

*Original Paper*

## Cultural Inheritance and Innovation—Taking the Heilongjiang

### Garden Design of the Garden Expo as an Example

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#### **Abstract**

*With the rapid development of social science and technology civilization, and the acceleration of urbanization, the requirements of urban landscape planning and design are also paying more and more attention to the design concept of “adopting measures to local conditions and putting people first”. Therefore, the inheritance and innovation of urban landscape planning and design based on the culture that can represent local characteristics is a respect for and inheritance of traditional regional culture, the integration of traditional culture and the culture of the new era, and the inevitable trend of modern landscape planning and development. This essay uses the Heilongjiang Garden Engineering Design Project of the Garden Expo as a case to carry out the regional landscape planning and design, inheriting the regional characteristics, and proposing the design concept of “nature and culture growing on black soil”, integrating the characteristics of white mountains and black water into the garden, and seeing the big from the small Interpret the characteristic landscape impression of Heilongjiang and provide a reference for the design of the exhibition garden project in the future.*

#### **Keywords**

*garden exposition, landscape planning, landscape garden, innovation*

With the rapid development of society, the improvement of living standards, the rapid development of urban construction, and the deteriorating ecological environment, people’s demand for high-standard urban landscape planning and design have become more and more obvious. Due to the different natural environments in various regions, various urban landscapes will be produced according to local conditions, and the design based on regional culture can fully reflect the evolution of the local historical, cultural and social structure. Especially in the rapid development of science and technology

in the contemporary era, it brings together contemporary science and technology and design concepts, integrates the local natural environment, customs, folk customs and historical context, and designs a livable in a way of inheriting the past, combining the contemporary, and innovating the future. The urban landscape is an inevitable trend in the development of urban landscape design. Because of this, an urban landscape planning and design concept and method that combines the integration and innovation of contemporary technology and culture with the background of regional cultural characteristics are indispensable.

As a high-level platform for the centralized review of the landscape architecture industry in my country, the Garden Expo, excellent teams from all over the country are doing their best to present the best exhibition garden works to the public, each with its characteristics and benefits. As an important part of the garden expo, the city exhibition garden strives to display the local natural features, folk customs, and historical and cultural feelings within a limited space, so that visitors can realize the local characteristics of the city and truly serve as a window for the transmission of regional information. And the city exhibition garden also has a preliminary role in promoting the image of the city.

As one of the city attractions exhibition parks, Heilongjiang Garden has won the Design Award, Plant Configuration Award, and Construction Award of this year's Garden Expo. It shows the regional cultural characteristics of Heilongjiang with its unique cultural design and technology. The cultural inheritance and innovative design concepts and methods used in the process of garden ecological landscape design are worthy of our reference. Also, after long-term management and cultivation, the level of plant communities in the exhibition garden has grown well, and both ecological and landscape environmental benefits have been obtained. It played well. This paper takes the landscape planning and design of the Heilongjiang Garden of the International Garden Expo as an example to analyze the application of the design concept of "regional cultural creation, inheritance and innovation" in actual projects, and make theoretical and practical references for future urban landscape planning and design theory and actual project research.

## **1. Background**

China (Chongqing) Garden Expo (Figure 1), placed from November 2011 to May 2012, located in the Longjing Lake area of Yuanyang Town, Northern New District of Chongqing City, with a total elevation of about 3300 mu, composed of 21 countries and regions A collection of 127 classic exhibition gardens in 30 cities and more than 80 of them are large-scale urban parks integrating natural and human landscapes. The Heilongjiang Garden is located in the northern garden exhibition area of the 8th Chongqing Garden Expo. It is hosted by the Housing and Urban-rural Development Department of Heilongjiang Province and co-organized by Qitaihe City, Jiamusi City and Hailin City in Heilongjiang Province. The theme of this year's Garden Expo is gardens, making the city more beautiful.

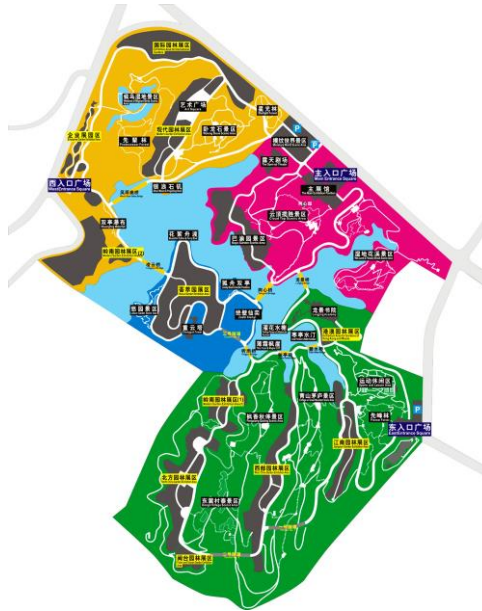


Figure 1. Tour Layout of Chongqing International Garden Expo

Heilongjiang Province is located in northeastern China and is the province with the highest latitude in China. It is not only a synonym for cold but also a granary and tourist attraction in the Northeast. It also has civilized relics and abundant resources. It is a tourist province in China, especially with heavy ice and snow. Large forests, wetlands, prairies, modern agriculture, and volcanic landforms.

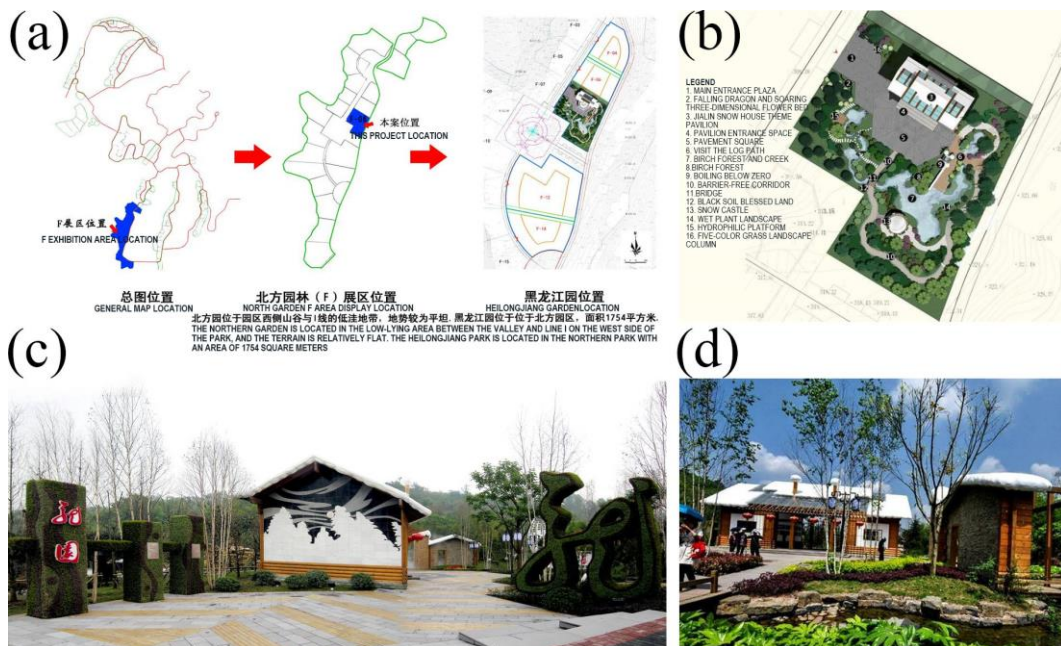


Figure 2. a) Location Analysis, b) Adjacent Garden Plan, c) Adjacent Garden Entrance Space Real Map, and d) Adjacent Garden Real Map

Heilongjiang Garden is located in the northern garden exhibition area of the International Garden Expo Park, with an area of 1754 m<sup>2</sup> and a relatively flat terrain (Figure 2a). The design expresses the essence of the garden's artistic conception with the special humanities and natural resources in the north and highlights the rigorous visual control axis of the garden. Through the contrast of black and white colors, the characteristics of the white mountains and black water are integrated into the garden, and the memory of the black soil is reminded.

## 2. Planning and Design Ideas

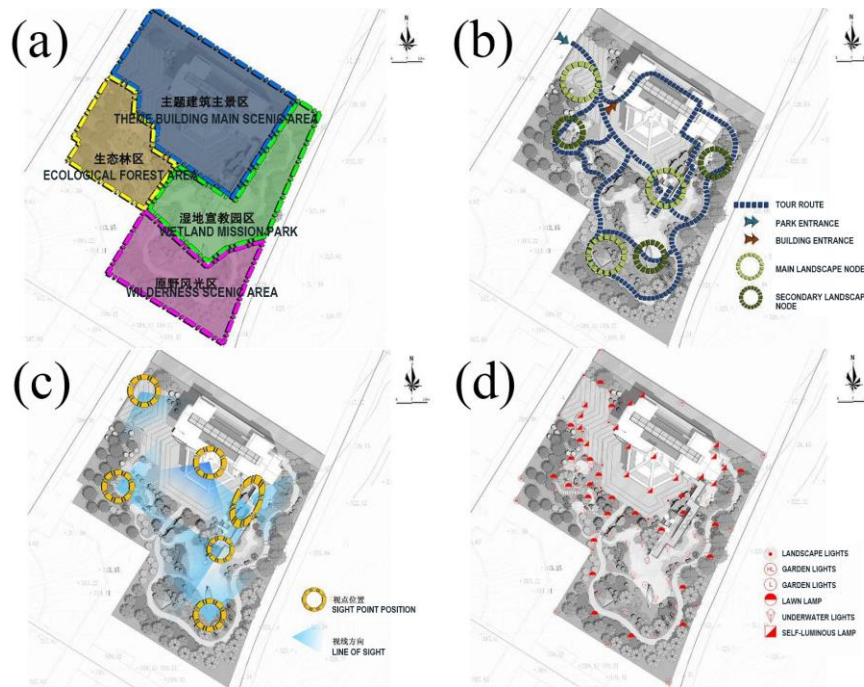
The Heilongjiang Garden takes "Mo Yuan Longjiang, Ecological Fertile Soil" as its design theme, and its concept of "Nature and Culture Growing in Black Soil", which interprets Heilongjiang's characteristic landscapes of ice and snow, large forests, prairies, and large wetlands.

In Chinese, the word "MO" is composed of "black" and "land". The black land is synonymous with Heilongjiang and a unique treasure in China. And MO means black, and black gold such as oil and coal is abundant in this vast black land. The word "YUAN" means the vast "Sanjiang Plain". The three great rivers converge and accumulate to form this fertile soil. The ecologically fertile soil has nurtured the multicultural and characteristic humanities and customs of the Longjiang land. The exhibition-themed buildings are used as the main scenery. The four characteristics of Heilongjiang are reflected in the small and large, namely "big ice and snow", "big forest", "big wetland" "Prairie" ecological characteristic landscape impression.

## 3. Overall Layout and Innovation

Overall layout: The overall layout is designed with the unique characteristics of Longjiang's natural and human resources as clues, focusing on the coordinated relationship of space, and the entire garden is within easy reach using natural layout and traditional Chinese gardening art techniques to integrate gardens and culture. As a whole, combined with the topography, landforms and the theme of this year's Garden Expo "Gardens, make life better!", it displays the characteristics of Heilongjiang's ice and snow, forests, grasslands, and wetlands. The natural and cultural resources of the country are organically combined to create a unique picture of Northland scenery.

Functional planning: Taking Heilongjiang's unique humanities and natural resources as clues, the whole park will comprehensively display Heilongjiang's characteristic buildings and ecological landscapes through different themed spaces and system evolution relationships (Figure 3). The whole park is divided into four major functional areas, namely the theme building main scenic area, ecological forest area, wetland education park, and wilderness scenery area. The main attractions include "Forest Snow House", "Boiling Below Zero", "Longyin", "Snow Castle", "Birth Forest Green Creek" and "Black Soil Blessed Land".



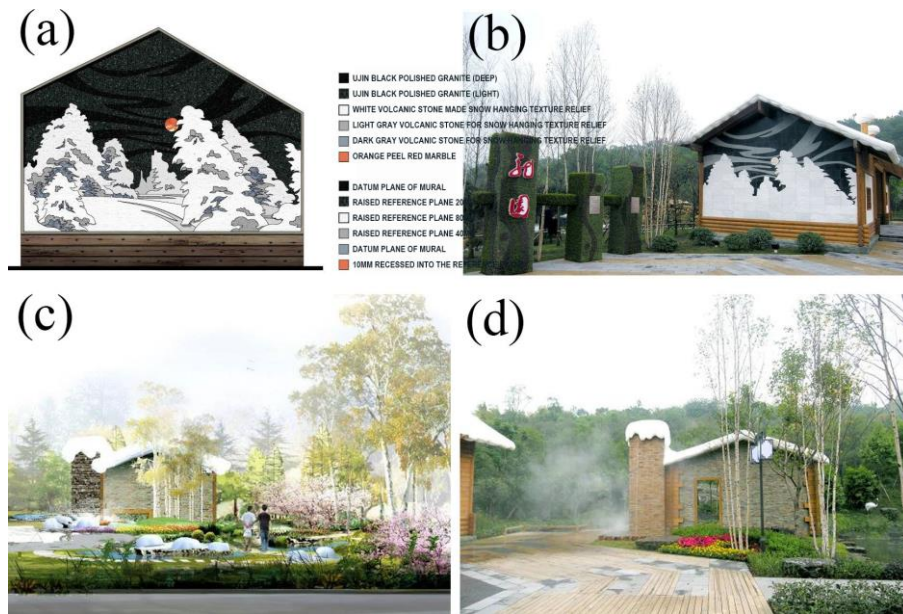
**Figure 3. (a) Functional Zone, (b) Traffic Analysis, (c) Line of Sight Analysis and (d) Lighting Layout**

### 3.1 Theme Building Main Scenic Area

The theme building “Forest Snow House” is the Heilongjiang Cultural Exhibition Hall (Figure 4(ab)). The architectural form adopts a low-rise structure and the shape is made of raw wood materials. It is a characteristic of Heilongjiang. The style and characteristics of wooden houses reflect the regional characteristics of Heilongjiang. The use of low-level structure and log materials to refine and sublimate modern Heilongjiang wooden residential elements. The wall of the building facing the population of the exhibition garden is black and white, reflecting the unique northern scenery of the Linhai Snow Plain, and the roof is in the form of thick snow.

The “Dragon Yin” abstract black dragon style at the entrance of the whole garden serves as a point of view. It means the auspicious dragon takes off. The character “dragon” composed of five-color grasses, a characteristic plant in the north, is agile, generous, and natural, which means the dragon river takes off and plays a role of the spotlight. The wall facing the building is a black and white pattern, which plays the role in the topic. The roof of the building is made of white optical fiber material to form a thick snow form, reflecting the natural and simple regional characteristics of Heilongjiang’s “big ice and snow”. The enclosed form creates a waterfront courtyard space experience; the “boiling below zero” scenic spot (Figure 4 cd), “zero degrees” refers to the cold, and “zero degrees” reflects the characteristics of cold regions and the smoky atmosphere of life in the northern winter. The scenic spot takes the black wall as the background and the white birch trunk as the foreground. The contrast of black and white echoes the main architectural landscape. The columnar water flows out slowly, and the

mist formed is floating in the garden, misty and vague, like a boiling momentum, with a unique taste, which implies the vitality and passion of Longjiang people. This area embodies the regional characteristics of Heilongjiang’s “heavy ice and snow” and “big forest”.



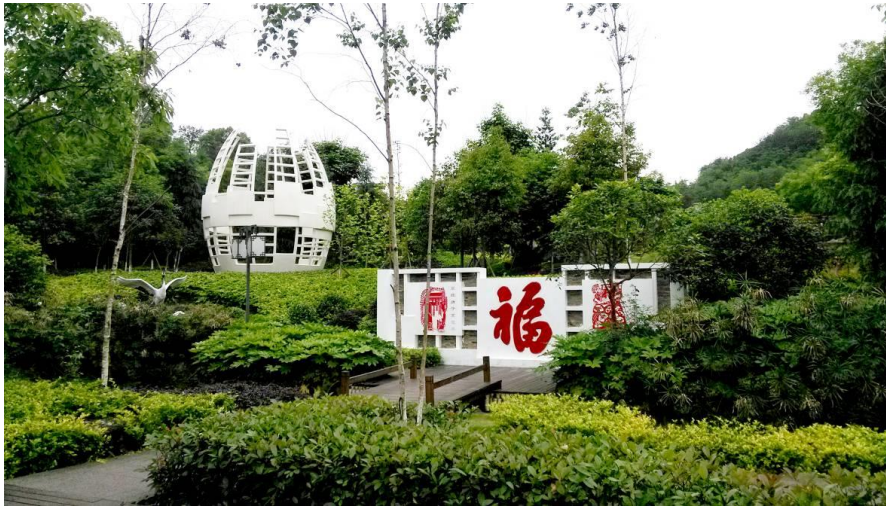
**Figure 4. (a) The Large-Scale Design Plan of the Theme Building Wall Mural, (b) The Real Scene of the Theme Building Wall after the Construction Is Completed, (c) The Design Effect Drawing of the “Boiling under Zero” Scenic Spot and (d) The “under Zero” “Boiling” Scenic Spot after Construction**

### 3.2 Ecological Forest Area

The dynamic and quiet landscape atmosphere is even more lingering. The natural and wild walks shuttle through the forest to form a sheltered place, creating a quiet and comfortable space. The gurgling stream shuttles under the forest and the river rocks are scattered around the stream, creating a picture scroll that integrates nature, ecology, humanities, and landscape.

At the “Birch Forest and Green Creek” scenic spot, the smart water body constantly changes its posture, running through the entire exhibition garden, creating a series of interesting spaces for enjoying the water and being hydrophilic. The stream runs through the birch forest, and the river rocks are scattered around the stream to create a quiet and comfortable space. Gorgeous aquatic and wet plants grow on the banks of the gurgling stream, creating a picture scroll that integrates nature, ecology, humanities and landscapes, becoming a missionary garden that showcases the biodiversity of the Sanjiang Wetland; the “Black Soil and Blessed Land” attraction (Figure 5) ), the red “Fu” inscription, which means happiness and auspiciousness, the landscape is constructed through the winding stream combined with vigorous pine, the white and elegant birch, the elegant lilac and the rich Longjiang style. The relief emphasizes the theme and fully shows the dragon. Jiang Chun’s unsophisticated and unrestrained black

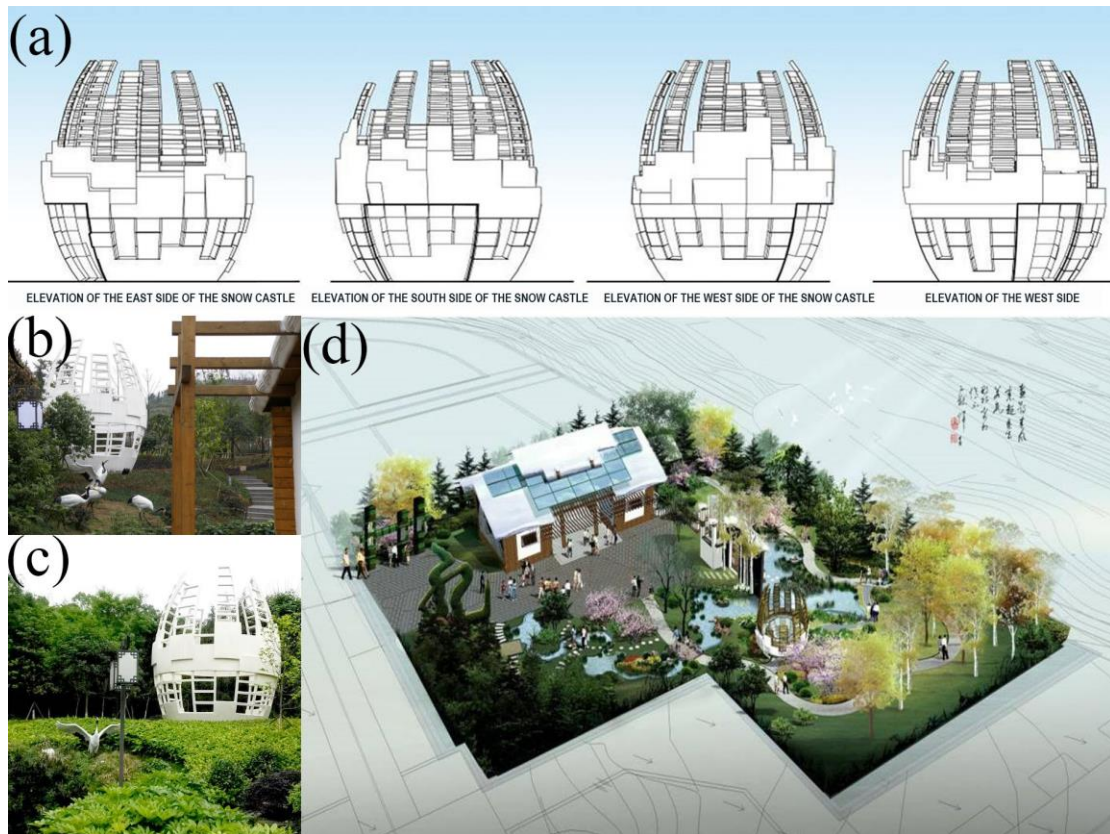
soil style.



**Figure 5. The Real Scene of the Black Soil and Blessed Land of the Exhibition Garden**

### *3.3 Wetland Education Park*

The agile body of water constantly changes its posture, running through the entire scenic spot, creating a series of interesting spaces for enjoying the water and being hydrophilic (Figure 6(d)). On the open water, there is a “boat” for people to rest and enjoy the scenery, and people can also play barefoot in the water, which is unique. Spectacular aquatic plants such as cattails, tower heads, and scallions grow on the banks of the gurgling stream, forming a characteristic landscape of the Longjiang “big wetland” and becoming a public education garden that symbolizes the biodiversity of the Sanjiang Wetland, enabling people to understand Wetlands, caring for wetlands.



**Figure 6. (a) The Plan Design of the “Snow Castle” in the Exhibition Garden, (b) The Actual View of the Newly Built “Snow Castle” in the Exhibition Garden, (c) The Actual View of the “Snow Castle” in the Exhibition Garden Three Years after Its Completion, and (d) Exhibition Aerial View of the Park**

### 3.4 Wilderness Scenic Area

Taking full advantage of the sight control of the road, and taking into account special groups of people, the corridor adopts a barrier-free design. As shown in Figure 6, “Snow Castle” is the main landscape sketch of the whole park. It is shaped like a pine cone. The upper part is a wooden grille, which is uneven. The lower part is made of snow-like prefabricated blocks of various sizes. The natural resources of Longjiang are organically integrated with the characteristics of human resources. The Wudalianchi volcanic rocks cover the ground, revealing simplicity, ruggedness and natural no decorations, which are in harmony with the “Snow Castle” building and the surrounding environment. The vigorous pine, the white and elegant birch, and the simple and elegant lilac, together with the dry reeds, form the scenery of the northern country in the south of the Saijiang River.

### 3.5 Plant and Sketch Design

Garden plant landscaping emphasizes the beauty of form, diversity and unity, and the beauty of artistic conception. The landscaping method also uses the borrowing method to combine the local native tree species with the regional characteristics to ensure the sustainability of the plant landscape.



According to the characteristics of the humid tropical monsoon climate in Chongqing, the seasonal landscape changes are considered as a whole for the whole park to achieve the effect of four seasons (Figure 6(d)). The selection of tree species is based on native tree species such as *Osmanthus fragrans* and *Podocarpus eryngii*, fully considering the color and shape of plants, emphasizing the seasonal changes of plants, and planting them in a reasonable combination; the plant space landscape construction is based on different topographic characteristics for planting. In the limited space, to reflect the regional characteristics, the northeast characteristic tree species white birch is combined with the aquatic plants with high ornamental value, and its aesthetic value is displayed in the landscape and ecosystem (the plant selection is as dry umbrella grass, celandine, lotus, etc.); small items such as signs, trash cans, etc., are designed according to the theme. The selection of materials not only pays attention to ornamental but also pays attention to functionality. Mainly scattered light, set up different types of lawn lights, underwater lights, color-changing lights, rare earth nano lights, etc.

### *3.6 Features and Innovation*

The Heilongjiang Exhibition Garden, combined with site conditions, uses a limited space to fully demonstrate the unique local characteristics, promote the development of the local and surrounding areas, and provide citizens with a good outdoor recreational place. The main features and innovation are combined as follows:

(1) The construction concept of the unique regional cultural landscape is novel and unique. Through in-depth research and analysis of the current situation of the Heilongjiang Exhibition Park, the design is carried out from a unique perspective. The concept is unique and innovative, which fully demonstrates the cultural connotation of Heilongjiang and the ecological characteristics of the north, allowing tourists from all over the country to have a more direct and appropriate understanding of Heilongjiang's characteristic regions Features.

(2) Innovation of material expression. While the landscape design method integrates regional characteristics, culture and space treatment, the organic components of landscape design such as the boiling below zero, the snow castle and the thick snow on the roof of the main building, pay attention to the new materials, technology and craftsmanship. Innovate, and make the limited space bigger, form a good spatial relationship and a good application of new materials.

(3) To form a regionalized natural landscape, the regional characteristics must be respected. Through tracking and attention, we boldly tried and innovated the introduction of characteristic plant varieties. Besides, we followed the laws of nature, respected regional characteristics, adapted the trees to the site, and adopted measures to local conditions to form a good localized natural landscape.

Garden makes life better! Combining with promote the improvement of the quality of urban landscaping and the development of horticulture across the country, promote the use of new materials, new techniques, and new concepts in landscaping, explore and practice new ways to organize market-oriented meetings, and guide the society to pay attention to the future harmonious human settlement environment Through the construction of this project, we will improve the ecological

environment of the city and improve the quality of people's living environment. At the same time, it can promote the development of the national landscape design industry. Man is closer to nature and more harmonious with nature.

#### 4. Conclusion

This article mainly introduces the concept of "regional cultural inheritance and innovation" into urban landscape planning and design. First of all, in the context of regional cultural heritage and innovation, analyze the overall conceptual design layout, mainly from the natural ecosystem environment; Second, analyze the overall spatial layout of the landscape, mainly from the two aspects of local natural resources and human resources analysis and integration; thirdly, under the concept of regional cultural inheritance and innovation, further specific design principles for the landscape planning and design of the garden expo, Design techniques, and design schemes provide a theoretical and practical basis for the landscape planning and design methods of the Garden Expo Park. Besides, this design fully embodies that the inheritance and innovation of modern garden design should focus on the development direction of modern urban construction, and at the same time combine the science and technology of the times and the regional cultural characteristics to shape its own regional cultural image characteristics. This design also provides a direction for the development of modern garden design and construction.

#### Acknowledgement

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#### References

- Fan, Q. (2016). Narration of Featured Landscapes for Urban Culture. In E. Mcanally et al. (Eds.), *Proceedings of the 2016 International Conference on Arts, Design and Contemporary Education* (pp. 734-737). <https://doi.org/10.2991/icadce-16.2016.177>
- Li, L., & Huang, S. L. (2015). Functions and plant configuration of Wuhan Jiangtan Park. *Journal of Landscape Research*, 7(05), 41-44.
- Li, Z. X. (2014). *Application of Plants in Chinese Garden Landscape*, 10(5), 143-145.
- Liang, J., & Zhou, Y. (2017). Preliminary Study on Urban Street Landscape Design under Regional Cultural Background Based on Yuanlin Road, Jingzhou City. In E. Mcanally et al. (Eds.), *Proceedings of the 2017 International Conference on Art Studies: Science, Experience, Education*.
- Liu, H. (2017). Status Analysis and Vision on Urban Landscape Planning-Take Chengdu City as an Example. In Z. You, Z. Tan, & J. Ke (Eds.), *2nd International Conference on Materials Science, Resource and Environmental Engineering*. <https://doi.org/10.1063/1.5005231>

- Yan, X., Guo, L., & Jiang, Y. (2016). *An Analysis on Regional Culture in City Street Landscape Design* (pp. 605-608). Issgbm International Conference on Information, Communication and Social Sciences.
- Yu, Z. (2018). Urban Garden planning and design and ornamental plant protection. *Journal of Landscape Research*, 10(04), 162-165.
- Zhao, Z., & Hu, X. J. (2014). Urban river landscape design based on regional characteristics—A case study of Jinxi River in hushan town. *Journal of Landscape Research*, 6(Z1), 13-16+19.
- Zhou, X. D. et al. (2014). Research on the design of community landscape planning under eco-house perspective. *Applied Mechanics and Materials*, 716-717, 541-544.  
<https://doi.org/10.4028/www.scientific.net/AMM.716-717.541>
- Zhu, Z. J. (2011). *Analysis of Heilongjiang Province Village Traveling Present Situation and Problem* (pp. 146-152). Intelligent Information Technology Application Association. Education and Management (ISAEBD 2011 CCIS 210). Intelligent Information Technology Application Association: Institute for the application of intelligent information technology.