

Enhancing Urban Landscape Facilities in Guangxi's Minority Regions: A Case Study of Nanning City

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Abstract

This study aimed to provide theoretical guidance at the macro level in the early stage for the implementation of the “Strong Capital” strategy in the urban landscape construction of Nanning and to offer practical reference at the micro level in the later stage for the construction of Nanning’s urban landscape facilities with strong Zhuang characteristics. Although Guangxi had abundant regional cultural resources, Nanning, as the capital of Guangxi, had not received sufficient attention at the micro level in its urban construction over the past fifty years. This article combined multiple research methods, including literature analysis, field investigation, and interviews, such as theoretical research and macro planning in the early stage, micro implementation in the middle stage, and micro operation and management in the later stage. It summarized the development process of urban landscape facilities in Nanning and identified current problems. Based on the cultural resource advantages of ethnic minority regions in Guangxi and the actual situation of urban construction in Nanning, four strategies for enhancing urban landscape facilities in Nanning were proposed using the inductive summary method. The results showed that by incorporating regional cultural symbols, integrating modern technology, promoting economic efficiency, and standardizing maintenance practices, the urban landscape facilities in Nanning could effectively enhance their functionality, aesthetic appeal, and cultural representation, contributing to a more cohesive and livable urban environment.

Keywords: The Minority Area of Guangxi, Urban Landscape Facilities, Upgrade Strategy

Introduction

The Guangxi Zhuang Autonomous Region, located in southern China, is a region of immense cultural richness and diversity. With its establishment in 1958, Guangxi became one of the five provincial-level autonomous regions for

ethnic minorities in China. Spanning an area of 237,600 square kilometers and encompassing 14 prefecture-level cities, Guangxi is home to a population of 50.37 million as of the end of 2022. Notably, Guangxi harbors a significant number of ethnic groups, including Zhuang, Yao, Miao, Dong, Mulao, Maonan, Jing, Yi, Gelao, Hui, and Shui.

The long history of Guangxi has given birth to the regional culture of various ethnic groups with numerous types, complex systems and distinctive characteristics. These distinctive regional cultures serve as a wellspring of creative inspiration and material sources for the urban landscape facilities in Guangxi.

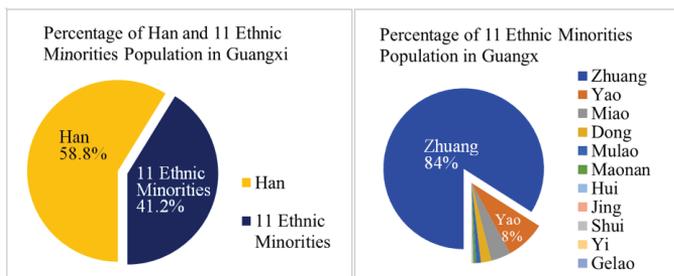


Figure 1 Percentage of Population of the 12 Hereditary Ethnic in Guangxi, 2022
Source: Author

Research Objectives

1. to provide theoretical guidance at the macro level in the early stage for the implementation of the “Strong Capital” strategy in the urban landscape construction of Nanning.
2. to provide practical reference at the micro level in the later stage for the construction of Nanning’s urban landscape facilities with strong Zhuang characteristics.

Literature Reviews

Urban landscape facilities belong to one of the main contents of landscape design. Figure 2 shows that the popularity of themes on landscape facilities in China has been growing for 20 years since 2002, and that landscape facilities have been mainly distributed in five disciplines, namely architecture (37%), culture (13%), art (12%), literature (10%) and tourism (6%). The main research contents involve design methods, project case studies and relevant aspects, while researches on theories and industrial policies are slightly insufficient. The research levels are mainly technical, engineering and application-oriented, and research achievements are mainly journal papers, and master and doctoral theses; research monographs are relatively few.

Among those research achievements from 2002 to 2010, as the urban construction in the eastern coastal areas of China began to take shape, researchers and case studies mainly came from the southeast coastal area. They attached importance to the international and modernistic characteristics from the perspectives of aesthetics and functionality. Since 2010, with the gradual success in urban development and the ample regional cultural elements in western China, regional culture has become a research hotspot regarding urban landscape facilities. Furthermore, intelligent urban landscape facilities have become another new hot spot due to the complete advent of 5G era in China since 2019. Simultaneously, topics concerning historic districts, collective memory, revitalization, etc., have also become focuses with the implementation of urban renewal strategy since 2019.

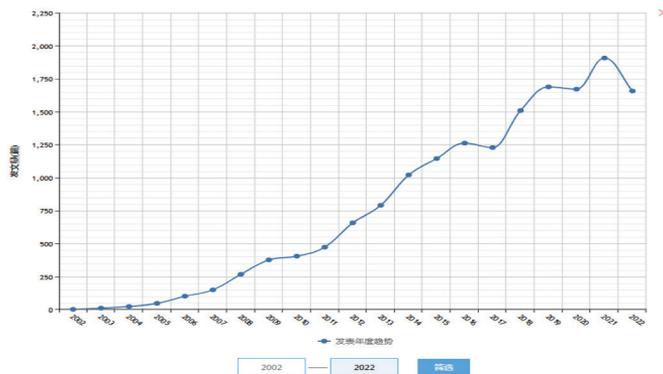


Figure 2 Annual Trends of Urban Landscape Facilities Research in China
Source: www.cnki.net

Research Methodology

This study used a combination of research methods, including document analysis, interviews, field research, and the inductive summary method. Document analysis involved a comprehensive review of various literature on the theme of “Nanning Urban Landscape Facilities,” including journal articles, monographs, and reports, to analyze and summarize the development stages, characteristics, and types of urban landscape facilities in Nanning.

Interviews focused on the current situation of urban landscape facilities in Nanning, covering aspects such as early planning and layout, mid-term construction implementation, and later operation, maintenance, and management. Semi-structured interviews were conducted with key stakeholders, including urban planners, architects, landscape designers, government officials, construction units, municipal management departments, and local residents.

Field research was carried out through the investigation of various urban landscape facility projects across Nanning’s urban areas, focusing primarily on the practical application of regional culture, modern technology, tailored measures, and standard modules.

The inductive summary method, commonly applied in the humanities and social sciences, was used to analyze the collected literature, field research, and interview data. It considered macro planning in the early stages, micro-level implementation in the middle stages, and micro-level operation and management in the later stages. This method, combined with the cultural resources in Guangxi’s ethnic minority areas and modern technological means, led to the identification of four main strategies for improving Nanning’s landscape facilities: highlighting regional culture, building a smart city, promoting cultural diversity and economic conservation, and ensuring ease of maintenance and management.

Research Results

Development stage of urban landscape facilities in Nanning

Urban landscape facilities can also be named urban furniture. They are not only indispensable for the normal urban operation and construction but also important for one's daily urban life. They are not only the urban facilities on the micro level but also those with the best embodiment of urban quality in detail. They cover leisure service, traffic service, illumination, culture, advertising, blocking and arresting devices, and other facilities. With the continuous advancement in science and technology and the iteration and upgrade of urban construction, some new urban landscape facilities continue to emerge.

The development of Nanning's urban landscape facilities is closely related to the process of urbanization. Through field research combined with literature research, it can be summarized into three main development stages (Table 1).

Table 1 Three Main Development Stages of Urban Landscape Facilities in Nanning

Periods	Process Speed	Features of Urban Landscape Facilities	Main Types
1949-1980 (Emerging Stage)	Slow	Primarily meeting the simplest functions	Simple bus stops, street lights, trash bins, simple road signs, etc
1980-2000 (Exploration Stage)	Fast	Integrating regional cultural characteristics while fulfilling functions	Bus stops, street lights, trash bins, road signs, outdoor fitness facilities, public benches, newsstands, landscape miniatures, etc.
2000-Present (Maturity Stage)	High Speed	Balancing functionality, aesthetics, regional culture, contemporary demands, and city image.	Intelligent bus stops, smart street lights, classified trash bins, road signs, guide signs, outdoor fitness facilities, public benches, landscape miniatures, barrier-free facilities, shared facilities, smart information boards, etc.

Source: Author

It is clear from Table 1 that, in the early stage of Nanning's urbanization, most urban landscape facilities did not consider the integration of local culture. However, with the national level proposing cultural revival and emphasizing cultural confidence, ethnic areas have carried out a large amount of practice in applying regional culture to urban landscape facilities, which has been highly recognized by society. Especially in 2018, Nanning proposed the "Strong Capital" strategy, emphasizing the primary goal of building an ecologically livable city with strong Zhuang characteristics and subtropical atmosphere.

Investigation on the current situation of urban landscape Facilities in Nanning

Since the founding of the People's Republic of China in 1949, the landscape facilities in Nanning City have seen different development stage spanning over seven decades. Subject to different economic levels and urban planning and design concepts in different periods, the development in landscape facilities in Nanning City faces many practical problems. They are mainly reflected in the following aspects:

Table 2 Survey on the Current Situation of Urban Landscape Facilities in Nanning

No.	Problem	Content
1	Planning Layout	The location layout is unreasonable, and the various facilities managed by various departments lack mutual coordination.
2	Security	There are many safety hazards in dimensions, material selection and construction technology.
3	Style	In the same area, there are various styles and colors of landscape facilities.
4	Regionalism	The regional characteristics are not obvious and impressive.

Table 2 (continued)

No.	Problem	Content
5	Function	The function is not reasonable enough in actual use.
6	Quality	The quality of design, material and construction is not high.
7	Smart City	The level of smart is not high.
8	Maintenance and Management	Lack of regular maintenance and maintenance.

Source: Author



Figure 3 Disordered Style and Lack of Unified Landscape Facilities in Qingxiu District

Source: Author

Upgrade Strategies for Landscape Facilities in Nanning City

1. Emphasis on Regional Culture and Demonstration of Regional Characteristics

With the proposal of cultural rejuvenation, ecological restoration and urban repair and other national strategies, as well as the fact that most cities in China have entered the stock house era, the emphases on detailed urban quality and connotative development have become an important goal for urban construction.

Regional culture is a high generalization of various cultures generated during the development course of the ethnic group. It has high recognition and artistic value, and also serves as a main factor that determines cultural features and stimulates creativity. Guangxi, a minority area with Zhuang People as the main body, has ample regional cultural resources, such as ethnic architecture, ethnic costumes, ethnic musical instruments, etc. Those brilliant regional cultural symbols provide a great number of creative materials for the urban and rural construction in Guangxi.

As the capital city of this minority area, Nanning City should emphasize regional cultural features, extract and explore the connotation of regional cultural symbols, and display national cultural features, so as to avoid the rigidly same urban style when it comes to the upgrade strategy of landscape facilities at a micro level. Regional cultures should be injected into landscape facilities in various urban interfaces in Nanning from the point, line, plane and three-dimensional perspectives (Figure 4).



Figure 4 Design Scheme Renderings of Trash Cans with Regional Cultural Symbols
Source: Chun Li, Weikang Shen

2. Intelligent City Construction through Modern Technology Integration

With the comprehensive progression of 5G technology, Nanning City has achieved full coverage of 5G signal. It provides strong technical support and service guarantee for urban landscape facility construction. Under the framework of intelligent city that begins to roll out big data construction in view

of urban planning and public service facilities, urban landscape facilities should be pro-actively incorporated into this system.

For example, when it comes to bus stop and other major urban landscape facilities, with reliance on the application of big data, the Internet of Things and other technologies, bus stop no longer just serves as a single waiting station but a point that closely and effectively connects public transportation with urban management, business platforms, public safety and other intelligent aspects. In this way, a bus stop can provide more convenient, efficient and safe travel services for citizens, create more diversified business space for enterprises, and enable more efficient operation and joint defense management mechanisms for various government departments, such as bus company and public security department. All departments should actively collaborate to explore solutions that integrate multiple poles, reduce the number of poles and make the urban interface more refreshing. They should replace or eliminate some unsightly and dense pole shaped fixed facilities, introduce intensive technological products, and build an intelligent system.

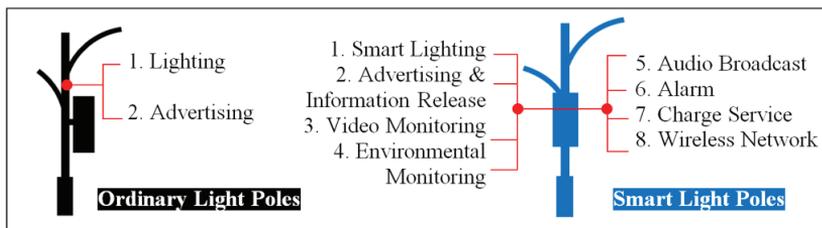


Figure 5 Comparisons between Smart Light Poles and Ordinary Light Poles

Source: Author

3. Advocacy of Cultural Diversity and Economic Efficiency based according to Regional and Local Conditions

Due to the different economic levels, urbanization processes and functional orientations among those seven urban districts in Nanning, there is a prominent problem of unbalanced economic development among those urban districts. Therefore, the planning and installation of landscape facility in Nanning

City must take into account the economic efficiency principle and conducted in a district-based manner because different urban areas and blocks are subject to many factors, such as architectural style, landscape form, cultural context of site, urbanization level, residential group and many other objective conditions.

Table 3 Theme Positioning of Urban Landscape Facilities in Seven Districts of Nanning

Name of District	Founded	Location	Function	Theme Positioning
Xingning District	1958	North-east	Commercial, Industrial and Residential Areas	Historic and Commercial
Jiangnan District	1979	South-west	Industrial, Logistical and Residential Areas	Industrial
Qingxiu District	1979	East	Office, Financial and Residential Areas	Office
Xixiangtang District	1979	West	University Town, Old Industrial Base and Residential Area	Humanistic
Yongning District	2004	South-east	Comprehensive Old Town	Historic
Liangqing District	2004	South	New Development Zone, Modern Enterprise Headquarters Base and Residential Area	Integrated Modern and Traditional
Wuming District	2015	North	A Comprehensive Area for Zhuang People Neighborhood	Zhuang and Modern

Source: Author

4. Standard Modules with Maintenance and Management Convenience

Due to the wide variety of landscape facilities, in order to reduce the subsequent maintenance and replacement costs, the facilities to be installed by various departments should be coordinated in advance in the preliminary planning for urban landscape facilities; appropriate development space should be reserved,

and standard modules should be well constructed. For example, for outdoor chairs, bus stations, streetlamps, billboards and other facilities, in addition to the design for material and structure enhancement in some vulnerable parts, competent departments should also take into account the subsequent utilization and daily maintenance as well as replacement and other links rather than just blindly considering artistic modeling. Once there is a local problem in the product, the high costs for investment due to complete removal rather than partial replacement run counter to the sustainable development concept.

Discussion and Conclusion

In conclusion, in the early stages of urban development, landscape facilities were mainly designed to fulfill the most basic urban functions, such as traffic signal facilities related to road safety and streetlights related to lighting. When the urbanization process reaches a mature stage, the construction of urban systems will become more complex, and the types of landscape facilities will become more diverse. During this period, landscape facilities will begin to develop towards comprehensive functions such as functionality, artistry, humanistic care, and urban image. Urban landscape facilities, the most micro design contents of a city, always cannot engage enough attention in the initial stage of most urbanization processes. With the advent of stock house era, urban landscape facilities have entered the best stage of development period.

Through the review on development course, current situation regarding landscape facilities in Nanning City, some upgrade strategies were proposed for the urban landscape facilities in the minority area. Against the backdrop of complex and diverse urban forms, those strategies from four dimensions, namely ethnic culture, modern science and technology, local conditions and standard modules, are expected to provide references for the minority area from the initial macro-level planning to the subsequent micro-level design.

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