

A Study on Principles of Rural Landscape Design under the Concept of Sustainable Development

Zhi You^{1, a}, Yulan Li^{2, b}

¹Sichuan Technology and Business University, Chengdu City, Sichuan Province, 611745, China

²Chengdu Art Vocational Collage, Chengdu City, Sichuan Province, 611433, China

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Abstract. The concept of sustainable development has been universally recognized once it is put forward. Today, it has become a universal policy objective in the international landscape planning. In the face of the current economic crisis, rural landscape design should take its duty to make the sustainable development as the most important design principle. Based on the author's learning and practical experience, this paper first analyzed the meaning of sustainable development in landscape design, and then discussed the specific content of sustainable development in landscape. Finally, the paper put forward principles of rural landscape design based on the concept of sustainable development.

Introduction

Landscape design is a science and art of analyzing, planning, transforming, managing, protecting and restoring the land. It is a comprehensive design of the land about the coordination between man and nature, and about how to use the land. The core of the sustainable development in landscape design is to respect nature, take people first and explore the harmonious coexistence of man and nature. For thousands of years, human have a dream to own an ideal landscape in their own living environment, which actually is a beautiful living environment and comfortable living condition that people desire. In the development of classical gardening art, landscape design has experienced the examination of time and exploration of numerous pioneers. The sustainable development will be the only way for its future development.

The Meaning of Sustainable Development in Landscape Design

The principle of sustainable development is to analyze the urban system from the perspective of ecological points to meet the greatest needs of mankind with the smallest resource consumption and maintain the harmonious development of man and the natural environment, so as to maintain the balance of the urban development system. As an important aspect of urban planning, urban landscape design should take the conclusion of ecological city as the guidance and take natural ecology as the center to guide the landscape design, so as to meet requirements of sustainable development. This design is an ecological landscape design, which is also known as green design. It is a new design method rising in the 1990s. This design pursues the coordination between landscape design and ecological process in order to minimize the destruction of urban construction to the environment. This type of design played its role in relieving the damage of industrial development to the environment and protect the fragile urban ecosystem. After World War II, with the rapid development

of world industry, there appeared a series of problems, such as water resource crisis, energy crisis, land crisis, the destruction of the ozone layer and global warming, which are caused by human's destruction to the ecological environment. In this case, the ecological landscape design becomes more important. The sustainable development of landscape design has become a new design and development direction of urban landscape design and it is also a new design idea.

The Specific Content of Sustainable Development in Landscape

First of all, the landscape pattern is sustainable. The sustainability of the landscape pattern refers to the establishment of sustainable ecological infrastructures with the discussion on the sustainability of the landscape from the perspective of overall spatial pattern and the process. Landscape is a synthesis with various ecosystems, which needs to be understood from the spatial pattern and its development level. This process includes wind, water, biological migration and human activities. The sustainability of these processes directly affects the sustainability of the whole landscape pattern. Results of a large number of landscape ecology researches show that landscape elements and spatial positions are important factors in the construction of urban ecological landscape. The persistence of the landscape pattern is one aspect of the sustainability of landscape design, and it is the requirement for human beings to obtain sustainable ecological services.

Second, the ecosystem is sustainable. A forest, a stream, a wetland and a meadow can be an ecosystem. There are a variety of biological elements in each of these ecosystems. They exchange energy and information. As an ecosystem, the sustainability of landscape will be affected by the diversity and complexity of biological species and ecological processes, the suitability of creatures and environment, human disturbances and the degree of assimilation and degradation of artificial substances. The design should take the landscape as an ecosystem and achieve the sustainable development of landscape design, and the maintenance and improvement of energy, resource recycling and regeneration system by virtue of the regulation of the biological and environmental relation.

In addition, the landscape materials and engineering technology are sustainable. All materials used in landscape design are derived from natural resources on the planet, which are divided into renewable and non-renewable resources. To achieve the sustainability of human survival environment, human should protect and conserve non-renewable resources. For renewable resources, we should protect its limited renewable capacity and we should not kill the goose that lays the golden eggs. Therefore, we should reduce, reuse and regenerate these resources.

Finally, the use of the landscape is sustainable. From the perspective of economics and sociology, the use of the landscape should be sustainable. Huge population pressure and limited land resources is a problem that China has to face, which means that the conservation, utilization and reuse of public facilities and land resources are the key strategies for China to achieve sustainable development. Therefore, the landscape design in China has the responsibility to protect and manage the land and the objects on the land to improve the utilization rate scientifically. The government should educate the public, advocate sustainable environmental theory and promote sustainable development path in China.

Principles of Rural Landscape Design Based on the Concept of Sustainable Development

The principle of differential and coordinated development in urban and rural areas. In terms of the characteristics of rural landscape, key words of agriculture and rural elements are nature, broadness and tradition, while key words of characteristics of the urban landscape are modern, entertainment and diversity. Rural culture in China is a pure culture. The main reason is that current rural culture in China is influenced by the farming civilization deeply and the whole village takes the family name as the link, such as the ancestral halls in some villages and the clansman. Compared with the urban area, the close interpersonal relationship in rural society is very different.

The rural development in some western developed countries can give us a reference. For example, rural layout in France is generally concentrated around the church closely. Moreover, most of its houses are surrounded by farmland and trees. There also exists a large difference between the rural and urban landscape in other European countries, Japan and Korea. However, the rural life in these countries and regions is very comfortable and many rural areas have been rated as the world's best living environment for many years.

Combined with the development experience of foreign cities and rural areas, the use of the differential and coordinated development principle in urban and rural areas is in line with the actual urban and rural development situation. According to the development requirements of "production development model, wealthy life, civilized folk customs, clean and tidy village and efficient management", we should constantly realize the new construction of socialist countryside, so that the differential and coordinated development model can be achieved in urban and rural areas..

The principle of integrity. Rural landscape design and plan should adhere to the organization form of regional economic construction and have a sense of integrity in the design planning. In other words, in the landscape design, the first thing is to conduct multilevel, multidimensional and in-depth research and analysis of the rural condition, geographical location, infrastructure construction, tourism performance, the competition and development situation in rural areas, the future development needs, higher government requirements and their own positioning. We should set the target and the overall structure under the premise of the acquirement of sufficient information and availability of the design system. First is to use the scientific method to design the function layout of the rural landscape from the overall layout and strengthen the coordination and connectivity of the organic whole. We should make villages with different functions and features maintain harmony in the overall image and style as far as possible; the second is to make a comprehensive and systematic analysis of rural ecological resources and constantly improve the integrated and sustainable development of ecological landscape in the landscape layout and ecological construction.

The principle of acting according to local conditions and highlighting features. All villages have their own qualities. Because of the geographical differences, the natural landscape resources are also different. We can take full advantage of natural resources and make an overall consideration of terrain characteristics of natural landscape, humanities and national customs to establish a new topic with the comprehensive excavation and combination of advantages and characteristics. This theme is generally based on landscape planning and design and its conception usually has distinctive features and creativity, which makes the landscape emotion and theme construction more real. Differences between villages and their characteristics will enrich the tourism resources, so that tourists will have

more interesting experience and the tourism quality can be guaranteed. For example, the agricultural culture in western Sichuan contains a lot of content. According to four different connotations of "farming", "fishing", "reading" and "firewood", we can make corresponding theme plans and designs from four angles, so that the landscape design will have distinctive characteristics and the overall image is more innovative.

The principles of sustainable development of the ecological environment. Due to industrial pollution, intensive agricultural cultivation and excessive exploitation of resources, the ecological environment in some rural areas in China deteriorates. Therefore, in order to realize the sustainable development of agriculture and rural tourism, it is very important to build a good ecological environment and agricultural environment.

Summary

The principle of sustainable development is to analyze the urban system from the perspective of ecological points to meet the greatest needs of mankind with the smallest resource consumption and maintain the harmonious development of man and the natural environment. New rural construction in China is only in the initial stage. On one hand, a lot of people still stick to the traditional construction ways in landscape planning or ecological construction and they want to return to the ancients; on the other hand, many people blindly pursue Westernization and copy the Western construction model. They do not consider the problem from the perspective of aesthetics, urban and rural differences, and function demand of different areas, which will harm the new rural construction cause in the long run. Therefore, the construction of new countryside should be based on the scientific development concept and should be promoted steadily. As a designer, to integrate various possibilities of innovative design to promote an excellent design is the responsibility that designers should bear. At the same time, in today's society, the landscape designer's task is not to combine the pavilion, corridor and a variety of plants simply, but to widely integrate a variety of available resources, so that the design will respect the tradition, respect the nature and emphasize innovation. Designers should constantly maintain a balanced relationship between the natural environment and the artificial environment and find out a sustainable relationship between the design nature and social development.

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