

Urban Pocket Parks in China: Integrating Well-being and Design for Sustainable Urban Living

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Abstract

This paper explores the design and impact of pocket parks in urban China, focusing on their role in enhancing residents' well-being. As cities face increasing population density and environmental challenges, pocket parks have emerged as vital spaces contributing to urban sustainability. Through a literature review, case studies, and design analysis, this study identifies key design elements that make these parks effective in improving urban quality of life. The findings highlight the importance of accessibility, multifunctionality, ecological considerations, and cultural integration in pocket park design. Recommendations for future practices are provided to ensure pocket parks continue meeting the needs of China's growing urban population.

Keywords

Pocket Parks; Urban Design; Well-Being; Sustainability; Cultural; China.

1. Introduction

Urbanization in China has accelerated rapidly over the past few decades, leading to significant challenges in maintaining sustainable and livable environments in its cities. As large public spaces become increasingly scarce in urban areas, the development of pocket parks has gained attention as a practical solution to address the needs of urban residents for green, recreational spaces (Armato, 2017; Zhou, 2022) [1, 2]. Pocket parks, characterized by their small size and strategic location, provide essential benefits such as enhancing physical and mental well-being, improving air quality, and fostering social interactions among residents (Hamdy & Plaku, 2021; Zhang & Kiyai, 2024) [3, 4]. Moreover, the strategic implementation of pocket parks within the urban fabric can help mitigate the effects of urban heat islands, which are becoming an increasing concern in densely populated cities (Armato, 2017; Hamdy & Plaku, 2021) [1, 3]. By incorporating these spaces into highly urbanized environments, pocket parks can regulate temperature, reduce air pollution, and provide shade, thereby improving the overall microclimate of urban areas while also creating small public spaces for residents (Huang et al., 2023) [5]. This dual function of pocket parks, both as social spaces and as environmental regulators, underscores their importance in the context of sustainable urban development (Yang & Hong, 2023) [6]. This paper aims to explore the design principles and practices of pocket parks in China, with a focus on their effectiveness in promoting urban well-being. By analyzing existing literature and conducting case studies, this study seeks to identify the critical design elements that contribute to the success of these parks. The paper also provides recommendations for improving pocket park design to better serve the needs of urban dwellers in China's rapidly growing cities.

2. Literature Review

2.1. The Evolution of Pocket Parks

Pocket parks, also known as mini-parks or vest-pocket parks, originated as a response to the increasing urbanization and the need for accessible green spaces in densely populated areas. Initially developed in Western countries, the concept of pocket parks has gradually gained traction in China, particularly in cities where land is scarce, and population density is high. These parks are typically 400-10,000 square meters and are often located in underutilized urban spaces (Zhou, 2022; Yang & Hong, 2023) [2, 6]. As part of urban renewal efforts, these underutilized spaces are repurposed into pocket parks, transforming neglected areas into vibrant public spaces that enhance the quality of urban life (Hamdy & Plaku, 2021; Liu, 2024) [3, 7].

In China, pocket parks have evolved to address not only the spatial constraints of urban areas but also the cultural and social needs of its residents. As Chinese cities continue to modernize, there is a growing recognition of the need to preserve cultural heritage and promote social cohesion through public spaces. Pocket parks, with their ability to integrate traditional Chinese design elements and modern urban functionality, have emerged as key sites for fostering a sense of community and cultural identity in rapidly changing urban landscapes (Dong et al., 2023) [8]. By blending these parks into urban renewal projects, city planners and designers can create public spaces that simultaneously honor the past and meet the needs of contemporary urban living.

2.2. Design Elements of Successful Pocket Parks

The success of pocket parks largely depends on their design. According to Zhang and Kiyai (2024) [4], effective pocket parks are those that are easily accessible, provide a variety of functions, and are integrated into the surrounding urban fabric. Accessibility is a critical factor, as it determines the frequency and diversity of park users. Parks that are located near residential areas, schools, and workplaces are more likely to be frequented by a broad range of users (Li et al., 2023) [9].

Multifunctionality is another essential design element, as it allows pocket parks to serve different purposes for various user groups. For instance, a well-designed pocket park might include play areas for children, seating for the elderly, and open spaces for exercise and social gatherings (Zhou et al., 2022) [10]. Additionally, incorporating ecological features such as native vegetation, water elements, and sustainable materials can enhance the environmental benefits of pocket parks, contributing to urban biodiversity and climate resilience (Liu, 2024) [7].

An emerging trend in the design of successful pocket parks is the integration of technology and smart design elements to enhance user experience and sustainability. For example, the use of permeable paving materials, rain gardens, and solar-powered lighting not only improves the ecological footprint of these parks but also makes them more attractive and functional for urban residents (Yang, 2022) [11]. By incorporating such innovative elements, designers can create pocket parks that are both environmentally sustainable and highly responsive to the needs of diverse urban populations.

2.3. Challenges in Pocket Park Development in China

Despite the growing popularity of pocket parks in China, several challenges hinder their development and effectiveness. One of the primary challenges is land scarcity, particularly in densely populated cities where available land is often reserved for commercial and residential development (Ghamsary et al., 2023) [12]. Additionally, the lack of standardized design guidelines for pocket parks can lead to inconsistent quality and functionality across different

cities (Zhang, 2022) [13]. Finally, the maintenance of these small parks poses a challenge, as limited budgets and resources may result in inadequate upkeep, reducing their usability and aesthetic appeal (Zhu, 2021; Dong et al., 2023) [14, 8].

3. Methods

This study employs a qualitative research approach to explore the design and impact of pocket parks in China. The research is based on a comprehensive literature review, case study analysis, and qualitative design evaluation. This approach allows for an in-depth understanding of the design elements and contextual factors that influence the effectiveness of pocket parks in urban settings.

3.1. Case Study Selection

The case studies were selected using purposive sampling to ensure that the selected parks provided rich and diverse examples of pocket park design in urban China. The criteria for selection included: (1) the pocket park must be in a high-density urban area; (2) the park must have been operational for at least three years; and (3) the park must exhibit distinct design features that contribute to its functionality and user experience. The selected parks include the 24-hour Public Art Park in Songzhuang, Beijing, Changli Yuan in Shanghai, and Vanke Lanshan Community Pocket Park in Changchun.



Fig. 1 Master Plan of 24-hour Public Art Park in Songzhuang, Beijing.



Fig. 2 Top view of Changli Yuan in Shanghai.



Fig. 3 Aerial view of Vanke Lanshan Community Pocket Park in Changchun.

3.2. ConData Collection and Analysis

Data collection was conducted through site visits, detailed observational studies, photographic documentation, and in-depth interviews with park users and local planners. The qualitative data were analyzed using thematic analysis, which involved coding the data to identify recurring themes and patterns related to design elements, user experiences, and the parks' integration into the urban environment. The analysis focused on understanding the role of accessibility, multifunctionality, ecological integration, and cultural elements in the success of these parks.

This qualitative approach provided a nuanced understanding of how design elements contribute to the functionality and impact of pocket parks, and how these spaces are perceived and utilized by urban residents.

4. Results

The analysis of the selected case studies—24-hour Public Art Park in Songzhuang, Beijing; Changli Garden in Shanghai; and Vanke Lanshan Community Pocket Park in Changchun—revealed several key findings regarding the design and impact of pocket parks in China.

4.1. Accessibility

All three parks demonstrated high levels of accessibility, tailored to their unique urban contexts. The 24-hour Public Art Park in Songzhuang, Beijing, is centrally located within the Songzhuang Art District, making it easily accessible to both residents and visitors. Its design encourages continuous use with features that cater to various activities throughout the day and night. Changli Garden in Shanghai is strategically situated within a dense residential area, providing easy access to residents. Its design includes pathways that connect to surrounding streets, ensuring seamless integration with the urban fabric. Vanke Lanshan Community Pocket Park in Changchun repurposed from an industrial site, is in a residential district, providing a much-needed public space that is easily accessible to the community (Zhang, 2022) [13].

4.2. Multifunctionality

The multifunctionality of these parks is a critical factor contributing to their success. The 24-hour Public Art Park in Songzhuang serves not only as a green space but also as an outdoor gallery and event space, integrating art with nature. This multifunctionality attracts a diverse range of users, including artists, tourists, and local families.

Changli Garden in Shanghai offers a variety of spaces for different activities, including areas for exercise, relaxation, and social interaction. The park's design features modern amenities

combined with traditional Chinese elements, creating a versatile environment that caters to different age groups and preferences. Vanke Lanshan Community Pocket Park in Changchun balances historical preservation with modern recreational needs. The park retains elements of its industrial past while providing contemporary facilities such as walking paths, seating areas, and green spaces, making it a multifunctional space that serves both historical education and community recreation (Cao, 2022) [15].

4.3. Ecological and Cultural Integration

Ecological and cultural integration is a significant aspect of these parks' designs. The 24-hour Public Art Park incorporates native plants and sustainable materials, blending them with artistic elements to create a culturally rich and ecologically balanced environment. This integration supports local biodiversity while enhancing the cultural experience of visitors.

Changli Garden in Shanghai emphasizes ecological balance by using native plants and water features that contributing to urban biodiversity. The park also integrates traditional Chinese garden elements, fostering a connection between the modern urban environment and cultural integration (Zhang, 2022) [13]. Vanke Lanshan Community Pocket Park in Changchun skillfully merges the site's industrial history with old factory building development. The design preserves historical structures and incorporates them into the park, creating a unique cultural landscape (Cao, 2022) [15].

5. Discussion

The findings from this study highlight the importance of accessibility, multifunctionality, and ecological integration in the design of pocket parks in China. These elements ensure that pocket parks effectively contribute to urban well-being and sustainability. However, the study also identifies several challenges that need to be addressed to improve the design and implementation of pocket parks.

5.1. Addressing Land Scarcity

One of the main challenges is land scarcity in densely populated cities. To address this issue, urban planners and designers should consider innovative approaches such as utilizing rooftops, converting underutilized spaces, and integrating pocket parks into larger urban development projects. These strategies can help maximize the use of limited land resources while providing essential small public spaces for residents (Ghamsary et al., 2023) [12].

5.2. Standardizing Design Guidelines

The lack of standardized design guidelines for pocket parks in China has led to inconsistencies in their quality and functionality. Developing a set of national or regional guidelines that outline best practices for pocket park design could help ensure that these parks meet the needs of urban residents across different cities. These guidelines should emphasize the importance of accessibility, multifunctionality, and ecological considerations.

5.3. Cultural Integration in Design

Incorporating traditional Chinese elements into the design not only enhances their aesthetic value but also plays a crucial role in preserving cultural heritage within rapidly modernizing cities (Ziyaaee, 2018) [16]. This cultural integration may be a key factor in the success of pocket parks, as it fosters a sense of place and identity among residents. By blending contemporary design with traditional aesthetics, pocket parks can serve as symbols of cultural continuity, helping to strengthen community ties and promote a deeper connection to the urban environment.

Furthermore, the integration of cultural elements in pocket parks can also serve as a platform for education and cultural exchange (Cao, 2022) [15]. For instance, incorporating elements such as traditional Chinese garden design, local flora, and historical references within the park can create an educational experience for visitors, offering insights into the rich cultural heritage of the area. This approach not only enhances the artistic value of pocket parks but also fosters a deeper appreciation and understanding of local traditions among both residents and visitors.

5.4. Enhancing Maintenance Practices

Maintenance is another critical issue that affects the long-term success of pocket parks (Zhou, 2022; Yang & Hong, 2023) [2, 6]. Municipal governments and park management teams should allocate sufficient resources for the upkeep of these parks, including regular maintenance of green spaces, facilities, and infrastructure. Community involvement in the maintenance process, such as volunteer programs and local stewardship initiatives, could also help sustain the quality and usability of pocket parks.

In addition to traditional maintenance practices, adopting a community-centred approach to the management of pocket parks can greatly enhance their sustainability and relevance to residents. By involving community members in decision-making processes and encouraging local stewardship, parks can better reflect the needs and preferences of the community, leading to higher levels of engagement and care. This participatory approach not only ensures that the parks are well-maintained but also fosters a sense of ownership and pride among residents, contributing to the long-term success of these spaces.

6. Conclusion

This paper has explored the design and impact of pocket parks in urban China, highlighting their role in enhancing residents' well-being and contributing to sustainable urban living. The findings suggest that accessibility, multifunctionality, ecological integration, and cultural considerations are key elements that determine the success of pocket parks. However, challenges such as land scarcity, inconsistent design standards, and maintenance issues need to be addressed to fully realize the potential of these small urban public spaces.

Future research should focus on developing innovative design solutions and strategies for overcoming the challenges identified in this study. Additionally, further studies could explore the social and cultural dimensions of pocket parks, including their role in fostering community cohesion and cultural expression. By continuing to refine the design and implementation of pocket parks, urban planners and designers can contribute to creating more livable and sustainable cities in China.

References

- [1] Armato, F. (2017). Pocket Park: Product urban design. *The Design Journal*, 20(sup1), S1869-S1878.
- [2] Zhou, C. (2022). Principles and methods of pocket park planning and design. Southeast University Press.
- [3] Hamdy, M., & Plaku, R. (2021). Pocket Parks: Urban Living Rooms for Urban Regeneration. *Civil Engineering and Architecture*, 9, 747-759.
- [4] Zhang, H., & Kiyai, G. (2024). Pocket Parks in Urban Design: Enhancing Urban Environment and Community Well-being. *Highlights in Art and Design*, 5(3), 7-12.
- [5] Huang, Y., Lin, X., Lin, S., Chen, Z., Fu, W., & Wang, M. (2023). Pocket parks: A new approach to improving the psychological and physical health of recreationists. *Forests*, 14(10), 1983.

- [6] Yang, B., & Hong, B. (2023). Pocket park in urban regeneration of China: Policy and perspective. *City and Environment Interactions*, 19, 100109.
- [7] Liu, S. Y. (2024). Research on the planning and design of pocket parks under the background of urban renewal. *Jiangxi Building Materials*, (02), 110-112.
- [8] Dong, J., Guo, R., Guo, F., Guo, X., & Zhang, Z. (2023). Pocket parks-a systematic literature review. *Environmental Research Letters*, 18(8), 083003.
- [9] Li, H., Ta, N., Yu, B., & Wu, J. (2023). Are the accessibility and facility environment of parks associated with mental health? A comparative analysis based on residential areas and workplaces. *Landscape and Urban Planning*, 237, 104807.
- [10] Zhou, C., Xie, M., Zhao, J., & An, Y. (2022). What affects the use flexibility of pocket parks? Evidence from Nanjing, China. *Land*, 11(9), 1419.
- [11] Yang, L. (2022). The research on the design of "pocket parks" based on visual culture perspective (Master's thesis, Huazhong University of Science and Technology, China).
- [12] Ghamsary, E. S., Karimimoshaver, M., Akhavan, A., Goruh, Z. A., Aram, F., & Mosavi, A. (2023). Locating pocket parks: Assessing the effects of land use and accessibility on the public presence. *Environmental and Sustainability Indicators*, 18, 100253.
- [13] Zhang, Y. Q. (2022). Research on the application of urban pocket park design strategy based on the spirit of place theory (Master's thesis, Luxun Academy of Fine Arts, China).
- [14] Zhu, M. J. (2021, November 15). The boom of urban park construction in China: Pocket parks and central parks in parallel, public space governance still to be explored. *21st Century Business Herald*, p. 009.
- [15] Cao, Q. Y. (2022). Research on the Planning and Design of the Pocket Park in Central District of Weifang City from the Perspective of Daily Life (Master's thesis, Shandong Agricultural University, China).
- [16] Ziyaae, M. (2018). Assessment of urban identity through a matrix of cultural landscapes. *Cities*, 74, 21-31.