

Exploration of Cityscape Planning Strategy for Implementation

—Taking Mianyang as an Example

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Abstract

Cityscape is the image of a city, and cityscape planning is the main means of creating urban style. This paper summarizes the problems of the natural environment, historical characteristics and style of Mianyang City, and analyzes the problems encountered in the specific implementation of the cityscape planning. It is proposed that the planning of the cityscape should be based on public participation, and enhances the control and guidance of the cityscape planning. Targeting and improving the expression of historical culture in the city, in order to reduce the difficulty of urban planning, and thus achieve the purpose of improving the city's appearance and improving the city's personality.

Keywords

Cityscape, Cityscape Planning, Implementation, Mianyang

1. Background Interpretation

Under the background of economic globalization, cities compete fiercely at all levels, and their centers promote sustainable urban development by attracting capital and human resources. A vibrant city image can greatly increase the city's competitiveness, so planning and designing a good urban look is extremely important.

The urban style is the image of a city, a comprehensive reflection of the inner quality and external appearance of the city. It is a historical tradition, culture, citizen spirit and environmental characteristics of urban life formed during the urban development process through artificial landscape and natural environment [1] [2] [3]. Compared with the soft aspects of culture and spirit, the plan-

ning and construction of urban material space can quickly show results. Therefore, it has become the focus of local governments, which have put forward the slogan of “building” and “marketing” the image of city. The specific implementation is based on the “cityscape planning”. Urban landscape planning usually refers to providing effective guidance and control over the construction content and implementation steps of urban tangible material space within the city’s metropolitan area, in order to form a city style that conforms to the city’s own characteristics and to show the personality of the city [4] [5].

However, in the process of rapid urbanization, many cities have taken the rapid economic growth as their primary objective, making the planning of urban landscape stay on the map or become mere formality. Problems such as increasing volume ratio, the control of building height that is nothing but an empty shell, and exaggerated architectural appearance are widespread, which lead to low quality of urban landscape.

The lack of urban personality caused by the convergence of urban image and the lack of historical and cultural background is also one of the focuses of the society, which makes the city planning department feel more pressure and anxiety. Therefore, how to improve the personality and diversity of the city, and internalize the city’s natural characteristics, historical culture and humanistic spirit into the elemental planning of the style, so that it can be coordinated with the material environment of the city, and thus create a beautiful urban appearance. Strengthening urban characteristics under the premise of ensuring the integrity of the city’s style is an urgent issue facing the current urban landscape planning.

Mianyang is the second largest city in Sichuan and the only science and technology city in China. However, there are many problems in the city construction, such as the destruction of landscape pattern, poor public open space and building quality, lack of elements related to local culture, etc., which make the city’s appearance difficult to match with its city status. To this end, this paper takes Mianyang as an example to explore a more scientific and operational planning method of urban landscape, which provides the basis for Mianyang’s cityscape improvement planning.

2. Analysis on the Present Situation of Mianyang Features

2.1. Natural Environment and Historical Culture

Mianyang is located in the northwest of Sichuan Basin. It has a history of 2220 years since its establishment and is one of the cities in the core area of ancient Shu culture.

1) Natural environment

Mianyang has a mild and humid climate with four distinct seasons. The terrain inclines from northwest to southeast. The northwest is subordinate to the mountain on the edge of the Qinghai-Tibet Plateau. The southeast is subordinate to the hills in the basin, mainly hills, but not many mountains. Mianyang’s downtown area is located in the middle of the city area, surrounded by four

mountains and a dam in the middle, which forms a green barrier to the downtown area [6].

2) Hydrological environment

Mianyang has many rivers and well-developed water systems, among which the Fujiang River, Anchang River and Furong River form the intersection of three rivers and the circulation of two rivers as the landscape with local characteristics of Mianyang (Figure 1).

3) Historical and cultural characteristics

As a famous historical and cultural city in Sichuan Province, Mianyang has a profound historical and cultural heritage. It has the cultural characteristics of Ba-Shu culture, Three Kingdoms culture, national culture, science and technology culture, landscape culture and so on. It has intangible cultural heritage such as Wenchang Sacrifice, Qijiang ancient town, city god temple fair, the legend of Yu. There are many landscape buildings in the city, such as Yuewang building (Figure 2) and Ziyun Pavilion, which are rich in poetry.

2.2. The status Quo of Cityscape

In the preliminary work, in order to understand the local residents' perception of the style of Mianyang, our research group on Mianyang's cityscape planning and design strategy has designed a questionnaire based on the principles of effectiveness, simplicity, scientificity and representativeness. After a round of preliminary investigation, it has revised the problems that are too professional to understand and lengthy, and formed the final citizen questionnaire, which covers natural landscape, characteristic culture, folk customs, characteristic streets,



Figure 1. Sanjiang interchange.



Figure 2. Yuewang building.

landmark buildings, landscape sketches and other contents. The central urban area of Mianyang is divided into eight areas: Yuyingba area, Sanjiang Interchange Center area, Wulidui area, Shengshui Qingyi Shima area, Central City and Gaoshui area, Tangxun Xiaojian Songya area, gardening area, high-tech area. Questionnaires were distributed to all local and non-local residents living in Mianyang in squares, parks, riverside belts, main streets, main residential areas and commercial centers in the eight districts respectively, and 918 copies were collected. First-hand information on the current situation of Mianyang's landscape has been obtained. At the same time, the team members also conducted detailed field research on each area from the professional perspective through photography, filling in style surveys, interviews, etc., and recording, perceiving, analyzing and summarizing the urban context and appearance of Mianyang from daily life, to provide a basis for further understanding of the main characteristics of Mianyang.

Through questionnaires (Figure 3) and field research, it is found that Mianyang has certain urban characteristics, has a more pleasant landscape, and its urban construction has also achieved certain development, but there are still some problems. The main problems of Mianyang's urban style can be summarized as:

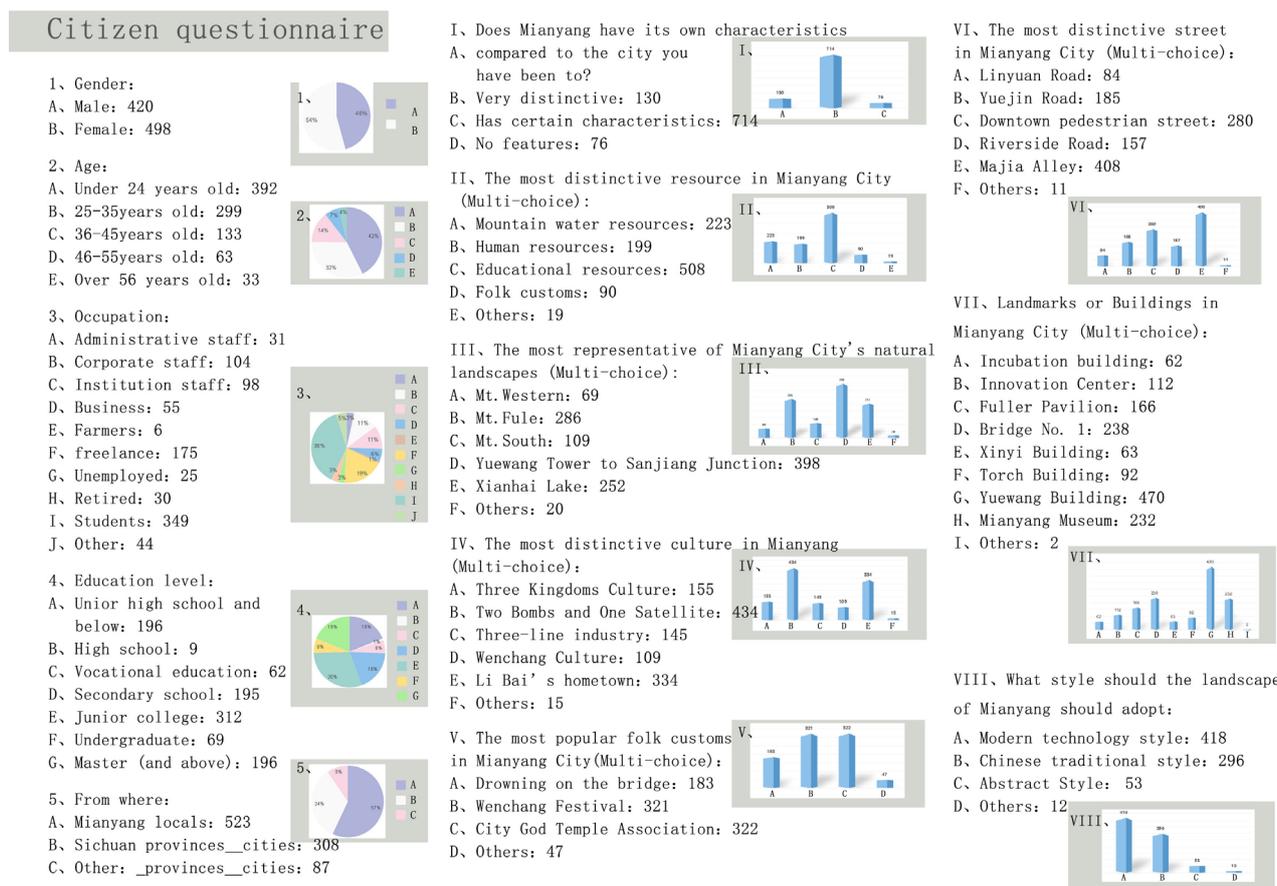


Figure 3. Citizen questionnaire sample and data.

1) The landscape pattern of harmony between city and nature is destroyed

Due to the failure to control the relationship between the building and the mountain, the background contour formed by the natural landscape was obscured by the urban construction, and there was no visual line effect that formed the mutual attraction and coordination of the mountain city, which greatly affected the urban appearance (**Figure 4(a)**). At present, Youth Square and Tieniu Square and the waterfront along the road have a good hydrophilic environment and visual landscape, but most of the Riverside Road is still grassy, and the green landscape is not built as a whole, lacking in ornamental (**Figure 4(b)**).

2) The shape of public open space is monotonous

Some squares have inadequate service facilities. There are no chairs for the public to rest. The citizens can only sit on the ground. The public open space scale is too large. The interior is dominated by a large area of hard paving, with a discouraged, luxurious space form, but lost its appeal and affinity to the public. The design method is single. The design stage simply combines the theme sculpture, fountain and pavement, and does not adapt to local conditions. The local natural and human landscape features have not been fully displayed (**Figure 5**).

3) Poor building quality

At present, the newly built areas of Mianyang, such as horticultural hills and high-tech zones, have basically the same architectural color, but the overall tone of the city is chaotic. A small part of the architectural style is too abrupt, destroying



Figure 4. The landscape pattern is destroyed. (a) The contour of the mountain is broken; (b) Waterfront landscape not built.



Figure 5. Public open space. (a) Lack of seat; (b) Large and empty square space; (c) The paving material is single.

the integrity of the building complex; high density; the building skyline is straight and rigid, without forming the height of the buildings; the majority of the building's facade is old, reducing the overall quality of the city; lacking landmark buildings. In the absence of landmark buildings, according to Question VII of the questionnaire, only the Yuewang Building is half of the choice of urban landmarks, and the urban area lacks recognition (Figure 6).

4) Historical and cultural characteristics are not reflected

Mianyang has a prominent history and culture. The “China Science and Technology City” is the iconic business card of Mianyang (Figure 7). However, in our interviews, many citizens put forward the following suggestions for “what can be improved in the planning and design of Mianyang’s cityscape”: “Mianyang does not have many related buildings and public spaces that can display the characteristics of the Science and Technology City. Only the Science and Technology Museum is not enough to display the science and technology culture of Mianyang; various public facilities are basically not combined with Mianyang’s history or culture; increase the style of science and technology and reflect the appearance of science and Technology City...” Explain that the public is only aware of the history and culture of Mianyang, but it is difficult to perceive their existence in the city.

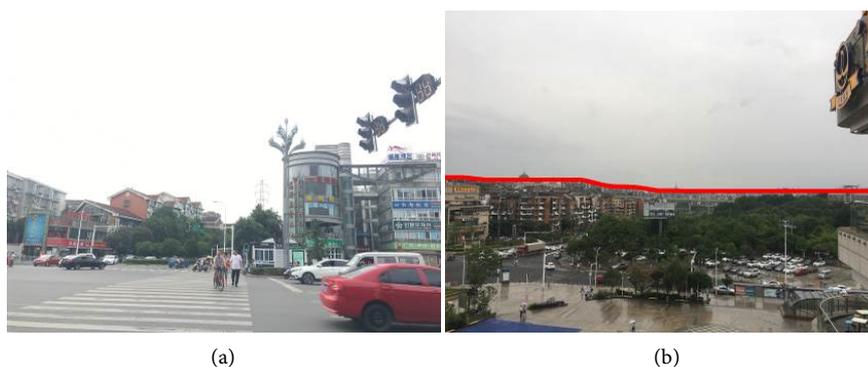


Figure 6. Poor construction qualities. (a) Style confusion; (b) Building no ups and downs.



Figure 7. Mianyang Science and Technology.

3. The Reasons for the Problems of City Style

3.1. Lack of Binding Force and Guidance of Landscape Planning

At present, cityscape planning is a non-statutory plan. Enforcement is more difficult. Its regulations are also broader and more discretionary. Therefore, it is often not implemented in the actual implementation process. There are many cases of giving way to urban development. For example, in order to pursue the economic benefits of urban development, the breakthrough of floor area ratio and building height control, encroach on waterfront space, destroy mountain contours, and block landscape corridors; on the other hand, existing landscape planning is mainly in 2D drawings. Presented in textual descriptions, abstract expressions, lack of a more refined description and recognized specific procedures to follow, resulting in historical factors such as skyline, sight corridor, public space, architectural color, building height, etc. The control is often overwhelmed, it is difficult to provide a definite guidance for urban construction, and it is impossible to provide management basis for post-construction management [7].

3.2. Insufficient Targeting of Landscape Planning

Cityscape planning is the main method to show the uniqueness of the city. The content of the plan does not have to cover all the elements, but rather in strictly and exhaustively controlling the main problems affecting the present situation of the cityscape and the key contents that truly represent the cityscape and personality from the perspective of the whole city. Other non-key elements can be grasped by the planners themselves to reduce various uncertain interference factors and promote the individuality and diversity of the overall style of the city under the premise of ensuring integrity.

3.3. Insufficient Attention to Historical Culture in Style Planning

With the continuous development of the city, authorities, builders, including ordinary citizens have gradually learned the important role of history and culture in urban development, but the importance attached to them remains on the planning concept, and in the specific planning implementation stage. Lack of implementation, for example, just through various propaganda methods to inform everyone that Mianyang City is “China Science and Technology City” and “Li Bai’s Hometown”, but it has not been reflected in the construction of the city, leading to the phenomenon of “only hear the sound but not see the person”, the city still lack of personality and difference.

4. Analysis on the Improvement Plan of Urban Landscape in Mianyang

4.1. Increase Control and Emphasize Public Participation

Urban planning, this kind of illegal planning, can be indirectly converted into planning and management binding planning, increase control, such as the introduc-

tion of the control detailed planning guidelines to guide the style control of different areas, improve the effectiveness of urban landscape planning control [8].

In the urban and rural planning law, there are clear provisions on public participation, but cityscape planning does not belong to the scope of urban and rural planning. Public participation is often neglected, resulting in the construction of a city that is only the ideal city considered by planners and decision makers, but not the city of citizens favored by the public. Therefore, when planning the cityscape, we should understand and attach importance to the public's cognition and opinions on Mianyang's cityscape.

4.2. Increase the Guiding Role of Landscape Planning

As an implementation plan, urban landscape planning should directly guide the construction and management activities of the city. Therefore, we can learn from some case studies of relevant urban design in foreign countries, and compile landscape control plans based on three-dimensional perspectives, so as to determine a series of specific planning conditions and refined control of urban features.

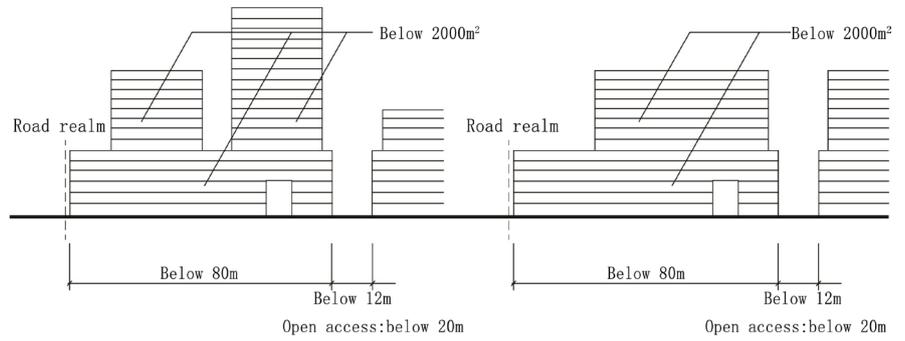
The urban design of the Makuhari New City residential area in Japan is stipulated in detail from the street area distinction, space form, building façade, roof styling, and commercial layout to face the urban features, such as the external contour form of the single building design along the street, the regulations on wall protrusions in the design, wall rate, exterior wall material and color, and balcony regulations (Figure 8) have achieved good effect of style control [9].

In this way, the status quo of the landscape elements, the specific measures for implement the transformation and the visual effect can be clearly expressed directly from the drawings, so that the planning content can be more easily understood, and a relatively unified management standard can be provided for the management personnel, so as to improve the management efficiency.

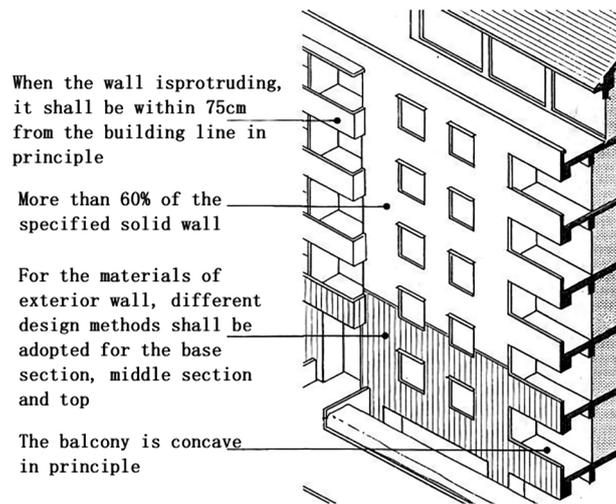
4.3. Improve the Relevance of the Content of the Planning

The system structure of urban landscape planning is complex, mainly including road system, open space system, building height control system, node space system, urban color system, etc. Different areas will have different problems, if not focused, planning and designing all the elements of the style will not only consume a lot of manpower and material resources, but also make the final planning results lack of pertinence [10]. Therefore, we first learned through the questionnaire survey that Mianyang's Yuewang Building to Sanjiang Interchange, two bombs and one star, Majiaxiang and Yuewang Building are representative natural landscapes, cultures, streets and landmark buildings of Mianyang selected by the citizens respectively.

At the same time, the satisfaction survey of Mianyang residents on various style elements was collected (Figure 9), of which 200 were collected. Through the satisfaction of various survey elements, the problems found in the field research, and the interviews, the citizens hope to improve. Analysis shows that the problems



(a)



(b)



(c)

Figure 8. Detailed regulations for the construction of the urban design of Makuhari New City residential area. (a) The outer contour of street type monomer; (b) Exterior wall design; (c) Aerial view.

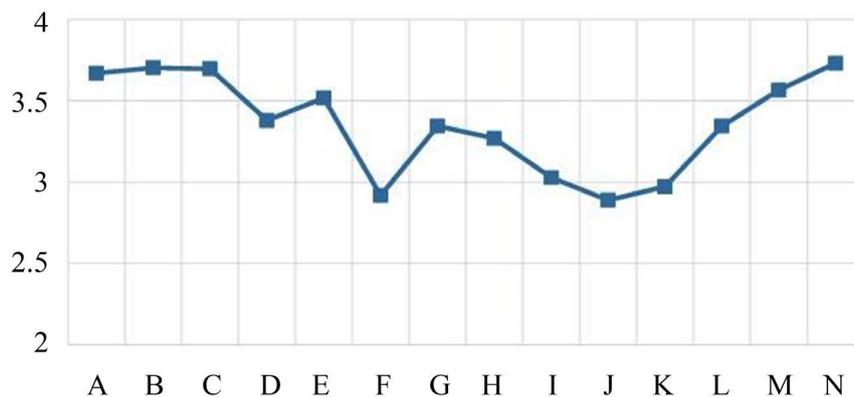


Figure 9. Average satisfaction of various style elements. A: Urban overall appearance; B: Natural environment; C: Green landscape; D: Street environment; E: Walking (riding) environment; F: Parking space; G: Waterfront activity space; H: Square space; I: Architectural style; J: Architectural color; K: Landscape sculpture; L: Street furniture; M: Billboards, signboards; N: Night lighting.

of cityscape in Mianyang are mainly concentrated in the aspects of urban color disorder, insufficient building height control, uncoordinated combination of architectural style and space group, insufficient parking lot, and low quality of landscape sculpture. Therefore, in order to solve specific problems, we can firstly carry out strict style control and fine planning design on the architectural color, height, style, parking lot and landscape sculpture of the key areas of Yuewang building to Sanjiang Interchange and Majiaxiang, so as to highlighting the urban style of Mianyang.

At the same time, combined with the second point to detail the content of the landscape planning, the corresponding elements will be implemented to the building planning and design control guidelines, parking lot layout planning plans, landscape sculpture planning, using maps, text and various data indicators requirements the combined way of expression is conducive to enhancing the intuitive feeling and guidance of the planning results.

4.4. Improve the Expression of History and Culture

The planning and design of Quancheng Square in Jinan (**Figure 10**) fully integrates the local natural landscape, history and culture, and perfectly expresses the cultural characteristics of Jinan. For example, the square pavement uses different materials to form a space with different touches; there are four groups of fountains under the famous springs on the square and 72 small springs, each of which has meanings, so that the citizens and tourists can fully feel the spring “spring culture”; the famous celebrities in the history of Jinan will be displayed through sculptures and reliefs [11].

Like Quancheng Square, the city’s natural characteristics, history and culture, including humanistic spirit, are internalized into the design of material elements through symbols, variations or direct planning and design methods to form unique node spaces and open spaces, etc. Strengthen the personality of the city.



Figure 10. Quancheng square.

5. Conclusion

Cityscape planning is an application-oriented plan. Mianyang has a good natural landscape pattern and more scientific and technological features. Therefore, in order to better play its guiding and management role, in the guiding ideology of the preparation of landscape planning, it is necessary to maintain the natural landscape pattern, continue the local historical planning concept and highlight the elements of modern science and technology, so that “new” and “ancient” coexist, with “new” as the mainstay and “ancient” as the supplement. The implementation plan is to increase the control of the landscape planning and attach importance to public participation. In the planning results, the current status problems and transformation measures are directly presented through two-dimensional and three-dimensional drawings, making them easier to understand and improve operability.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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