen education and publicity and improve the public's awareness of environmental protection. The application of the concept of sponge city in the landscape construction of rural tourist destinations inspires us to pay attention to ecological protection, resource recycling, sustainable development, community participation and education and publicity. Through these revelations, we can create more beautiful and sustainable rural tourist attractions and provide better tourism experience.

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