

The Regional Characteristics and Landscape Expression in Tianfu New Area

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Abstract:

The regional culture is the civilized expression of ecology and customs in specific area, with unique regional characteristics, which embodies the city development process and forms the city culture connotation. Sichuan Tianfu New Area is a national-level new district approved by the State Council. The guiding principle which has ecology as foundation and culture as soul is insisted in the planning and construction process. The landscape planning and design are outstanding with cultural characteristics. Innovative exploration is carried out in the construction of landscape pattern, the use of native plants, the construction of water landscape, the inheritance of farming culture, and the reference of traditional gardening techniques. The landscape expression of Tianfu New Area reflects the natural ecological characteristics and regional cultural attributes, and has achieved remarkable results in the construction of human settlements. In this article, five landscape expressions are summarized and refined as following: building landscape patterns based on physical topography, setting landscape keynote with native plants, creating landscape spirituality with water resources, and enriching landscape vocabulary by embracing farming culture, enhancing landscape connotation with traditional gardening techniques. It is expected to provide reference for the landscape planning and design of cities with prominent regional characteristics.

Keywords:

Tianfu New Area, Regional Characteristics, Landscape Expression, Ecology, Culture

1. Introduction

Region generally refers to a certain spatial and geographical range, a complex formed by the interaction of natural factors and human factors, whose concept reflects the features of time and space and characteristics of economy, society and culture, which is the geographical background of cultural formation. Therefore, the long-standing, unique, and still functioning culture formed in a specific area is the regional culture, which is the civilized expression of the ecology, folklore, tradition, and habits of a specific area, and has the unique feature of the regional imprint. Compared with the urban material environment, which is prone to drastic changes, the regional characteristics are relatively stable and more vital. Therefore, the regionalism of

traditional culture has more influence on the formation and inheritance of the cultural characteristics of the city, and the regional culture intensively embodies the context of urban development. The cultural characteristics of a city formed in a certain period of time tend to accumulate and remain, become the representation of urban culture, and eventually form the connotation of urban culture.

Sichuan Tianfu New Area is a state-level new district approved by the State Council to undertake major national development and reform and opening up strategic tasks. The planning concept innovation and ecological construction have achieved remarkable results since its establishment, which are recognized by governments at all levels, affirmed by domestic and foreign experts, and praised by the general public. The planning and construction of Tianfu New Area has the characteristics of time, region, culture and artistry. Under the background of ecological civilization construction and urban development transformation, remarkable achievements have been made in the implementation of ecological environment planning and the construction of human settlements by integrating landscape planning and design with regional natural environment, social and cultural environment and era background. It is of great practical significance to timely summarize the practical experience of Tianfu New Area in facilitating the construction of human settlement environment under the background of regional natural environment and social culture, comb out its landscape planning and design characteristics, and extract planning thoughts and design methods.

2. Overview of the Geographical Characteristics of Tianfu New Area

Tianfu new area is located in an alluvial plain called Chengdu Plain in the west of Sichuan Basin in China. Chengdu Plain is also called West Sichuan plain, which is called “West Sichuan Bazi” in Sichuan dialect. Surrounded by mountains, the Chengdu Plain is in the warm and humid subtropical Pacific monsoon climate zone with four distinct seasons, less sunshine, mild climate and abundant rainfall. The Chengdu Plain is not only a geographical concept, but also a cultural concept with distinctive regional characteristics and great humanistic value. For thousands of years, Chengdu Plain has been constructed with the idea that “exterior creation from nature and inner creation from man”, which integrates the harmonious order of human settlement and landscape, highlights the harmonious and unified ecological ethics between man and nature, and forms a realm which is supported by county, landscape, poetry and other aspects [1].

Chengdu is a city established and prosperous by water, so its water culture has a long history and is an important part of urban culture. Chengdu is surrounded by the Minjiang River and the Tuojiang River, and surrounded by the Longmen Mountain Chai and the Longquan Mountain Chain, forming a solid ecological background for the Chengdu Plain. The Minjiang River is the source of life in the Chengdu Plain. In 256 BC, during the Warring States Period, Li Bing, the prefect of Shu County, Qin Dynasty, led the people to build the world famous Dujiangyan Irrigation Project by combining with the natural terrain and the concept of taking advantage of the local conditions, which is characterized by diversion without dam, at the junction where the Minjiang River enters the alluvial plain from the Longmen Mountain valley channel. Dujiangyan Irrigation Project has still played a huge role so far and nourished Chengdu’s long-standing urban civilization. In a word, Chengdu water culture is the summation of the material and spiritual wealth created by the ancient Chengdu people in the practice activities of water management, water use, water protection, water

approach, water appreciation and so on, which perfectly interprets the meaning of “water creates human, human creates culture, culture creates everything”.

The human environment of Chengdu Plain is greatly affected by Dujiangyan Irrigation Project. The project promoted the formation of a complete agricultural self-irrigation system in the Chengdu Plain, and the agricultural civilization is highly developed and profound. Then, People in Chengdu Plain can control floods and drought, with no starvation and no famine, where is called as Tianfu which means like heaven”. Due to Dujiangyan Irrigation Project, the Chengdu Plain has always been a blessed land with abundant agricultural products and suitable for living in peace. The agricultural culture has penetrated into Chengdu’s cultural genes. The Chengdu Plain earth-scape presents a scene that the Linpan courtyards which has the rural settlement function are connected with farmland closely, with regional characteristics of scattered living along with the farmland, while the farmland is closely connected with the canal network system, being in a semi-wetland state [2] (Figure 1).



Figure 1. “linpan” in Chengdu Plain.

Tianfu New Area is mainly located in the east of Muma Mountain, west of Longquan Mountain, and south of the main urban area of Chengdu. It is located in the ecological transition zone from Chengdu Plain to Longquan Mountain, and has a typical ecological transition zone habitat. Within the planning area, there are abundant ecological resources such as mountains, hills, forests, lakes, rivers, and plains, with a variety of ecological elements intertwined and integrated, and the southeast area is dominated by shallow hilly areas, with obvious topographical fluctuations. The natural environment feature of the region is highlighted in the landscape planning and design of Tianfu New Area. The harmonious order of human settlement and landscape in Chengdu Plain is well integrated, and the ecological ethics of harmony and unity between human and nature is well demonstrated, which has the traditional human settlement wonderland feature. The main concepts and methods of landscape planning and design can be summarized and refined as follows.

3. To Build Landscape Patterns Based on the Physical Topography

Ecological priority is always followed in the planning and construction of Tianfu New Area with excellent ecological background and rich ecological resources. First of all, the ecological land should be planned and protected rigidly, and the construction land with urban-rural integration should be arranged in groups to be a combined urban form [3,4]. The ecological background of “mountain, water, forest, field and lake” should be maintained intact, while the good and fertile farmland should be avoided. The landscape ecological pattern of “one belt, two wedge, nine corridors and multiple networks” has been constructed in Tianfu New Area (Figure 2), and two large wedge-shaped green belts are planned and rigidly protected between urban clusters, and the farmland patches that display and inherit the farming culture of the Chengdu Plain are retained as urban ventilation corridors (Figure 3).

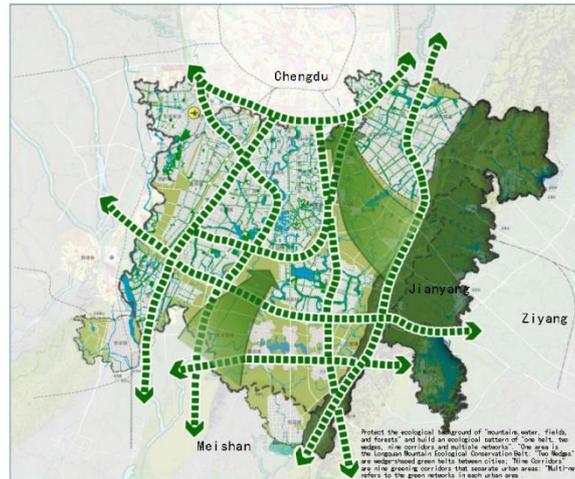


Figure 2. The overall ecological layout plan of Tianfu New Area.



Figure 3. Schematic diagram of the ventilation corridor of farmland patches to protect the rural culture of the region.

On the aspect of landscape design, the existing terrain slope is fully respected and utilized, and a variety of design techniques are adopted to create a spatial hierarchy of fluctuations. For example, the design of Xinglong Lake Park adopts a unique landscape design method, which folds the architectural form on the site and turns the building into an installation connecting elevation ablation function, urban public space and park greening. The roof, wall and greening become an integrated whole with integrated use and ornamental function (Figure 4); Based on the concept of respecting the original topography, the design of Luxelakes Eco-City draws water into the site to form a coral-like water network and road network system, which not only saves construction cost, but also forms a rich water-facing interface. There are some public spaces that use terraces to resolve height differences and organize spaces, Xinglong Lake Park is one of the examples which creates a dynamic outdoor activity space with micro-terrace combined with wavy boundary.



Figure 4. Landscape Architecture in Xinglong Lake Park.



Figure 5. The Photo of the collocation of native plants in Luke Island.



Figure 6. The Photo of the collocation of native plants in Xinglong Lake.

4. To Set Landscape Keynote with Native Plants

The native plants with strong adaptability, low maintenance cost, and obvious geographical characteristics are compatible with the current concepts of resource conservation and ecological environmental protection, and are consistent with the intention of the local plant community. With the promotion of ecological sustainability, the aesthetic concepts of the public are gradually changing, and landscape construction began to adopt plants with rustic temperament, and achieved good artistic effects. There are a variety of plants in Chengdu plain. In the landscape construction of Tianfu New Area, many native plants are used to create an outdoor landscape intention space with original ecology, low maintenance cost and rich in rural landscape features. For example, In the plant landscape collocation of Luke Island and Redstone Park of Luxelakes Eco-City, native plants are used, such as *Miscanthus sinensis* (*Miscanthus sinensis* cv.), Chinese pennisetum (*Pennisetum alopecuroides* (L.) Spreng.), sage (*Salvia japonica* Thunb.), *Ophiopogon japonicas* (*Ophiopogon bodinieri* Levl.), Bermudagrass (*Cynodon dactylon* (L.) Pers.), Camphor (*Cinnamomum camphora* (L.) Presl), *Cinnamomum japonicum* (*Cinnamomum japonicum* Sieb.), *Elaeocarpus sylvestris* (*Elaeocarpus sylvestris* (Lour.) Poir.), *Osmanthus* (*Osmanthus fragrans* (Thunb.) Lour.), *Koelreuteria paniculata* (*Koelreuteria paniculata* Laxm) (Figure 5); cat-tail (*Typha orientalis* Presl), *Asparagus officinalis* (*Arundo donax*), *Parathelypteris glanduligera*, Green bristlegrass (*Setaria viridis* (L.) Beauv.), Cotton rose (*Hibiscus mutabilis* Linn, calamus (*Acorus calamus* L.) and other native plants are used in the plant landscape construction of Xinglong Lake and Luxi River Ecological Zone (Figure 6). The extensive use of native plants not only reduces the maintenance cost and realizes the ecological sustainable development, but also sets the tone of the regional landscape, highlights the regional culture and characteristics, and creates a landscape scene full of local characteristics and ecological sustainability.

5. To Create Landscape Spirituality with Water Resources

Most of the Tianfu New Area is located in Dujiangyan Irrigation District. The planned area includes the five major water systems of Minjiang River, Jinjiang River, Luxi River, Xijiang River, and Longquan Lake--Sancha Lake. There are many natural rivers and artificial irrigation canals in the area, and the water network is developed. Landscape planning and design make full use of the rich advantages of rivers, lakes, streams and other water systems, shape the urban form by complying with the water trend, and rationally arrange the functions of the water body so that it has the functions of ecology, landscape, flood control, irrigation, and culture. For example, Xinglong Lake covers an area of more than 6,400 acres, including 4,300 acres of water area. Landscape planning and design try to preserve the original natural features by combining the original ecological background. In the process of landscape planning and design, attention was paid to the integration with the original ecological background, the original natural features were preserved as much as possible, and the river and lake were separated through the newly built spillway, which comprehensively improved the flood control standards of the lower reaches of the Luxi River. In addition, the construction of the ecological environment of the aquatic and animal and plant communities at the junction of water and land is also valued. Combination design methods such as adjusting the ratio of water and green land, ecological revetment, and permeable paving are used to change the local water circulation system, thereby improving the self-regulation and purification of water bodies. It has realized the organic integration of the water landscape ecological functions and urban flood control, agricultural irrigation, leisure and recreation,

cultural activities and other functions. To sum up, Xinglong Lake is known as the “Ecological Kidney” of Tianfu New Area (Figure 7). Rivers, lakes, streams and other water landscapes not only inherit the water culture of Chengdu plain and promote the benign operation of water system, but also play an important role in enhancing the spirituality of outdoor space landscape (Figure 8).



Figure 7. Partial bird's eye view of Xinglong Lake.



Figure 8. The Photo of Xinglong Lake landscape.

6. To Enrich Landscape Vocabulary by Embracing Farming Culture

The agricultural landscape includes natural and cultural elements. In order to continue the agricultural civilization culture of Chengdu Plain and inherit the values of production, life, ecology, tourism, and aesthetics and so on, the landscape construction of Tianfu New Area reconstructed, utilized and reproduced agricultural landscape in Chengdu Plain, which consists of Linpan Courtyard, farmland and water network system. On the basis of integrating the original natural elements of rural landscape, new functions are introduced to form a tourism scenic spots for people to enjoy and play. For example, the “Buer Mountain House” Rural Cultural and Creative Comprehensive Experience Park is located in Maoxiang Village, Baisha Street, Tianfu New Area, which is situated at the intersection of urban and rural areas of Chengdu. Brand-new design concepts were applied to the project, including that to use the surrounding farmland landscape as the basis of landscape design, based on the natural rural culture of Maoxiang Village’s “local customs, folk customs and regulations” to form what is described in ancient poems, the scene that there are red persimmons and green oranges in the courtyard, residence cooking in the distance, reeds and millet in the countryside, and farmhouses nearby is created.



Figure 9. The Photo of the Buer Mountain House.



Figure 10. The agricultural landscape of “Linpan” + “Farmland” in Tianfu New Area.

To combines cultural and creative products, agricultural and sideline products, cultural education and training and other forms of business to develop global rural tourism with the multi-content parent-child industry as the leading project (Figure 9). In the landscape design of Tianfu New Area, natural landscape and cultural landscape

are perfectly combined to enrich the landscape vocabulary, reproduce and strengthen the memory of Chengdu farming culture, and highlight the characteristics of regional landscape (Figure 10).

7. To Enhance Landscape Connotation with Traditional Gardening Techniques

The traditional garden is the cultural treasure of the Chinese nation, which often presents the artistic conception of landscape painting and idyllic poetry. Its pursuit of poetic and pictorial artistic conception has reached the peak and has a strong artistic appeal. Classical design techniques such as the clear composition relationship, fluctuation and hierarchy, spatial contrast, guidance and suggestion, contrast between virtual and real, spatial sequence [5] in traditional gardens have been used for reference and carried forward in the landscape construction of Tianfu New Area. Combining the architectural style and elements of Western Sichuan gardens [6], Tianfu New Area not only uses traditional classical gardening techniques to create poetic landscape conception, but also integrates with modern design concepts to present the landscape style of the new era (Figure 11). In the construction of Xinglong Lake Park, Luxelakes Eco-City, Buer Mountain House (Figure 12) and other landscape scenes, the traditional gardening techniques have been used many times. At the same time, contemporary materials and forms are used in the selection and application of materials and landscaping elements, namely Borrow classic traditional gardening techniques and contemporary design elements and materials to show contemporary outdoor space scenes with classical temperament and imagery (Figure 13).



Figure 11. Buer Mountain House.



Figure 12. The Application of Framed view in Buer Mountain House.



Figure 13. Framed view in Chinese royal garden.

8. Conclusion

The guiding principle that ecology is the foundation and culture is the soul is persisted in the planning and construction process of Tianfu New Area. In the process of landscape construction, the original topography of the site was fully respected and the landscape pattern was constructed according to the topography. With the help of native plants, water construction, agricultural culture vocabulary and other means, a variety of traditional garden design methods are combined to create an ecological and sustainable urban landscape intention. Meanwhile, local culture is displayed everywhere, showing the characteristics of the times, regionalism, culture and art, inheriting regional culture, and providing reference for the landscape expression and display of the regional characteristics of today's cities.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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Image Sources

Figure 1: Chengdu Urban Construction Archives; Figure 2: Chengdu Institute of Planning & Design; Figure 3: Sichuan Institute of Urban and Rural Planning and Design; Figure 10: Natural resources and planning and Construction Bureau of Tianfu New Area; Figure 13: taken by Jian Qiu and the rest taken by Jing Li.

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