

# Analysis on the Relationship between Landscape Ecology and Urban Landscaping Based on the Concept of Environmental Protection

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**Abstract:** With the development of modern life, China's urban landscaping construction has also developed and grown to a certain extent. While people are pursuing a better life, their awareness of environmental protection has also increased, and higher requirements have been put forward for greening construction. On this basis, urban landscaping construction has achieved rapid development. With the rapid growth of urban population, land resources per capita have become less and less, making urban residents demand a good environment while pursuing a spacious and comfortable life. As a branch of ecology, landscape ecology itself has a very high scientific basis. In the process of urban landscaping, the application of landscape ecology can effectively promote its development. Based on the concept of environmental protection, this paper analyzes the development status of urban landscaping and its significance to environmental protection, and discusses the relationship between landscape ecology and urban landscaping.

## 1. Introduction

In today's world, environmental problems have become increasingly prominent, and ecology has developed rapidly with it, which has become the background of the times. Some people call ecology a subject of the 21st century, which just shows the extensiveness and importance of its impact on social development. Under the agitation of such ecological waves, "ecological gardens" were born[1]. Cities are the main places where people live and work, and urban greening is also part of environmental protection. With the development of economy and the increase of urban population, the problem of environmental pollution has become more and more serious, and urban construction has increasingly pursued the harmonious development of the city and the ecological environment [2]. Especially at this stage, my country's economic environment is developing rapidly and has made shocking progress, but to achieve this result requires the destruction of the ecological environment in the city, the establishment of factories, the emission of automobile exhaust, and other urban environments that are always scarred all the time. Therefore, in the face of such a difficult situation, the introduction of landscape ecology and the use of scientific methods to coordinate the relationship between human beings, urban development and urban landscaping has become a new road of urban development [3]. Relevant departments should be deeply aware of the environmental issues in urban construction, and then increase the link between greening construction and environmental protection, in order to promote the harmonious coexistence of man and nature, and meet the increasing material needs of people.

As the most critical branch of ecology, landscape ecology itself can effectively improve the level of ecological development and effectively ensure the scientific nature of its development [4]. In the current process of urban construction in my country, landscaping is an important part of urban construction, and its relationship with landscape ecology is analyzed in the process of its development, so as to ensure that its ecological level can be improved in the process of urban construction [5]. How to combine landscape ecology with urban landscaping work to better realize the development of urban greening has become an important topic. The concept of environmental protection and the construction of energy-saving urban gardens are mainly based on the development model of low energy consumption, low pollution and low emissions, and innovations in modern urban landscaping work to meet the requirements of an energy-saving society. In today's construction of a socialist harmonious society and a conservation-oriented society, it is very

important to guide urban landscaping with the concept of environmental protection [6].

## **2. Landscape Ecology Analysis of Urban Garden Green Space System**

### **2.1 The Significance of Urban Landscaping to Environmental Protection**

Urban development has become the top priority of my country's economic development. In the process of urban industrialization, industrial land is becoming more and more in both quantity and area. In contrast, in cities, the area occupied by green land and surface water resources have become less and less, and their sense of existence has become weaker and weaker, and they are on the verge of disappearing. Landscaping is an important part of urban landscape construction, and the management of landscaping plays an important role in promoting modern landscape construction. Urban landscaping is the planning and management of urban park system, green space system and suburban scenic area, and the city is its object and main body.

From the perspective of landscape ecology, the city is a typical landscape dominated by human disturbance, and a specific landscape with continuous and dynamic changes. In other words, the main body of urban landscaping is a special landscape, and its main feature lies in nature. The destruction of landscape and the expansion of artificial landscape elements. The advancement of urban industrialization has provided enough jobs for the urban population, and it has also caused the population in the city to increase year by year, explosively increasing. This has aggravated the consumption of human resources by the urban population, and at the same time, it has further aggravated the shrinking of the green area in the city and the disappearance of surface water resources. Urban landscaping is an important means to improve and beautify the urban ecological environment. The management and maintenance of urban landscaping are mainly for the different colors, shapes, uses and styles of the various trees, flowers and grasses selected in the current landscaping Etc., reasonable configuration and management can effectively achieve the purpose of creating a beautiful and comfortable living environment. Urban landscaping is aimed at parks, green spaces and suburban natural scenic areas. Urban landscaping is mainly managed, planned and transformed [7]. Landscaping has a unique effect on air purification in cities. According to surveys, many garden plants can effectively absorb soot, dust and various harmful gases, and release a large amount of oxygen, and the plants on the lawn have a comparatively good effect on dust collection. obvious. It can be seen that urban landscaping plays a vital role in purifying urban air.

### **2.2 The Current Development Status of Urban Landscaping**

At present, cities have become the mainstay of China's economic development. In the process of urban development, due to the establishment of various factories and the increasing scope of industrial land, the phenomenon of urban environmental pollution has become more and more serious, and the greening standards of many cities have not met the relevant requirements of countries or regions. And in recent years, China's population is growing rapidly, and more and more people are choosing to move to cities, and the urban area is expanding constantly. Although the state and government have been emphasizing low carbon, environmental protection and building conservation-oriented cities, especially in the process of urban landscaping, the concept of environmental protection should be taken as the guide. However, due to the complexity of this work, there will inevitably be some problems in the actual management and operation.

With the rapid development of industrialization, the domestic pollution brought by the rapid development of industry is spreading slowly. The already scarce green space resources and water resources have been irreparably damaged. It is inevitable to make use of limited green space and scarce surface water resources for urban landscaping. China's urban land resources are very tight. Although various regions have been controlling environmental pollution and strengthening the degree of urban greening, the level of urban landscaping in China has not changed significantly, even declined to a certain extent, which is not conducive to the sustainable development of urban construction. In the current development, all kinds of resources and funds invested in urban landscaping have reached a certain standard. However, due to the lack of scientific planning, its

own environmental purification ability can't reach the prescribed level, and the urban landscape construction can't effectively purify the current urban environment, which leads to the inability to improve the comprehensive environmental level of the city and greatly affects the development of the city [8]. Based on this, it is very necessary to deeply analyze the application of landscape ecology in urban landscaping, make every effort to improve the present situation of urban greening and environmental pollution in China, and create a better external environment for scientific development and construction in China.

### **3. Landscape Ecology and Urban Landscaping Planning and Design of Different Scales**

#### **3.1 The Effect of Landscape Ecology on Urban Gardening**

The application of landscape ecology to urban landscaping can meet people's spiritual pursuit. Human beings have created cities and effectively promoted urban development in the process of continuous development. Based on this, in the process of urban construction, we should first consider people's spiritual needs under the current level of economic development. On the surface, there is no direct connection between people's daily life and greening level. In fact, in the process of urban life, the improvement of greening level has a direct effect on the improvement of people's quality of life. Good urban landscaping can provide people with a more comfortable living environment, so as to effectively improve the pressure of fast-paced life. The use of landscape ecology for urban landscaping, through the effective design of the regional environment, so as to ensure the scientific collocation of various types of scenery in the regional environment. On the basis of maintaining the balance of regional ecological environment, it can increase the cultural and artistic atmosphere in the current region. And through the design, increase the functions in the current landscaping, and provide people with a place integrating leisure, service and viewing, so as to meet the current people's pursuit of the spiritual world, and finally realize the comprehensive improvement of people's living standards.

In human history, the emergence of urban landscape is the symbol of industrial development, scientific and technological progress and human modern civilization. However, the change of the nature of urban landscape and the accompanying change of population and resource distribution make urban environmental problems more and more serious. Rational use of vegetation for urban landscape construction can play a positive role in urban landscape. With the continuous change of seasons, the growth state of vegetation will also show different forms. Such changes can give more advanced sense and beauty to urban landscaping, which is very beneficial to alleviate the depression caused by too many buildings in the city [9]. In addition, the vegetation itself can "devour" part of automobile exhaust and carbon dioxide through photosynthesis, which is conducive to the establishment of a good ecological environment. The rational use of landscape ecology will make urban landscaping more targeted. According to the different regions of different cities and the different problems they face, through the analysis method of landscape ecology, we can reasonably plan and formulate the urban landscaping, so as to ensure the maximization of the value of urban landscaping.

#### **3.2 Application of Landscape Ecology in Urban Landscaping**

In recent years, China's efforts on urban construction have been increasing, and there are more and more construction projects, municipal projects and power projects in urban construction. It has to be said that the infrastructure of urban construction is really huge, but in the process of urban construction planning, the consideration of the function and functionality of infrastructure, especially the rationality of urban ecosystem planning, is not sufficient [10]. Urban landscaping itself has the effect of promoting the self-purification ability of urban environment. Through the scientific guidance of landscape ecology, reasonable selection of biological species and structural arrangement, the environmental purification ability of urban landscaping will reach a higher level.

According to the comprehensive effect of all human activities on landscape in the historical process, the evolution of landscape can be divided into five stages: natural landscape management

landscape planting landscape suburban landscape urban landscape. By summarizing the changes of spatial pattern characteristics from natural landscape to urban landscape, we can get the ideal urban spatial structure model (Figure 1).

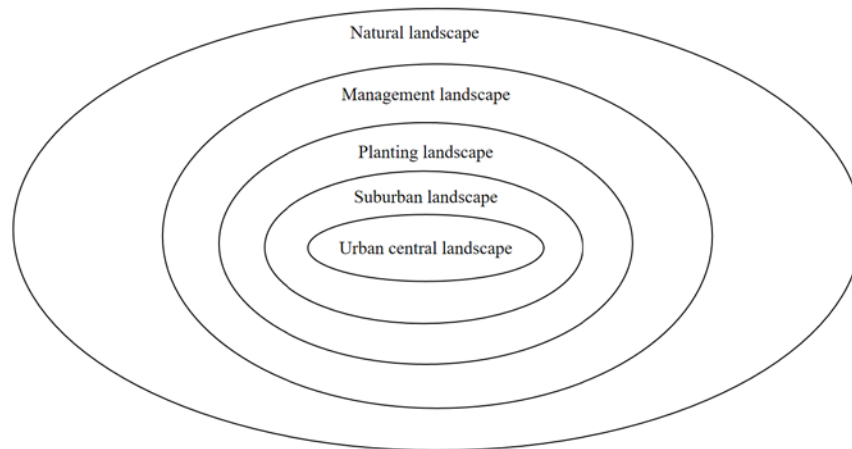


Fig.1 Concentric Circle Model of Urban Hollow Structure

This model can be well applied to the planning and construction of garden green space in urban areas, which is the so-called urban greening. In the process of urban landscaping, landscaping itself can play a role in improving the overall environmental quality of the city, and it is also very important in the beautification of the urban environment.

The landscaping of the urban environment mainly needs to deal with the configuration and connection of the landscaping network in the central area of the city and the suburban landscape. Based on the principle of overall optimization, various landscapes and landscape elements coexist harmoniously in the continuous visual field of the space, and communicate harmoniously to form a continuous Overall. The suburban landscape is in the transitional area, which is an ecologically fragile zone. It has both natural landscapes and continuous disturbance of man-made landscapes. It is the hub of the integration of man and nature. It is necessary to protect the natural landscape as much as possible, strengthen the connection between the suburban landscape and the urban landscaping network, and further strengthen the connection between the urban landscape and the natural landscape model. This is the requirement for the greening of the urban environment. In the construction of modern cities, a lot of noise will be generated in the construction site during the production process. These noises will not only affect people's normal life, but also threaten people's health in serious cases. In garden construction, more trees can be planted to reduce noise. If tall trees are built on the street, the noise intensity is more than 5 times lower than that of a street without trees. Landscaping has the effect of protecting the environment. Plant photosynthesis can absorb carbon dioxide rich in the air, reduce the greenhouse effect, and can also absorb harmful gases. The greening of the city can also reduce the wind speed and reduce the large particles of dust in the air. Due to the uneven surface of the branches, the secretion of more juice can absorb the dust. At the same time, it can also reduce the propagation speed of sound in the air, scatter sound waves, and effectively reduce noise pollution.

In the process of garden construction, the following points should be paid attention to: First, in the division of urban functional areas, the traffic routes and the total proportion of design buildings, scale and other factors, the level of urban greening construction should be better than environmental protection , So as to directly link the two together. Secondly, we must fundamentally raise public awareness of environmental protection. Relevant departments must make full use of the advantages of Internet+ to actively publicize the significance of greening and environmental protection, so that the general public can support environmental protection. Finally, actively carry out some nationwide greening activities to encourage citizens to participate and truly experience the significance of greening and environmental protection. Urban landscaping is not a one-time project. Its activity objects are all kinds of living green plants. Their growth is a dynamic and long process.

Therefore, landscaping is also a long-term work.

#### 4. Conclusions

With the continuous development of urban construction in China, landscaping plays an increasingly important role in urban construction, which can not be ignored in improving people's quality of life and protecting the ecological environment. Landscape ecology is a feasible way to solve urban landscaping, and urban landscaping is the stage of landscape ecology. As a science, the application of landscape ecology goes far beyond that. Landscape ecology is effectively applied in the process of urban landscaping to improve the overall environmental level of the city, and through effective design, the urban environment is more beautiful and pleasant, the comprehensive environmental level of the city is effectively improved, people can enjoy a healthy living environment, and people's pursuit of the spiritual world is effectively satisfied. The further promotion of urban greening construction in China has also led to the attention paid to the study of related disciplines. In order to better build urban ecological environment, cities are required to give full play to the planning and guiding role of landscape ecology, redesign urban landscaping in combination with people's spiritual needs and the actual situation of urban development, give full play to the planning role of landscape ecology theory, and build a more ideal living environment and more beautiful green landscape for cities, so as to achieve a win-win situation of urban economic development and ecological development to the greatest extent.

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