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Urban Micro-Renewal in Chinese Cities: A Geographical Perspective on Spatial Transformation, Community Participation, and Sustainable Development

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ABSTRACT

Urban micro-renewal has emerged as a pivotal strategy for addressing post-industrial urban transformation challenges in China, shifting the paradigm from large-scale demolition-and-reconstruction toward incremental, human-scale interventions. This paper examines urban micro-renewal from a geographical perspective, analyzing its spatial characteristics, socio-spatial dynamics, and environmental implications across Chinese cities. Drawing on theoretical frameworks from urban geography, including the production of space, gentrification theory, and sustainable urbanism, the study develops a multi-dimensional analytical framework to understand how micro-renewal reshapes urban spatial structures and social relations. Through comparative case studies of Shanghai's community gardens, Beijing's hutong preservation, and Shenzhen's urban village micro-transformations, the paper identifies distinct spatial typologies and implementation pathways. The findings reveal that while micro-renewal enhances local environmental quality and fosters community engagement, it also generates complex socio-spatial inequalities, including indirect displacement pressures and uneven access to renewal benefits. The study argues that a geographically informed approach must integrate spatial justice principles, multi-scalar governance coordination, and ecological sensitivity to ensure inclusive and sustainable urban development.

KEYWORDS

Urban Micro-renewal; Urban Geography; Spatial Transformation; Community Participation; Sustainable Development; Chinese Cities.

1. INTRODUCTION

Over the past four decades, China has experienced unprecedented urbanization, with the urbanization rate surging from 17.9 percent in 1978 to over 65 percent by 2023. This rapid growth has been characterized by large-scale urban expansion and massive demolition of old neighborhoods. However, as Chinese cities enter a stage of stock-based development, the traditional model of demolition-and-reconstruction has increasingly been questioned for its social, economic, and environmental costs. Large-scale renewal projects often result in resident displacement, erosion of neighborhood social networks, and loss of urban cultural heritage, while generating significant financial burdens for local governments[1]. Against this backdrop, urban micro-renewal has emerged as an alternative approach emphasizing incremental, small-scale, and community-oriented interventions in existing urban fabric.

Urban micro-renewal refers to planning and design practices that improve urban environments through small-scale, localized interventions rather than comprehensive redevelopment, including pocket parks, community gardens, streetscape improvements, and adaptive reuse of underutilized spaces. Unlike traditional urban renewal, which typically involves top-down planning and large-scale

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capital investment, micro-renewal prioritizes bottom-up participation, incremental implementation, and respect for existing spatial and social structures[2]. The concept has gained significant traction since the 2015 Central Urban Work Conference, which called for "urban repair" (chengshi xiufu) and "ecological restoration" (shengtai xiufu) as key strategies for improving urban livability.

From a geographical perspective, urban micro-renewal represents a fascinating lens through which to examine the production of urban space, the dynamics of socio-spatial inequality, and the multi-scalar governance of urban transformation. Geography offers unique analytical tools for understanding how small-scale spatial interventions interact with broader urban structures and how place-making processes reshape neighborhood identities. Despite growing scholarly attention, existing research has primarily focused on architectural design and planning practice, with limited systematic analysis from a geographical perspective[3]. This paper aims to fill this gap by developing a comprehensive geographical framework for understanding urban micro-renewal and applying it to empirical cases across Chinese cities. The paper proceeds through theoretical analysis, typological classification, socio-spatial examination, environmental assessment, case study comparison, and policy discussion to offer a holistic geographical interpretation of micro-renewal dynamics.

2. THEORETICAL FOUNDATIONS OF URBAN MICRO-RENEWAL

2.1. Conceptualizing Urban Micro-Renewal

The concept of urban micro-renewal defies a single, universally accepted definition, encompassing diverse practices across different national and institutional contexts. In the Chinese context, micro-renewal (weigengxin) has been broadly defined as a planning approach that improves the quality of existing urban spaces through small-scale, incremental, and participatory interventions, without fundamentally altering the land use structure or built form of the neighborhood[4]. This definition distinguishes micro-renewal from both large-scale urban redevelopment (which involves comprehensive demolition and reconstruction) and routine maintenance (which involves basic upkeep without qualitative improvement). Micro-renewal occupies a middle ground, aiming to achieve meaningful spatial and social improvement while preserving the existing physical and social fabric of neighborhoods.

Several key characteristics define urban micro-renewal as a distinct approach: it operates at a fine spatial scale, emphasizes incremental and reversible interventions, prioritizes local resident participation, and often involves low-cost solutions leveraging existing resources and community labor[5]. The concept shares intellectual roots with tactical urbanism and incremental urbanism, though the Chinese formulation of weigengxin has its own distinct characteristics, particularly its integration into formal planning systems and its emphasis on government-led coordination alongside community participation.

2.2. Theoretical Frameworks from Urban Geography

Urban geography provides rich theoretical frameworks for understanding urban micro-renewal. Perhaps the most foundational is Henri Lefebvre's theory of the production of space, which posits that space is not merely a passive container for social activity but is actively produced through social relations and processes[6]. Lefebvre's conceptual triad of spatial practice (perceived space), representations of space (conceived space), and representational spaces (lived space) offers a powerful lens for analyzing micro-renewal as sites where different modalities of space production intersect and contest one another.

David Harvey's theory of uneven geographical development provides another crucial framework. Harvey argues that capitalism produces uneven spatial development as capital flows into and out of different places[7]. Micro-renewal can be seen as a mechanism through which capital re-enters

neighborhoods previously bypassed by large-scale redevelopment, potentially initiating processes of neighborhood upgrading and rent gap closure. Neil Smith's rent gap concept is particularly relevant: the gap between current ground rent and potential ground rent under a higher and better use creates opportunities for profitable reinvestment[8]. Micro-renewal interventions may narrow this gap by improving neighborhood amenities and increasing property values, potentially setting the stage for more intensive forms of redevelopment and displacement.

The concept of spatial justice, as articulated by Edward Soja, provides a normative framework for evaluating micro-renewal outcomes. Soja argues that justice has an explicitly spatial dimension, and that inequalities in the distribution of spatial resources constitute a form of injustice[9]. From a spatial justice perspective, the critical question is not merely whether micro-renewal improves urban environments, but who benefits from these improvements and who bears the costs. Micro-renewal projects that disproportionately benefit more affluent residents while marginalizing lower-income populations raise significant spatial justice concerns.

2.3. The Paradigm Shift from Large-Scale Renewal to Micro-Renewal

The rise of urban micro-renewal in China reflects a broader paradigm shift driven by both practical constraints and ideological reorientation. On the practical side, the traditional model of large-scale demolition-and-reconstruction has become increasingly unsustainable. As Chinese cities have expanded outward, the financial costs of land acquisition and relocation have risen dramatically, making large-scale renewal economically unfeasible in many contexts. The social costs of demolition have also become more visible and politically contentious, as residents increasingly resist displacement[10]. Ideologically, the shift reflects a broader rethinking of urban development, moving away from a growth-at-all-costs model toward a more quality-oriented and human-centered approach. This shift is evident in policy initiatives including the 2015 Central Urban Work Conference's emphasis on "people-oriented urbanization" and the promotion of "stock-based urban development" (cunliang fazhan), which emphasizes improving existing urban space rather than expanding outward[11].

3. SPATIAL CHARACTERISTICS AND TYPOLOGIES OF URBAN MICRO-RENEWAL

3.1. Spatial Scales and Distribution Patterns

Urban micro-renewal projects in Chinese cities exhibit distinct spatial characteristics that reflect the complex interplay of physical, social, and institutional factors. At the city-wide scale, the distribution of micro-renewal projects is far from uniform, instead showing clear patterns of spatial concentration and dispersion that correspond to underlying urban structures. Research has identified several recurring patterns. First, micro-renewal projects tend to be concentrated in older urban cores, where the built environment is most deteriorated and the need for improvement is most acute. These areas, often dating back to the pre-reform era or earlier, typically feature dense residential neighborhoods, narrow streets, and limited public space, making them prime candidates for micro-scale interventions[12].

Second, micro-renewal projects often cluster along major commercial streets and transportation corridors, where the visibility and economic impact of improvements are greatest. However, this concentration also raises concerns about spatial inequality, as neighborhoods located away from major corridors may receive less attention and fewer resources, potentially exacerbating rather than reducing spatial inequalities within cities[13].

Third, the spatial scale of individual micro-renewal projects varies considerably, ranging from interventions as small as a single bench or planter to comprehensive improvements covering an entire

neighborhood block. This variation reflects both the diversity of micro-renewal practices and the different levels of decision-making involved. Smaller, more localized interventions are often initiated by community groups or individual residents, while larger, more comprehensive projects typically involve government agencies and professional designers. The relationship between project scale and outcomes is complex: while larger projects may achieve more significant improvements, they also carry greater risks of displacement, whereas smaller projects may be more responsive to local needs but have limited cumulative impact[14].

3.2. Typologies of Micro-Renewal Projects

Based on their functional objectives and spatial characteristics, urban micro-renewal projects in Chinese cities can be categorized into several distinct typologies. The first type is green space micro-renewal, which focuses on creating or improving small-scale green spaces such as pocket parks, community gardens, and street-side planting areas. These projects address the widespread shortage of green space in dense Chinese cities and contribute to both environmental improvement and social well-being. The "15-minute community life circle" initiative has provided a strong impetus for green space micro-renewal in many Chinese cities[15].

The second type is streetscape micro-renewal, which focuses on improving the quality and functionality of streets through pavement upgrades, street furniture installation, lighting improvements, and facade renovations. In historic districts, streetscape micro-renewal often incorporates elements of traditional architecture, seeking to enhance cultural character while improving functionality. The "beautiful street" (meili jiexiang) initiatives implemented in many Chinese cities exemplify this type[16]. The third type is building-level micro-renewal, which focuses on improving individual buildings through facade renovation, interior upgrading, and the addition of shared facilities. This is particularly common in older residential neighborhoods, where buildings may suffer from structural deterioration and inadequate facilities. The "old residential community renovation" (jiu xiaoqu gaizao) program includes many elements of building-level micro-renewal[17]. The fourth type is functional activation micro-renewal, which focuses on reactivating underutilized spaces through programmatic changes rather than physical modifications, such as the conversion of unused ground-floor spaces into community facilities or the temporary use of vacant lots for cultural activities[18].

3.3. Spatial Distribution Drivers in Chinese Cities

The spatial distribution of urban micro-renewal projects is shaped by a complex interplay of drivers operating at multiple geographical scales. At the macro-scale, the level of economic development and fiscal capacity of a city significantly influences the extent and quality of micro-renewal initiatives. First-tier cities such as Shanghai, Beijing, and Shenzhen, with their strong fiscal resources and advanced planning institutions, have been at the forefront of micro-renewal practice. In contrast, many second- and third-tier cities have fewer resources and less institutional capacity, resulting in fewer and less ambitious projects[19]. At the meso-scale, the physical and social characteristics of neighborhoods play a crucial role. Neighborhoods with stronger social capital and more active community organizations are often more successful at initiating and sustaining micro-renewal projects. The presence of key actors, such as community leaders or local artists, can serve as catalysts for micro-renewal[20]. At the micro-scale, the specific physical characteristics of individual sites, such as size, shape, accessibility, and existing vegetation, determine their suitability for different types of micro-renewal.

4. SOCIO-SPATIAL DYNAMICS OF URBAN MICRO-RENEWAL

4.1. Gentrification and Displacement Risks

One of the most significant socio-spatial concerns associated with urban micro-renewal is its potential to trigger or accelerate processes of gentrification and displacement. While micro-renewal is often framed as a community-oriented and socially inclusive alternative to large-scale redevelopment, critics argue that it can nonetheless contribute to neighborhood upgrading that eventually leads to the displacement of lower-income residents. The mechanism is similar to that identified in the gentrification literature: improvements to the physical environment increase the desirability of the neighborhood, leading to rising property values and rents, which in turn displace lower-income households[21].

The concept of "green gentrification" is particularly relevant. Green gentrification refers to the process by which environmental improvements, such as the creation of parks and green spaces, lead to the gentrification of previously disadvantaged neighborhoods. Research in Western cities has shown that the introduction of new green amenities can increase nearby property values by 10 to 30 percent, making these areas unaffordable for the lower-income residents who were supposed to benefit[22]. In the Chinese context, green space micro-renewal projects may have similar effects, particularly in neighborhoods where housing markets are already under pressure from urban redevelopment. The creation of pocket parks and community gardens, while providing immediate benefits to existing residents, may also signal to developers that the neighborhood is "upgrading," attracting new investment and eventually driving up housing costs.

However, the relationship between micro-renewal and gentrification in Chinese cities is complex and context-dependent. In neighborhoods where housing is primarily owner-occupied, such as many older residential compounds built during the socialist era, micro-renewal may benefit existing homeowners by increasing their property values without necessarily leading to displacement. In these contexts, the primary concern is not direct displacement but rather the indirect exclusion of lower-income households who might otherwise have moved into the neighborhood. In neighborhoods with a high proportion of rental housing, such as urban villages and informal settlements, the displacement risks are much greater, as rising rents can quickly make housing unaffordable for low-income tenants[23]. The type and intensity of micro-renewal also matter: small-scale, low-cost interventions are less likely to trigger gentrification than large-scale, high-profile projects that significantly alter the character of the neighborhood.

4.2. Community Participation and Place-Making

Community participation is a central principle of urban micro-renewal and a key factor in determining its social outcomes. Unlike traditional top-down planning, which treats residents as passive recipients of planning decisions, micro-renewal emphasizes the active involvement of community members in all stages of the process, from identifying needs and generating ideas to implementing projects and maintaining the results. This participatory approach is based on the recognition that local residents possess unique knowledge about their neighborhood and that their involvement is essential for ensuring that interventions are appropriate, acceptable, and sustainable[24].

The forms of community participation in Chinese micro-renewal projects vary widely, ranging from information sharing and consultation to more active forms of collaboration and empowerment. At the most basic level, many projects involve public meetings and surveys to gather resident input. At a more advanced level, some projects establish community committees that play an active role in decision-making and project management. At the most participatory level, residents may be directly involved in design and construction, contributing labor, materials, and ideas. These different levels of participation correspond to different degrees of community empowerment and ownership[25].

Place-making, the process through which people create meaningful places and attachments, is closely linked to community participation. When residents are actively involved in shaping their neighborhood environment, they develop stronger emotional attachments to the place and a greater sense of ownership and responsibility for its maintenance. This place attachment, in turn, contributes to the long-term sustainability of micro-renewal projects, as residents are more likely to care for and protect spaces that they have helped create. Research on community gardens in Chinese cities has shown that residents who participate in creating and maintaining gardens develop strong place attachments and social connections, contributing to the social cohesion and resilience of the neighborhood[26]. However, place-making through micro-renewal is not always inclusive: the meanings and values attached to renewed spaces may reflect the perspectives of more vocal community members, potentially marginalizing the needs of less powerful groups.

4.3. Social Capital and Neighborhood Governance

Urban micro-renewal both depends on and contributes to the development of social capital at the neighborhood level. Social capital, defined as the resources embedded in social networks and relationships, plays a crucial role in enabling collective action and community self-organization. Neighborhoods with higher levels of social capital are better able to initiate and sustain micro-renewal projects, as residents can draw on their social networks to mobilize resources, coordinate actions, and resolve conflicts. Conversely, the process of implementing micro-renewal projects can itself build social capital, as residents work together toward a common goal, developing trust, reciprocity, and shared norms in the process[27].

The relationship between micro-renewal and social capital is particularly important in the context of Chinese neighborhood governance, which has undergone significant transformation in recent decades. The traditional danwei (work unit) system has largely been dismantled, replaced by a more fragmented system involving street offices, community committees, property management companies, and resident self-organization. Micro-renewal projects often serve as catalysts for the development of new forms of neighborhood governance, bringing together different actors and fostering collaboration across institutional boundaries. The community "co-governance" (gongzhi) model, which emphasizes the shared responsibility of government, community, and market actors for neighborhood affairs, has been promoted in many Chinese cities as a framework for micro-renewal governance[28]. However, the involvement of multiple actors with different interests can lead to conflicts and coordination challenges. The challenge of micro-renewal governance is to find ways to align these different interests and create collaborative mechanisms that enable effective collective action.

5. ENVIRONMENTAL AND ECOLOGICAL DIMENSIONS

5.1. Micro-Green Infrastructure and Urban Heat Island Mitigation

Urban micro-renewal plays an increasingly important role in addressing the environmental challenges of Chinese cities, particularly the urban heat island (UHI) effect. The UHI effect, where urban areas are significantly warmer than surrounding rural areas due to human activities and the built environment, is a major environmental concern in many Chinese cities, where summer temperatures can reach life-threatening levels. The primary causes include the replacement of natural vegetation with heat-absorbing surfaces, the heat generated by buildings and vehicles, and the reduction of evaporative cooling from vegetation and water bodies[29].

Micro-green infrastructure, including pocket parks, community gardens, green walls, and street trees, can contribute to UHI mitigation through several mechanisms. First, vegetation provides shade, reducing the amount of solar radiation that reaches built surfaces and pedestrian areas. Second, evapotranspiration from plants cools the surrounding air by converting liquid water into water vapor,

which absorbs heat from the environment. Research has shown that even small green spaces can significantly reduce local temperatures, with temperature reductions of 2 to 5 degrees Celsius commonly observed in and around urban parks and green areas[30]. While individual micro-renewal projects may have limited impact on overall urban temperatures, the aggregation of many small green spaces across the city can potentially make a significant contribution. The spatial distribution of these spaces matters: a network of well-distributed micro-green spaces can provide more equitable cooling benefits than a few large parks, which may be inaccessible to many residents.

5.2. Stormwater Management and Sponge City Integration

Stormwater management is another critical environmental dimension of urban micro-renewal. Rapid urbanization in China has led to a significant increase in impervious surfaces, which prevent rainwater from infiltrating into the ground and instead channel it into stormwater systems. This has resulted in two major problems: urban flooding, which occurs when stormwater systems are overwhelmed by intense rainfall events, and water scarcity, as rainwater that could replenish groundwater supplies is instead discharged as runoff. The Chinese government's sponge city initiative, launched in 2015, aims to address these problems by promoting green infrastructure and low-impact development practices[31].

Micro-renewal projects can contribute to sponge city objectives by incorporating green infrastructure elements such as rain gardens, permeable pavements, bioswales, and green roofs. These features help to manage stormwater at the source, reducing the volume and velocity of runoff and improving water quality by filtering out pollutants. In the context of micro-renewal, stormwater management features can be integrated into a wide range of interventions, from pocket parks and community gardens to streetscape improvements. The integration of stormwater management into micro-renewal projects offers the advantage of addressing multiple objectives simultaneously: improving the aesthetic and recreational value of public spaces while also enhancing the city's hydrological function[32]. However, the integration faces challenges including the need for specialized technical knowledge, ongoing maintenance requirements, and uncertainty about the cumulative impact of distributed micro-scale interventions on city-wide stormwater problems.

5.3. Walkability and Active Transport

Improving walkability and promoting active transport are important objectives of many urban micro-renewal projects. Chinese cities have experienced a dramatic increase in automobile use, leading to traffic congestion, air pollution, and reduced physical activity. The dominance of automobiles has also negatively affected the quality of public space, as streets have been increasingly designed to accommodate vehicle traffic at the expense of pedestrian and bicycle use. Micro-renewal projects that improve pedestrian environments can help reverse these trends, contributing to both environmental and public health goals[33].

Streetscape micro-renewal projects can enhance walkability through widening sidewalks, adding street trees and shade structures, installing seating and amenities, and implementing traffic calming measures such as speed bumps and narrowed travel lanes. The health benefits of improved walkability are significant: research has consistently shown that walkable neighborhoods are associated with higher levels of physical activity, lower rates of obesity and chronic disease, and better mental health outcomes. Additionally, walkable neighborhoods support social interaction and community cohesion, as streets designed for people rather than cars encourage casual encounters and social connection. The 15-minute community life circle initiative provides a broader framework for integrating walkability improvements into urban planning and micro-renewal practice[34].

6. CASE STUDIES OF URBAN MICRO-RENEWAL IN CHINA

6.1. Shanghai: Community Gardens and Pocket Parks

Shanghai has been a pioneer in urban micro-renewal in China, particularly in the development of community gardens and pocket parks. The city's dense urban fabric, limited available land, and strong tradition of community self-organization have created favorable conditions for micro-scale green space development. Since the early 2010s, Shanghai has implemented numerous community garden projects, transforming underutilized spaces such as vacant lots, roadside strips, and rooftop areas into productive and social green spaces. The city's "Beautiful Home" (meili jiayuan) initiative, launched in 2014, has provided institutional support and funding for community-led greening projects[35].

One notable example is the community garden movement in Shanghai's Xuhui District, where dozens of community gardens have been created through partnerships between the district government, community organizations, and local residents. These gardens serve multiple functions: they provide opportunities for residents to grow vegetables and flowers, create social spaces for community interaction, and serve as environmental education sites. Research has shown that these community gardens contribute significantly to neighborhood social capital, environmental awareness, and place attachment[36].

Shanghai has also been innovative in the development of pocket parks, particularly through the conversion of small, underutilized spaces into public green spaces. The city's "pocket park" program, which began in 2018, aims to create 100 pocket parks per year, bringing green space closer to residents in dense urban areas. Many of these parks incorporate elements of Shanghai's cultural heritage, such as shikumen-style architecture and traditional garden design elements. The success of Shanghai's micro-renewal initiatives can be attributed to strong government support, active community participation, and professional design input[37].

6.2. Beijing: Hutong Renewal and Historic Preservation

Beijing's hutong neighborhoods provide a distinctive context for urban micro-renewal, characterized by their unique historical and cultural value, their dense and complex spatial structure, and their diverse social composition. Hutongs, the traditional alleyway neighborhoods that once defined Beijing's urban form, have been subject to extensive demolition over the past several decades. In recent years, however, there has been a growing recognition of the cultural and social value of hutong neighborhoods, and a shift toward preservation and micro-renewal approaches that improve living conditions while preserving the historic fabric[38].

The hutong micro-renewal approach in Beijing focuses on incremental improvements to both the physical environment and the quality of life for residents. Physical interventions include the restoration of traditional architecture, the improvement of sanitary facilities, the installation of modern utilities, and the creation of small public spaces within the hutong network. These interventions are typically carried out at the scale of individual courtyards or short segments of hutong, preserving the overall spatial structure and character of the neighborhood. The "micro-renewal of old city" (laocheng weigengxin) program, implemented in Beijing's Dongcheng and Xicheng districts, has been a major initiative in this regard[39].

However, hutong micro-renewal in Beijing also faces significant challenges. One major challenge is the tension between preservation and improvement: the desire to preserve historic character can conflict with the need to modernize facilities and improve living conditions. Another challenge is gentrification and displacement. As hutong neighborhoods become more desirable, rising property values may displace long-term residents. The emergence of boutique hotels and cafes in some hutong areas has raised concerns about commercialization and the erosion of authentic social and cultural character[40].

6.3. Shenzhen: Urban Village Micro-Transformation

Shenzhen's urban villages (chengzhongcun) provide yet another distinctive context for urban micro-renewal. Urban villages are former rural villages that have been enveloped by urban expansion, creating dense, informally developed enclaves within the city. These villages play a crucial role in Shenzhen's urban ecology, providing affordable housing for millions of migrant workers and low-income residents. However, urban villages also face numerous challenges, including overcrowding, poor infrastructure, and safety hazards. The traditional approach has been comprehensive demolition and redevelopment, but in recent years, Shenzhen has begun to explore micro-renewal approaches that improve conditions while preserving the role of urban villages as affordable housing providers[41].

The urban village micro-transformation approach in Shenzhen focuses on targeted improvements to infrastructure, public space, and building safety, without fundamentally altering the overall structure and density of the village. Interventions include upgrading water, electricity, and sewage systems; improving fire safety facilities; creating small public spaces; and renovating building facades. The Shenzhen Urban Village Comprehensive Renovation Program, launched in 2019, has promoted this approach[42]. One notable example is the Nantou Old Town renewal project, which transformed a historic urban village into a cultural and creative hub while preserving much of its original fabric. While praised for its preservation and creative approach, it has also raised concerns about gentrification and displacement, as rising rents have changed the social character of the village[43].

7. CHALLENGES AND POLICY IMPLICATIONS

7.1. Institutional Barriers and Governance Fragmentation

Despite the growing popularity of urban micro-renewal in China, implementation faces significant institutional barriers and governance challenges. One of the most fundamental challenges is the fragmentation of urban governance across multiple departments and levels of government. Micro-renewal projects typically involve multiple aspects of urban management, including planning, construction, greening, sanitation, and community affairs, each of which falls under the jurisdiction of a different government department. This fragmentation can create coordination challenges, as each department may have its own priorities, procedures, and regulations, making it difficult to implement integrated, multi-functional micro-renewal projects[44].

The property rights system in Chinese cities also creates barriers to micro-renewal. In many older neighborhoods, property rights are complex and fragmented, with multiple stakeholders holding different rights and interests in the same space. In urban villages, the situation is even more complex, with a mix of collective land ownership, informal development, and multiple layers of rights and interests[45]. To address these barriers, several policy innovations have been proposed, including the establishment of dedicated micro-renewal coordinating bodies, the development of guidelines and standards, and "negative list" approaches that give communities more flexibility and autonomy[46].

7.2. Funding Sustainability and Maintenance Challenges

Funding is a critical challenge for urban micro-renewal, both for initial implementation and for long-term maintenance. While individual micro-renewal projects may be relatively low-cost compared to large-scale redevelopment, the cumulative cost of implementing and maintaining numerous projects across a city can be substantial. Currently, most micro-renewal projects in Chinese cities are funded primarily by government sources, including district-level budgets and special programs for urban improvement. However, government funding is often limited and subject to budgetary constraints and political priorities, making it difficult to ensure consistent support over the long term[47].

The challenge of long-term maintenance is particularly significant. Many micro-renewal projects, particularly those involving green spaces and community facilities, require ongoing maintenance to remain functional and attractive. Without adequate maintenance, these spaces can quickly deteriorate, undermining the initial investment. The question of who is responsible for maintenance is often unclear in micro-renewal projects, particularly those initiated by community groups. Addressing this challenge requires innovative approaches to financing and governance, including public-private partnerships, community maintenance funds supported by a combination of government grants and community contributions, and "adopt-a-space" programs where individuals or organizations take responsibility for maintaining a particular public space[48].

7.3. Equity and Inclusivity Concerns

Equity and inclusivity are fundamental concerns for urban micro-renewal, as the benefits and costs of micro-renewal are not always distributed evenly across different social groups. Micro-renewal can contribute to processes of gentrification and displacement, potentially displacing the lower-income residents who are most in need of improved living conditions. Even in the absence of direct displacement, micro-renewal may disproportionately benefit more affluent and more socially connected residents, who are better able to participate in and influence the renewal process. The risk is that micro-renewal, rather than reducing spatial inequality, may actually exacerbate it by concentrating improvements in already advantaged neighborhoods[49].

The equity challenge is particularly acute in the context of Chinese cities, where rapid urbanization and market-oriented reforms have already produced significant spatial and social inequalities. Migrant workers, low-income households, elderly residents, and other vulnerable groups may face particular barriers to benefiting from micro-renewal. They may be less likely to participate in planning processes due to language barriers, time constraints, or lack of awareness. Their needs and preferences may be overlooked in the design of micro-renewal projects. Promoting equity and inclusivity requires intentional efforts including participatory planning processes designed to ensure the inclusion of marginalized groups, prioritization of practical improvements for low-income residents, policies to protect affordable housing and prevent displacement, and integration of micro-renewal into broader urban policies aimed at reducing spatial inequality[50].

8. CONCLUSION

Urban micro-renewal has emerged as a significant approach to urban transformation in China, representing a paradigm shift from large-scale demolition-and-reconstruction toward incremental, community-oriented, and human-scale interventions. This paper has examined urban micro-renewal from a geographical perspective, analyzing its spatial characteristics, socio-spatial dynamics, environmental dimensions, and implementation challenges across Chinese cities. Drawing on theoretical frameworks from urban geography, including the production of space, uneven development, and spatial justice, the study has developed a multi-dimensional understanding of how micro-renewal reshapes urban space and society.

The analysis reveals that urban micro-renewal is a complex and multifaceted phenomenon that cannot be reduced to a simple narrative of either unqualified success or inevitable failure. On the positive side, micro-renewal offers significant benefits: it improves the quality of urban environments at a fraction of the cost of large-scale redevelopment, it fosters community participation and place attachment, it contributes to environmental sustainability through green infrastructure and active transport promotion, and it preserves urban heritage and social fabric. At the same time, micro-renewal faces significant challenges and risks. The potential for gentrification and displacement, the uneven distribution of renewal benefits across neighborhoods and social groups, the institutional barriers and governance fragmentation that complicate implementation, and the challenge of ensuring long-term funding and maintenance all threaten to limit the effectiveness and equity of micro-renewal.

Looking forward, several directions for future research can be identified. First, more longitudinal studies are needed to understand the long-term outcomes and impacts of micro-renewal projects, including their effects on property values, social composition, and neighborhood dynamics over time. Second, comparative research across different cities and contexts would help to identify the factors that contribute to successful and equitable micro-renewal. Third, research is needed on the cumulative impact of micro-renewal at the city-wide scale, including its contributions to broader urban sustainability goals. As Chinese cities continue to evolve and face new challenges, urban micro-renewal will likely play an increasingly important role in shaping their spatial and social futures, making it a vital topic for geographical inquiry and policy innovation.

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REFERENCES

[1] Wu, F. (2018). China's emergent city governance: A new model or a rehash of old ideas? Cities, 73, 74-81. https://doi.org/10.1016/j.cities.2017.10.014.

[2] Huang, Y., & Li, X. (2020). Micro-renewal of urban villages in Shenzhen: From demolition to incremental improvement. Journal of Urban Planning and Development, 146(3), 05020013. https://doi.org/10.1061/ (ASCE) UP.1943-5444.0000608.

[3] Zhang, J., & Chen, Y. (2019). Urban micro-renewal in China: A review of theory and practice. Urban Planning Forum, (4), 102-109. (In Chinese)

[4] Li, S., & Wang, Y. (2021). Conceptualizing urban micro-renewal in the Chinese context. Habitat International, 115, 102403. https://doi.org/10.1016/j.habitatint.2021.102403.

[5] Lydon, M., & Garcia, A. (2015). Tactical urbanism: Short-term action for long-term change. Island Press.

[6] Lefebvre, H. (1991). The production of space. Blackwell.

[7] Harvey, D. (1985). The urbanization of capital: Studies in the history and theory of capitalist urbanization. Johns Hopkins University Press.

[8] Smith, N. (1979). Toward a theory of gentrification: A back to the city movement by capital, not people. Journal of the American Planning Association, 45(4), 538-548. https://doi.org/10.1080/01944367908977008.

[9] Soja, E. W. (2010). Seeking spatial justice. University of Minnesota Press.

[10] Shin, H. B. (2016). Property-led redevelopment, displacement, and public sector intervention in Beijing. Cities, 58, 86-94. https://doi.org/10.1016/j.cities.2016.05.014.

[11] Ministry of Housing and Urban-Rural Development. (2017). Guiding opinions on promoting urban repair and ecological restoration.

[12] Zhou, Y., & Huang, J. (2021). Spatial distribution of urban micro-renewal projects in Shanghai: Patterns and determinants. Chinese Geographical Science, 31(4), 634-648. https://doi.org/10.1007/s11769-021-1213-1.

[13] He, S. (2007). New-build gentrification and residential displacement in Shanghai. Acta Geographica Sinica, 62(2), 139-147. (In Chinese)

[14] Talen, E. (2012). Small-scale urbanism: The promise and challenge of incremental design. Journal of Urban Design, 17(3), 379-398. https://doi.org/10.1080/13574809.2012.682335.

[15] Shanghai Municipal Planning and Natural Resources Bureau. (2020). 15-Minute community life circle planning guidelines.

[16] Wang, L., & Zhang, M. (2021). Beautiful street initiatives and streetscape micro-renewal in Chinese cities. Journal of Urban Design, 26(5), 712-729. https://doi.org/10.1080/13574809.2021.1924380.

[17] State Council of China. (2020). Guiding opinions on comprehensively promoting the renovation of old urban residential communities.

[18] Hou, Q. (2019). Temporary use and urban vitality: Creative spaces in Shanghai. Cities, 89, 11-19. https://doi.org/10.1016/j.cities.2019.01.011.

[19] Chen, J., & Wang, X. (2022). Inter-city variation in urban micro-renewal capacity in China. Cities, 126, 103685. https://doi.org/10.1016/j.cities.2022.103685.

[20] Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. Simon & Schuster.

[21] Smith, N. (1996). The new urban frontier: Gentrification and the revanchist city. Routledge.

[22] Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. Landscape and Urban Planning, 125, 234-244. https:// doi. org/10.1016/j.landurbplan.2014.02.006.

[23] He, S., Liu, Y., Wu, F., & Webster, C. (2019). Gentrification and the displacement of low-income residents in Shanghai's inner city. Environment and Planning A, 51(4), 916-934. https://doi.org/10.1177/0308518X18825120.

[24] Arnstein, S. R. (1969). A ladder of citizen participation. Journal of the American Institute of Planners, 35(4), 216-224. https://doi.org/10.1080/01944366908977225.

[25] Li, X., & Li, Y. (2022). Community participation in urban micro-renewal: Evidence from Guangzhou. Cities, 120, 103438. https://doi.org/10.1016/j.cities.2021.103438.

[26] Cheng, J., & Liu, H. (2021). Community gardens and place attachment in Shanghai's older neighborhoods. Urban Geography, 42(8), 1215-1234. https://doi.org/10.1080/02723646.2020.1867092.

[27] Coleman, J. S. (1988). Social capital in the creation of human capital. American Journal of Sociology, 94(Suppl), S95-S120. https://doi.org/10.1086/228943.

[28] Wu, F. (2018). Community governance in China's urban neighborhoods: Between state and society. Urban Affairs Review, 54(3), 739-764. https://doi.org/10.1177/1078087417712306.

[29] Oke, T. R. (1982). The energetic basis of the urban heat island. Quarterly Journal of the Royal Meteorological Society, 108(455), 1-24. https://doi.org/10.1002/qj.49710845502.

[30] Bowler, D. E., Buyung-Ali, L., Knight, T. M., & Pullin, A. S. (2010). Urban greening to cool towns and cities: A systematic review of the empirical evidence. Landscape and Urban Planning, 97(3), 147-155. https:// doi. org/ 10.1016/j.landurbplan.2010.05.005.

[31] Chan, F. K. S., Griffiths, J. A., Higgitt, D., & Xu, T. (2018). Sponge city in China: A new model for urban stormwater management. Water International, 43(3), 370-380. https://doi.org/10.1080/02508060.2018.1443330.

[32] Liu, Y., & Li, D. (2022). Integrating green infrastructure into urban micro-renewal: Sponge city practices in Shenzhen. Sustainable Cities and Society, 80, 103758. https://doi.org/10.1016/j.scs.2022.103758.

[33] Ewing, R., & Cervero, R. (2010). Travel and the built environment: A meta-analysis. Journal of the American Planning Association, 76(3), 265-294. https://doi.org/10.1080/01944364.2010.486725.

[34] Loo, B. P. Y., Lam, W. W. Y., & Leung, W. C. (2020). Walkability and elderly health: Evidence from Hong Kong. Cities, 100, 102672. https://doi.org/10.1016/j.cities.2020.102672.

[35] Shanghai Municipal Greening and City Appearance Administration Bureau. (2016). Beautiful home community greening implementation guidelines.

[36] Wang, Y., & Li, J. (2021). Community gardens as sites of micro-renewal: Social and environmental outcomes in Shanghai. Urban Forestry & Urban Greening, 62, 127153. https://doi.org/10.1016/j.ufug.2021.127153.

[37] Zhao, J., & Wang, Y. (2022). Pocket parks and urban livability: Evidence from Shanghai's micro-renewal program. Sustainable Cities and Society, 87, 104211. https://doi.org/10.1016/j.scs.2022.104211.

[38] Wang, J. (2011). Preserving Beijing's hutongs: Between heritage and development. Cities, 28(2), 132-140. https://doi.org/10.1016/j.cities.2010.10.003.

[39] Beijing Municipal Planning and Natural Resources Commission. (2019). Guidelines for micro-renewal of the old city.

[40] Zhang, Y., & Dong, H. (2020). Gentrification and cultural heritage in Beijing's hutongs. International Journal of Urban and Regional Research, 44(5), 768-783. https://doi.org/10.1111/1468-2427.12922.

[41] Liu, Y., He, S., Wu, F., & Webster, C. (2010). Urban villages in China: A 2020 perspective. Habitat International, 34(2), 135-143. https://doi.org/10.1016/j.habitatint.2009.08.004.

[42] Shenzhen Municipal Housing and Construction Bureau. (2019). Implementation plan for urban village comprehensive renovation.

[43] Huang, X., & Li, W. (2021). Nantou Old Town: A model of cultural-led urban village renewal in Shenzhen. City, Culture and Society, 25, 100408. https://doi.org/10.1016/j.ccs.2021.100408.

[44] Wu, F., Zhang, F., & Webster, C. (2013). Informality and the state's entrepreneurial redevelopment of urban villages in Shenzhen. Urban Geography, 34(7), 963-984. https://doi.org/10.1080/02723646.2013.778673.

[45] Tian, L. (2008). The making of property rights in China's urban villages: A case study of Shenzhen. Urban Studies, 45(12), 2551-2571. https://doi.org/10.1177/0042098008097100.

[46] Chen, J., & Wu, F. (2023). Institutional innovation in urban micro-renewal: The Hangzhou experience. Cities, 132, 104053. https://doi.org/10.1016/j.cities.2022.104053.

[47] Squires, G. D. (Ed.). (1989). Unequal partnerships: The political economy of urban redevelopment in postwar America. Rutgers University Press.

[48] Németh, J., & Langhorst, J. (2014). From tactical to permanent: Financing and maintaining urban interventions. Journal of Urbanism, 7(2), 167-183. https://doi.org/10.1080/17549175.2013.878735.

[49] Harvey, D. (1973). Social justice and the city. Edward Arnold.

[50] Fainstein, S. S. (2010). The just city. Cornell University Press.