Strategic Analysis of Integrating Ecological Concepts into Garden Landscape Design

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ABSTRACT: With the current social and economic development and the acceleration of urbanization, garden construction has begun to attract more and more attention from the society. In the process of garden construction, landscape design is a very important section, especially under today's green ecological concept, garden ecological landscape design is even more important. Based on this, this article analyzes the integration of ecological concepts in the process of garden landscape design, so as to provide corresponding references for garden design and its development.

1. Introduction:
In modern society, the protection and development of the ecological environment has become a topic of common concern all over the world. Especially in the field of garden landscape design, the integration of ecological concepts is the focus of people's attention. The rational integration of ecological concepts in the specific garden design can not only effectively guarantee the harmony between the garden and the urban landscape to enhance the urban beautification effect, but also play a good role in protecting the ecological environment and promote the coordinated and sustainable development of socioeconomic and ecological environment.

2. Basic Overview of the Integration of Ecological Concepts into Garden Landscape Design
Nowadays, with the development of science and technology, China's urbanization is also developing rapidly, which has caused damage to the urban ecological environment to some extent. Garden construction is a way to effectively improve the urban ecological environment. Therefore, in the process of garden landscape designing, the entire ecosystem must be connected and sufficient attention must be paid to the sustainable development of nature. This requires designers to pay attention to ecological protection while paying attention to people's aesthetic needs, so that the garden landscape design fully meets the actual needs of local ecological protection. In this way, the ecological concepts can be well integrated into the garden landscape design, which can promote the good development of the urban ecological environment while beautifying the city and satisfying people's aesthetic needs[1].

3. The Basic Principles of Integrating Ecological Concepts into Landscape Design
   (1) The Principles of Adapting to Local Conditions
   In the process of garden landscape design, in order to achieve good integration of ecological concepts, one of the most fundamental principles is to adapt to local conditions. Under normal
circumstances, green plants play a major role in the garden landscape, and there are strict requirements on green plants for environmental adaptability. Therefore, in the process of selecting green plants, designers must pay attention to local conditions so that the needs of green plants for growth conditions can be fully met. In the specific selection, the designer should first fully consider the environmental and climatic conditions where the garden is located, and then make a reasonable selection of green plants based on this. The second is to fully consider how different green plants will improve the local environment and climate, so that the effective improvement of the ecological environment can be achieved through the rational planting of green plants. At the same time, in the process of garden construction, it is necessary to fully analyze and understand the current stable ecological environment system of the site to avoid damage to the original ecological system.

(2) Principles of Harmony and Sustainability

In modern garden landscape design process, in order to achieve a good integration of ecological concepts, designers must not only consider the harmony between landscape design and local ecological landscape, but also consider the role of landscape design in the sustainable development of the ecosystem in order to effectively meet the needs of future environmental development. In the specific landscape design, designers should integrate various resources in terms of time and space. At the same time, they should also pay attention to the rational development and utilization of resources to ensure the harmonious sustainable development between the garden landscape and the local natural environment. At the same time, in the specific design process of the garden landscape, the designer should also pay full attention to the relationship between man and nature, and further enhance the harmony between the two in the design.

(3) Principle of Reasonable Matching

To effectively integrate the ecological concepts into the garden landscape design, designers not only need to make a reasonable selection of plants through holistic consideration of environmental and climate conditions, but also pay attention to the reasonable matching of plants, so as to ensure the aesthetic effects of the garden landscape. In the specific plants matching, the appearance and color need to be considered first to ensure the coordination of the matching. The second is to have a holistic grasp of the planting methods and pest control, so that plants that are not suitable for planting together can be distinguished to reduce the probability and severity of pests and diseases, and to ensure the good growth of garden green landscapes[2].

(4) Cultural Principles

In the process of designing the garden landscape, the designer must fully understand the local customs, culture and humanistic spirit, and use them as the basis for the landscape design of the garden. In the specific design, the representative landscape of the place should be incorporated into the garden design. This will not only effectively ensure the reasonable integration of ecological concepts in the garden landscape design, but also effectively enhance the residents’ sense of identity to achieve further elevation in the spiritual feelings of the viewers.

4. The Method of Integrating Ecological Concepts in Garden Landscape Design

(1) Reasonable Selection of Plant Types

For garden landscape design, the reasonable choice of plant types is not only directly related to the economic cost of garden landscape construction, but also has a direct impact on the garden landscape in terms of ecological balance. In specific garden design, many designers would usually choose some exotic plant species to construct the garden landscape in order to enrich the variety of species in the garden and further enhance the aesthetic effects of the garden. However, the introduction of exotic plants will not only cost more money, but also incur a lot of investment in the later maintenance, which will bring huge economic burden to the garden maintenance. At the same time, in the garden landscape design, if the designer fails to fully consider the soil, climate and other factors of the place where it is located, it will cause the alien plants to die after transplanting because they could not adapt to the local environment.

Therefore, in the process of selecting alien plant species, the designer must make a comprehensive
analysis of the local environmental and natural conditions, so as to achieve a reasonable selection of alien species to ensure their good growth. At the same time, designers should also pay attention to the reasonable matching between exotic and native plants to further improve the stability of the ecological environment. In addition, designers also need to reasonably match the color variations of various plants in different seasons, so as to create a beautiful ecological natural landscape for urban gardens\(^3\). In this way, not only can the green landscape in the garden become more abundant, but also the death of exotic plants can be effectively avoided, and the economic loss in the construction and maintenance of the garden landscape can be minimized.

(2) Pay Attention to the Safeguard of the Natural Attributes of the Garden Landscape

For the garden landscape, the natural attribute is a very important feature, and it plays a key role in the full display of the garden landscape's own functions. From a practical point of view, designing and constructing a garden landscape is actually equivalent to constructing a small ecosystem. Therefore, if we want to effectively protect the ecological nature of the garden landscape, we should pay attention to the safeguard of the natural attributes of the landscape in landscape design.

In the specific garden landscape design process, first of all, sufficient attention should be paid to emissions and recycling issues. For solid fertilizers and wastewater, reasonable design of corresponding treatment mechanisms should be carried out to prevent these emissions from being directly discharged into the natural environment causing severe pollution. At the same time, attention should also be paid to the rational establishment of waste recycling and reuse mechanisms, so that sewage and plant waste can be recycled after treatment. In this way, the natural attributes of the garden landscape can be well protected, and the ecological concepts can be well integrated into the landscape design of the garden, so as to effectively promote the sustainable development of the garden ecology.

(3) Paying Attention to the Application of Environmentally Friendly Materials and Technologies

In the process of designing the garden landscape, in order to effectively integrate the ecological concepts, the designer should not only pay attention to ensuring the aesthetics of the garden, but also pay attention to the ecological nature of the garden, so as to effectively prevent the surrounding environment of the garden from being polluted and damaged. Therefore, in the specific garden landscape design, designers should attach great importance to the materials and technologies applied to garden construction, and improve the environmental protection efficiency of garden construction through the application of environmentally friendly materials and advanced environmental protection technologies, and avoid causing damage and pollution to the surrounding environment.

For example, in garden landscape design, designers can replace natural stones with environmentally friendly artificial stones, try to avoid the exploitation of a large amount of natural stones which will damage the natural environment on the premise of ensuring the aesthetic effect of the garden. At the same time, in the specific garden landscape design, the designer can also consider the reasonable application of the fog forest system. Through such designs, not only can a better environment atmosphere be created for the garden, but also the ornamental nature of the garden can be further enhanced, and the dust removal, cooling and moisturizing effects of the water are also very helpful to the improvement of the garden environment\(^4\). In addition, designers can also reasonably design the water circulation system of the garden by connecting the water circulation system of the garden to the urban household system. By scientifically designing the corresponding sewage treatment mechanism, the urban household water can be used for landscape water for gardens after effective treatments. This will not only effectively meet the landscape water demand in garden design, but also allow urban domestic sewage to be better treated, and to a large extent save water resources. In this way, the ecological concepts can be better integrated into the garden landscape design, so that it can play a full role and advantage in the garden landscape design and ecological development.

5. Conclusion:

In conclusion, gardens have become the main place for more and more urban dwellers to relax and recreate under the development of urbanization in China. With the development of ecological concepts, garden landscape design has begun to focus more and more on the integration of ecological

\(^3\) For more information, refer to [3].

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concepts. Therefore, in order to effectively promote the sustainable development of the urban ecological environment in the specific garden landscape design, designers need to pay sufficient attention to the ecological concept, and carry out the ecological design of the garden landscape through a good grasp of design principles and reasonable application of design strategies. This will not only effectively meet the actual needs of urban residents for garden landscapes, but also further promote the sustainable development of the urban ecological environment.

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