

## Research on local plants and modern urban landscape construction methods

Sun Hao

Xi'an Academy of Fine Arts, Xi'an, Shaanxi, China

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**Abstract:** In urban landscape design, native plants are an important part of landscape greening. Native plants have the remarkable characteristics of strong adaptability, beautiful and practical, convenient for later maintenance and management, and low cost investment. The application of local plants in urban landscape design can not only beautify the environment and purify the air, but also increase the diversity of urban landscape vegetation and form a landscape with local characteristics. At present, under the background of accelerating urbanization, urban landscape is also developing. Therefore, studying the role of local plants in urban landscape construction and analyzing its practical application is not only conducive to the wide application of local plants in urban landscape design, but also conducive to the sustainable development of the city.

### 1. Introduction

With the continuous development and innovation of modern urban landscape construction technology and concept, as well as the improvement of people's consumption level, modern people's aesthetic and construction requirements for urban landscape are also increasing. Therefore, if the modern urban landscape construction industry wants to obtain development space and ensure the sustainable development of its own industry, it must reform the traditional landscape construction concept and improve the landscape construction technology. Most of the traditional urban garden construction will use a large number of exotic plant species, while ignoring the use of local plants. As the basic species in China, native plants play an important role in urban landscape construction. Therefore, we should reform the traditional concept of urban landscape construction, effectively introduce local plants into the process of modern urban landscape construction, make use of local materials, reduce costs and improve quality, so as to ensure that modern garden construction can meet the needs of the public in China, and is also of great benefit to the development of garden construction.

Local plants, also known as local plants in the region, are local plants in the urban landscape construction project. These plants adapt to the climate characteristics of the project site and play a very important role in the local ecological environment. In the process of landscape construction, we should first consider the adaptability and survival rate of plants. Native plants not only have strong adaptability to the environment, but also have strong resistance to natural disasters, so destructive disasters rarely occur. Because of its strong adaptability, native plants can survive and grow without special care. Generally, there are many kinds of native plants, which are obtained from a wide range of sources. Therefore, in the process of urban landscape construction, the introduction of local plants into the landscape can effectively reduce the project construction cost, and the maintenance cost can also be effectively reduced after the landscape is completed. In addition, local plants generally have strong local characteristics, and some are even endowed with emotional color by local people. Therefore, the use of local plants in modern gardens can not only make the gardens have local cultural characteristics, but also make people feel the local natural customs. On the basis of making extensive use of the appropriate combination of native plants and alien species, we can better construct the modern urban landscape.

## 2. Importance of native plants in urban landscape construction

### 2.1 Conducive to urban ecological construction and ecological balance

The construction of native plants in urban landscape is conducive to urban ecological development. Local plants are rich in local species. In the construction of urban landscape, it can not only increase plant diversity, but also protect local plants, which is conducive to the sustainable development of local ecological environment. In addition, local plants have local characteristics. Their application in urban landscape can enhance the cultural connotation of the city, form a unique cultural style, and better show the local customs. In addition, the application of native plants in the construction of local urban landscape is in line with the growth characteristics of native plants, which is not only conducive to promoting their growth and development, but also conducive to maintaining the local ecological balance.

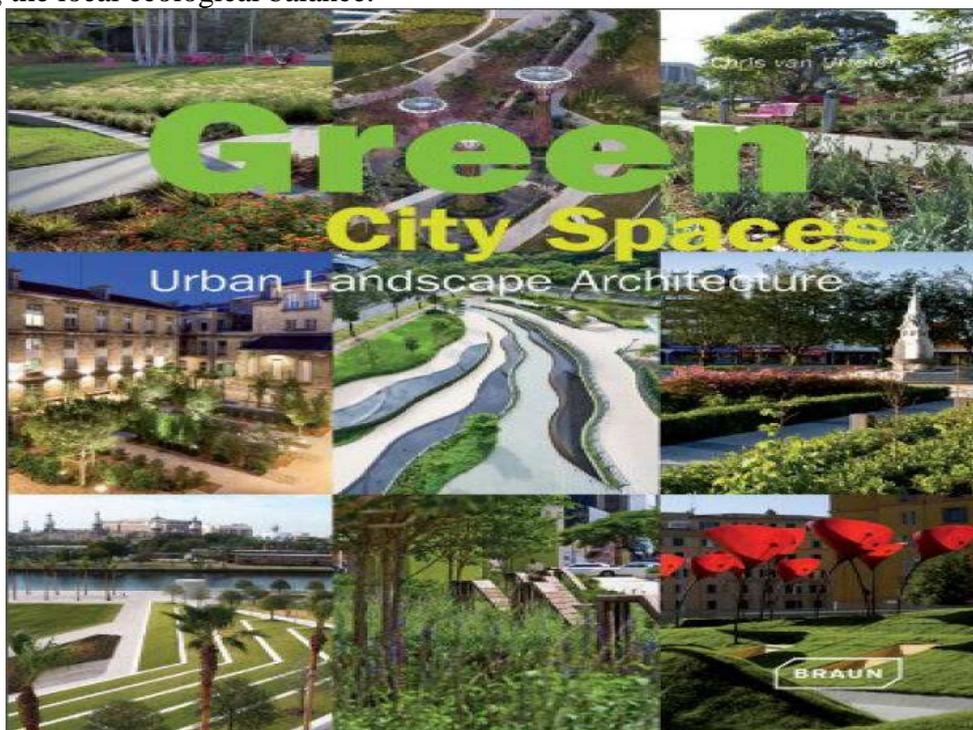


Figure 1 Urban landscape construction

### 2.2 It helps to reduce the construction cost

After long-term growth and evolution, local plants have adapted to the local soil environment and climate conditions. Therefore, they have strong vitality and high survival rate after planting. In addition, the planting technology of local plants is relatively mature in the local development, and its survival rate is well guaranteed. Therefore, the application of local plants in urban landscape construction will reduce the cost of seedling purchase in the early stage and maintenance management in the later stage, which is conducive to saving construction funds.

### 2.3 It helps to enhance people's sense of identity and intimacy

After long-term development, native plants have become well-known plant species to local people, and have been integrated with local culture and living customs. Therefore, the application of native plants in urban landscape will improve people's sense of identity and intimacy for urban landscape. From the cultural level, the application of local plants is more appropriate to people's inner regional identity, and can reflect the unique cultural characteristics of urban landscape.

### 2.4 Conducive to the protection of urban landscape diversity

In the construction of urban landscape, the rational distribution of exotic plants and native plants is not only conducive to the construction of a harmonious and beautiful ecological environment, but

also conducive to the protection of the diversity of urban landscape. The evolution of local ecosystem takes a long time. In this process, local plants gradually adapt to the local ecological environment through the survival of the fittest, and also produce the exclusion of foreign plants. Therefore, if the proportion between exotic plants and native plants can not be reasonably allocated, or if exotic plants are blindly introduced, it will cause certain damage to native plants, and can not guarantee the survival rate of exotic plants, but will increase additional cost investment. Therefore, in the urban landscape design, landscape designers should reasonably consider the adaptability between exotic plants and native plants, and then plant vegetation after experimental analysis, so as to prevent the invasion of exotic plants on native plants and protect the diversity of urban landscape.

### **2.5 Conducive to the construction of localized urban landscape culture**

For urban landscape design, different regions have their own unique cultures, which are reflected not only in traditional festivals or local buildings, but also in the local natural ecological environment. Among them, native plants occupy the dominant position of the natural ecological environment. Therefore, in the construction of urban garden landscape, we should make full use of native plants to build a landscape culture with local characteristics. However, in terms of the current situation of urban landscape construction, many landscaping projects pay attention to the introduction of foreign plants to highlight their sense of advanced and novelty, resulting in serious homogenization of urban landscape. Therefore, in order to highlight the characteristics of urban landscape construction and highlight the local cultural connotation of landscape, landscape builders need to use local plants to build a landscape culture in line with local characteristics and highlight the vibrant image of landscape.

## **3. Current situation of urban landscape construction**

China has a vast territory, spanning a very broad area, and the natural environment is very complex. The climate includes cold temperate zone (subtropical) climate. Such a complex natural environment has created extremely rich plant species resources in China and bred a variety of native plant species, including precious flowers in the civilized world. However, due to the limitations of traditional concepts, builders often introduce alien species in the process of urban landscape construction, ignoring the important role of native plants in urban landscape construction. At present, exotic plants have absolute advantages in urban landscape construction. In addition, according to relevant reports, the application of native plants in urban greening projects in China is also rare. Although China has issued the basic indicators and guidelines for greening in large, medium and small cities, there is still a big gap between the existing greening coverage rate and the specified greening coverage rate in many cities in China. Therefore, local plants should also be introduced into China's urban greening projects to reduce the project cost, strive to achieve the urban greening coverage specified by the state as soon as possible and realize China's urban comprehensive greening. As a native natural plant in China, native plants adapt to the local climate and exist in the local ecological environment for many years. Therefore, the introduction of native plants can play a great ecological role in modern urban landscape construction. The application of native plants in urban landscape construction can not only introduce local humanistic culture into urban landscape, but also purify urban air and regulate local climate and environment. It also plays a very important role in improving the ecological environment of garden construction area. For the local landscape, they can improve the survival rate of plants in the local landscape. Although native plants have many advantages compared with exotic plants, builders do not pay enough attention to native plants in China's modern urban landscape construction. On the one hand, due to the constraints of the traditional landscape construction concept, most projects often introduce alien species. On the other hand, urban landscape architects have insufficient understanding of local plants. In most urban landscape construction projects, planners do not fully consider the adaptability of plants to local climate, blindly pursue the beauty of landscape, hope to improve the height of the project as much as possible, and do not consider whether its design is reasonable. Due to the above reasons, the application of native plants in modern urban landscape construction is seriously

insufficient, and the utilization rate is far lower than that of exotic trees

#### **4. Application of native plants in modern urban landscape construction**

##### **4.1 Change the existing form of native plants**

The integration of greening, aesthetics and economy is an important principle for the construction of modern urban landscape, which will greatly improve the final effect of garden landscape. In the current garden construction project, due to the narrow scope and incomplete popularization of local plants, the commonly used local plants are very single, and people prefer to choose aromatic plants. These plants are very popular in private gardens, communities and studios, but their utilization rate in urban environmental greening is still low. Therefore, the application should be determined according to the different types and habits of local plants and the rationality of garden construction. At the same time, strengthen scientific research, use advanced science and technology, develop more local plants suitable for landscaping, and expand their scope of use, so that local plants can be fully applied in urban construction.

##### **4.2 Strengthen the technological innovation of local plants**

Due to the sustainable development of social economy and the continuous improvement of the level of science and technology, the role of science and technology in promoting the development of various industries is becoming more and more obvious. Therefore, we must improve the scientific and technological level of urban landscaping and promote the effective application of local plants. In this process, relevant technicians must continue to innovate technical methods. In some specific areas, long-term planning suitable for urban landscape construction can be designed according to the actual situation. At the same time, garden constructors should constantly improve their technical level and place and plant plants in the garden scientifically and reasonably. In addition, if we want to strengthen the utilization effect of local plants, we should also devote ourselves to the development of urban structure, improve the application level of local plants, continuously improve the ornamental value of local plants, adjust the urban landscape environment, and finally build an urban garden forest effect close to the natural ecosystem.

##### **4.3 Protection of animal and plant diversity**

Native plants are an important part of plant diversity. A stable and safe ecological environment is the basic place for the survival and reproduction of wild animals and plants. At the same time, native plants provide habitat and food supply for wildlife, and plant seeds can be better transmitted through animals. It can be seen that maintaining the balance between animals, plants and the environment is conducive to the stable development of ecological communities. In addition, plants have ornamental, edible, medicinal and spice making values. At present, there are still many untamed native species. With the development of science and technology in the future, plants are also developing. Increasing the availability of local plants is an inevitable means to restore the ecological environment.

##### **4.4 Ornamental of native plants**

Local plants usually show different landscape styles according to seasons, giving people a more beautiful and unique feeling. The ornamental of native plants includes the following points: ① the visual beauty of native plants. Local plants in many areas can show their visual beauty and give people visual enjoyment. Their fruits and leaves have a certain ornamental and can bring people a comfortable feeling. Therefore, attention should be paid to the application of different forms of local plants in urban landscape design to improve people's viewing experience. ② The seasonal beauty of native plants. Generally speaking, local plants will change with the changes of solar terms and seasons in the growth process, showing a unique beauty of change. For example, the blooming of winter jasmine can highlight the breath of spring; Pomegranate flower can fully show the heat of summer; Osmanthus fragrans and various fruits can highlight the charm of autumn and the feeling

of harvest; Winter plum can create a pure winter atmosphere. ③ The aromatic beauty of native plants. The fragrance of local plants can give people a comfortable feeling, which is different from that of plants in other regions, causing people to have a cordial feeling of homesickness. Therefore, in the design of urban landscape, we can also skillfully apply the fragrance of local plants to build a unique urban landscape. To sum up, the full application of local plants in urban landscape design can not only improve the overall ornamental effect of garden landscape, but also reduce the construction cost on the basis that the overall quality of the project reaches the expected standard. However, at present, there are still many deficiencies in China's landscape construction technology, and the research and application of local plants are not scientific and extensive. Therefore, the application effect of local plants in landscape engineering design should be strengthened from multiple levels, and the effect of urban landscape engineering should be improved through the rational application of local plants, on the basis of saving construction cost, Achieve good ecological and social benefits.

## **5. Conclusion**

In the construction of modern urban landscape, we should pay attention to the application of local plants. Compared with imported species, native plants not only have the advantages of adapting to the local climate, but also integrate into the local cultural characteristics, which can help the city inherit its own culture. The introduction of native plants in urban garden construction can also save project expenses, protect the local ecosystem of the city, maintain the diversity of urban landscape plants, and protect the future development of urban garden construction industry. However, at present, most garden builders can not pay attention to the important position of local plants in modern garden construction, resulting in many problems. Therefore, we should change the traditional concept of garden construction, apply local plants to the garden landscape construction of modern cities, build a garden landscape with strong cultural characteristics, and ensure the bright future of the landscape construction industry.

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