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# Strategies for Landscape Design of Small and Micro Green Spaces in Urban Stock Space Oriented by the Enhancement of Public Space Vitality

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**Abstract:** As China's urbanization process enters the stage of stock renewal, it has become an important topic to efficiently use "negative space", such as urban corner areas and idle land, for improving the quality of cities. As the "capillaries" of the urban green space system, small and micro green spaces play an irreplaceable role in improving the ecological environment and providing leisure and recreation space. This paper is oriented towards enhancing the vitality of public space, explores some strategies for landscape design of small and micro green spaces in urban stock space, and aims to provide theoretical basis and practical guidance for the construction of small and micro green spaces in cities, and help improve the quality of public space in high-density urban environment.

**Keywords:** Small and Micro Green Spaces; Stock Space; Public Space Vitality; Landscape Design

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## 1. Introduction

In recent years, China's urbanization process has shifted from incremental expansion to stock optimization. It has become a core issue in enhancing the quality of cities how to efficiently use "negative space" such as urban corner areas and idle land. As the "capillaries" of the urban green space system, small and micro green spaces have unique advantages in improving the ecological environment and providing leisure and recreation space due to their small scale, wide distribution, strong accessibility, and other characteristics <sup>[1]</sup>.

## 2. Overview of Urban Small and Micro Green Spaces

### 2.1 Concept Definition

Small and micro green spaces refer to the relatively small open green spaces in cities, which are characterized by being "small, numerous and scattered". At present, small and micro green spaces have not yet formed a standard definition and classification. The related concepts with small and micro green spaces include many forms, such as pocket parks, vest-pocket parks and corner green spaces, which are mostly renovated from stock space such as vacated space after removing the illegal/unauthorized/unapproved building work, abandoned corner land and idle land. In 2024, the Ministry of Housing and Urban-Rural Development issued the *Guidelines of Constructing Pocket Parks (Trial Implementation)* that standardizes the construction standards and encourages the configuration of facilities friendly to all ages. Pocket parks are park green activity areas that are open to the public, small-scale, diverse, and have certain recreational functions. Their acreage generally ranges from 400 to 10, 000 square meters. They feature flexible site selection, simplicity and practicality, as well as environmental friendliness. Compared with traditional urban parks, small and micro green spaces pay more attention to accessibility, combined functions and community integration. They are usually located along paths in residence zones, achieve the service goal of "greenery within 300 meters and a park within 500 meters", and provide citizens with convenient daily leisure places.

### 2.2 Functional Positioning

Small and micro green spaces play a diverse and complex role in urban space. Their functions are not limited to ecological regulation but extend to multiple dimensions such as social intercourse and cultural education (as shown in Table 1). At the ecological level, small and micro green spaces effectively improve the local microclimate, absorb air pollutants and block traffic noise by means of vegetation configuration, land leveling and rainwater collection facilities. In terms of social functions, small and micro green spaces have become important places for citizens' daily leisure and social intercourse, and provide public space for nearby residents to take walks, chat, exercise and have fun <sup>[2]</sup>. At the cultural and educational level, emphasis is placed on integrating local characteristic culture and publicity and education content into landscape design to form urban open space that combines leisure, fitness and humanistic education.

**Table 1. Main Function Types and Specific Manifestations of Small and Micro Green Spaces**

Function Types	Specific Manifestations
Ecological Regulation	Improve Microclimate, Purify Air, Reduce Noise, Manage Rainwater
Social Intercourse	Leisure Walks, Social Chat, Game for Children, Body-Building
Cultural Education	Legal Publicity, Cultural Display, Historical Memory, Science Popularization Education
Emergency and Disaster-Prevention	Emergency Shelters, Evacuation Routes, Disaster Relief Assembly Places

### 3. Current Situation and Problems

Although significant progress has been made in the quantity of small and micro green spaces in China at present, they still face multiple challenges in quality and upgrading of functions. Many projects have the problem of monolithic functional orientation, and overly emphasize the green coverage rate while neglecting the actual needs of users. For instance, some green spaces only meet basic ecological functions, but lack recreational and social facilities, resulting in a low space utilization rate. In terms of molding of characteristics, homogenization is quite common. Many small and micro green spaces adopt standardized design templates and fail to effectively integrate regional cultural elements in, resulting in a lack of recognizability and a sense of belonging in the space. Insufficient engagement is another key shortcoming. The mechanism of community co-construction and co-governance has not yet been widely popularized. Citizens are mostly passive users rather than active participants, which weakens the social cohesion of small and micro green spaces.

The deep-seated problems stem from the divorce between planning and design and actual needs. On the one hand, excessive emphasis on visual greening effect, and neglect of the actual needs of the surrounding residents has led to that the spatial layout fails to effectively respond to the characteristics of all-age activities, such as lack of safety protection measures in children's activity areas or improper setting of rest areas for the elderly. On the other hand, inadequate consideration is given to the social and cultural dimensions. The connection is weak between historical line and contemporary lifestyle. Some projects are still confined to basic landscape ascension and have not fully leveraged the functions of cultural transmission and community education of public space. In addition, the imperfect maintenance and management mechanism affects their sustainability.

## 4. Strategies for Landscape Design of Small and Micro Green Spaces Oriented by the Enhancement of Public Space Vitality

### 4.1 Creation of Spatial Level

The creation of spatial level in small and micro green spaces requires to employ comprehensive strategies to address the challenges of high-density urban environment. The design should first precisely stratify based on the surrounding land status and the target population. For instance, surroundings of schools should be configured with children's entertainment and science popularization education facilities. In commercial areas, emphasis should be placed on unobstructed garden paths and plant features. In residential areas, fitness and rest functions should be strengthened to meet the needs of all-age people. The composite utilization of vertical space is a key approach. It can increase the greening space through the shape of terrain, greening of shed frames and stereoscopic planting. For instance, micro-terrain can be used to create private space, or spatial boundary can be demarcated through hierarchical division of plants to achieve the visual enjoyment of a large space in a small site. Elastic design further enhances the adaptability of space, which uses movable facilities and modular components to support functional conversion, and makes the same site serve different activities at different time. For instance, they can be transformed into leisure squares during the day and temporary marketplaces at night. This flexibility significantly improves the efficiency of space utilization. Integrating fine design with natural elements can coordinate functional, ecological and aesthetic needs on a small scale, and provide effective pathways for urban micro-renewal.

### 4.2 Facility Layout and Barrier-Free Design

The facility layout and barrier-free design of small and micro green spaces need to fully consider the diverse needs of different area types and main target population, and implement precise configuration strategies. Small and micro green spaces in residential areas should focus on meeting the activity needs of children and the elderly, and be equipped with safe and reliable recreation facilities and fitness equipment suitable for the elderly. Meanwhile, small and micro green spaces in commercial areas need to improve lighting and recreation facilities to upgrade their comprehensive service functions. It is advocated that the construction of small and micro green spaces shall fully implement the philosophy of barrier-free design, systematically establish ramps for the disabled, blind sidewalk signs and wheelchair accesses, and ensure that all kinds of people can equally enjoy green public spaces. With the acceleration of technological innovation, the integrated application of smart service facilities is becoming an important direction for improving the quality of small and micro green spaces. Smart gardens, the Internet of

Things, and other Advanced technologies can be introduced to build intelligent irrigation systems, interactive navigation systems, and smart lighting systems, and significantly enhance the management efficiency of green spaces and user experience.

### 4.3 Cultural Embedding and Identity Shaping

Cultural embedding and identity shaping of small and micro green spaces need to be systematically promoted from three aspects: regional cultural expression, thematic feature creation, and community engagement. Regional cultural expression requires that small and micro green spaces become important carriers for the inheritance of local culture, fully explore historical and cultural heritage and organically embed cultural elements<sup>[3]</sup>. For instance, Book Houses on the Sea · Pocket Parks in Sanya City are transformed from abandoned Tanka fishing boats, retain the local fishery cultural memory. The pocket parks around the Old Street of Qilou in Haikou City have significantly enhanced their spatial identifiability and sense of belonging by embedding elements of Nanyang architectural culture. Thematic feature creation requires differentiated design based on regional characteristics and surrounding environment to avoid the phenomenon of "thousand parks, one face". Both the Constitution Theme Park in Haikou City and the Book Houses on the Sea · Cultural Theme Park in Sanya City have formed unique charm through thematic design and become landmark space in their communities. Participatory landscape creation is a key strategy for maintaining the vitality of small and micro green spaces. Through designs, such as community gardens, participatory artistic installations, and productive landscapes, citizens are invited to become co-creators of the space. Residents are encouraged to participate in the construction and maintenance of small and micro green spaces. Through green space science popularization education and cultural activities, residents enhance their awareness of environmental protection.

## 5. Conclusion and Prospect

As an important component of the urban green space system, small and micro green spaces not only shoulder the responsibility for ecological regulation and landscape beautification, but also serve as significant carriers for providing daily recreational space, promoting social intercourse and interaction, and inheriting local culture. With the development of cities and technological progress, it is necessary to continuously update the functional forms and design approaches of small and micro green spaces. This study systematically explores the strategies for landscape design of small and micro green spaces in urban stock space oriented by the enhancement of public space vitality by analyzing their current situation. In the future, the construction of small and micro green spaces should focus on differentiated design strategies, conduct in-depth analysis of the surrounding population structure and their specific needs, and provide precise service based on different regional characteristics such as surroundings of schools, commercial areas, and residential areas. The requirements of fine construction shift from mere increase in quantity of green spaces to comprehensive quality enhancement, achieving the artistic effect of seeing the big world through small one through elaborate plant collocation and detail design. Through the comprehensive implementation of multi-dimension strategies, it is expected to truly realize the ideal picture of life on which green can be seen when opening the window and there is a park when stepping out, and allow urban residents to gain rich experience and a sense of happiness in small and micro spaces.

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## References

- [1] Yuncai Wang, Xinghao Lu, Zhaofang Chen, et al. (2022) Optimization of Urban Small and Micro Green Space Layout Based on Matching Spatial Efficiency and Recreational needs: A Case Study of the Main Urban Area of Shiyan City [J]. *Landscape Architecture*, 39(05), 11-19.
- [2] Conghui Zhou. (2022) Basic Attributes and Key Planning Issues of Urban Micro-Green Spaces [J]. *Urban Planning International*, 37(03), 105-113.
- [3] Chunting Su. (2021) Public Space Landscape Micro-regeneration in Old Residential Areas Based on Community Infrastructure Establishment [D]. Central Academy of Fine Arts.