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Functional Regeneration of Urban Villages in Urban Renewal: A Case Study of Group 8, Huanghe Village, Changsha

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ABSTRACT

As China enters the stage of inventory-based development, the functional regeneration of urban villages is critical for sustainable urban planning. This study develops a ternary analytical framework—commercial-led, cultural-creative-led, and mixed-incremental—to evaluate regeneration strategies. Through a case study of Group 8, Huanghe Village in Changsha, we examine an innovative "cultural-social" hybrid model. Situated near major universities and ecologically sensitive waters, the project adopted a non-demolition organic renewal approach, transforming a degraded "training village" into the Houhu Art District. Results demonstrate that integrating cultural-creative industries with systematic ecological restoration and phased implementation effectively balances economic vitality, social equity, and cultural continuity. This research validates that "local wisdom"—the adaptive fusion of specialized renewal models—is essential for regenerating resource-dense urban villages. The findings offer a replicable template for organic renewal in similar contexts, bridging the gap between physical spatial updates and the preservation of social-spatial fabric.

KEYWORDS

Urban village; Functional regeneration; Organic renewal; Cultural and creative industries; Changsha.

1. INTRODUCTION

As China's urbanization process enters the stage of inventory-based development, urban renewal has become a primary instrument of urban planning and a crucial pathway for enhancing urban quality and vitality. As a unique byproduct of China's rapid urbanization, urban villages (Chengzhongcun) simultaneously face challenges such as inefficient land use, lagging infrastructure, and functional disarray. However, they also possess significant locational value, spatial development potential, and often harbor a distinct urban context and complex social networks. Although the traditional "demolish and rebuild" model can rapidly enhance spatial value and generate economic benefits, it frequently leads to the severance of social networks and the eradication of historical context. In recent years, incremental renewal models centered on organic renewal and functional replacement have gained prominence. How to achieve functional regeneration and value enhancement while minimizing disruption to the existing environment and preserving place memory has become a core focus of current theoretical and practical research.

Against this backdrop, this paper first establishes a theoretical framework for the functional regeneration of urban villages. It then analyzes the characteristics and applicability of different models through three typical cases: Dachong Village in Shenzhen, the 798 Art Zone in Beijing, and Yongqing Fang in Guangzhou. Subsequently, taking Group 8 of Huanghe Village in Changsha as a case study, the paper explores innovative paths for functional regeneration in urban villages. Through

a non-demolition approach to organic renewal, the project preserves the original architectural fabric and structure while introducing cultural and creative industries. This has facilitated a transformation from a "training village" to the Houhu Art District, forming a "cultural-social" mixed regeneration model suitable for urban renewal in areas surrounding universities. Finally, the paper discusses the values and limitations of this renewal model to provide a reference for the regeneration of similar urban villages.

2. FRAMEWORK FOR FUNCTIONAL REGENERATION

2.1. Functional Regeneration and Categorization of Models in Urban Villages

Urban villages refer to rural settlements that have emerged during China's urbanization process. In these areas, although all or most of the farmland has been requisitioned and the farmers have transitioned into urban residents, they continue to reside in the original villages or in residential areas transformed from them. These regions typically maintain rural collective ownership and management systems; however, being situated within urban built-up areas, they have geographically become an integral part of the city. As urbanization progresses, an increasing number of urban villages face challenges related to renovation and upgrading, aimed at improving residents' living conditions and enhancing the overall urban image.

Current urban renewal in China has moved beyond simple physical spatial renovation to encompass the comprehensive transformation of old residential communities, historic districts, industrial zones, and urban villages, with models exhibiting increasingly diversified characteristics. Early renewal practices were predominantly economy-oriented, adopting a mass demolition and reconstruction model. While this model can rapidly enhance regional economic value, it is highly prone to causing the disruption of social networks, the disappearance of historical context, and the waste of resources(Du et al., 2026). With the deepening of sustainable development concepts, renewal models have become more refined and moderate, shifting toward small-scale, incremental renewal focused on minimizing damage to social ecology and cultural heritage. Corresponding academic research has also expanded from "incremental renewal" at the architectural level(Wang et al., 2016)to a planning focus on the preservation of historical spaces and the participation of diverse stakeholders(Lin et al., 2019), while further exploring "physical-social-cultural" integrated renewal path mechanisms(Li et al., 2022).

In this context, the core of urban village renewal transcends simple physical morphological transformation. Its essence lies in achieving a rebalancing across three dimensions: "space-function-society." Specifically, spatial intervention triggers functional replacement and yields economic benefits, ultimately achieving the optimization of social structures or the continuity of social networks. Successful functional regeneration is not a breakthrough in a single dimension but the result of the synergistic action of these three dimensions.

To systematically analyze the paths of functional regeneration in urban villages, this paper selects two core criteria from the field of urban and rural planning as the basis for model categorization:

① Functional replacement intensity: Refers to the degree to which original residential functions are replaced by new functions such as commerce, cultural creativity, and office space.

② Degree of spatial intervention: Refers to the intensity of changes made to original architectural structures and fabric during the renewal process, such as demolition, renovation, or addition.

Based on the combination of these two dimensions at varying degrees, current practices of functional regeneration in urban villages can be categorized into three typical models: commercial-led, cultural and creative-led, and mixed incremental (Fig.1).

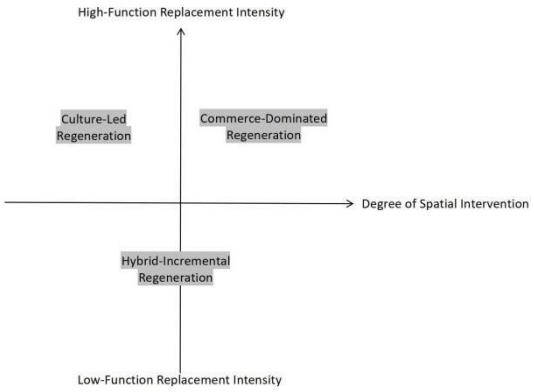

Figure 1. Three typical models of functional regeneration in urban villages

The commercial-led model prioritizes economic value as its primary objective. Through substantial capital investment and thorough functional replacement, it rapidly transforms the regional landscape and captures land value. However, it is frequently accompanied by high-intensity spatial interventions, such as large-scale demolition and reconstruction, which lead to the disintegration of original social neighborhood structures and the erasure of historical memory and spatial fabric. Consequently, it represents a relatively traditional form of "spatial reproduction" rather than "organic regeneration."

The cultural and creative-led model focuses more on the identification and transformation of cultural capital. By employing low-to-medium intensity spatial interventions—such as landscape preservation and adaptive reuse—it maintains spatial uniqueness and a sense of history, thereby attracting specific creative communities and fostering an innovative atmosphere. While this model excels at balancing "spatial retention" with "functional replacement," it entails a longer cultivation period and imposes high requirements on the area's cultural heritage and inherent resources, often leading to challenges in economic sustainability.

The mixed incremental model seeks breakthroughs in social sustainability by utilizing moderate spatial interventions and composite functional replacement. It emphasizes the retention of portions of the original residents and social structures, employing phased implementation to dynamically adjust renewal strategies. This model aims to simultaneously address economic vitality, historical heritage, and social equity; however, its complex property rights, the necessity of balancing diverse stakeholder interests, and relatively low immediate economic returns place high demands on governance capacity.

Table 1. Classification of functional regeneration models in urban villages

Model Type	Core Features	Applicability	Limitations
Commercial-led	Complete commercialization of functions; Driven by high rental returns; Full relocation of indigenous residents.	Urban core areas; High land value zones.	Disruption of social networks; Erasure of historical context.
Cultural and Creative-led	Centered on cultural and creative industries and historical heritage; Preservation of partial architectural character; Attraction of artist and designer communities.	Adjacent to high-vitality areas (e.g., universities, art districts); Unique architectural features or historical significance.	Long economic payback period.
Mixed Incremental	Integration of residential, commercial, and cultural functions; Phased implementation; Partial resettlement of indigenous residents.	Historic districts; Areas with strong community cohesion.	High management complexity; Low economic efficiency.

2.2. Case Analysis of Functional Regeneration Models for Urban Villages

2.2.1. Commercial-led Model: Shenzhen Dachong Village Redevelopment Project

The redevelopment of Dachong Village in Shenzhen is a classic epitome of capital-driven urban redevelopment. The project adopted a comprehensive "tabula rasa" approach, where the original dense clusters of "handshake buildings" were entirely demolished to make way for modern high-rise residential complexes, commercial hubs, and Grade-A office buildings. Functionally, it achieved a thorough replacement of low-end residential and small-scale workshops with high-value-added commercial and office spaces. Indigenous villagers were completely relocated through cash compensation or commodity housing exchange. The project was operated holistically by a single developer, enabling the rapid realization of land value.

The success of the Dachong model depends heavily on its extremely high locational economic value within the core area of the Shenzhen High-Tech Park. This model efficiently addressed the disorderly environment and lagging functionality of the urban village, rapidly enhancing land-use efficiency and the city’s image. However, this came at the cost of severing local social networks and historical context(Wang, 2024), exhibiting typical "gentrification" characteristics. Today, the street-life vitality (yanhuo) of "Old Shenzhen" is absent in Dachong, replaced by a homogeneous "concrete jungle," underscoring the limitations of this model in the social dimension.

2.2.2. Cultural and Creative-led Model: Beijing 798 Art District Renewal

The Beijing 798 Art District is located in the Dashanzi area of Jiuxianqiao Subdistrict, Chaoyang District, in the northeast corner of Beijing. Originally the site of electronic industrial plants such as the state-owned Factory 798 in the 1950s, the district was named after the factory. Starting in 2001, artists from Beijing and beyond began to congregate at Factory 798, identifying the site's unique advantages for artistic work. They utilized the existing German Bauhaus architectural style, applying minimal renovation and decoration to transform these spaces into distinctive art exhibition and creative venues.

This transformation represents organic renewal driven by cultural capital. The renewal process avoided large-scale demolition, opting instead for the adaptive reuse of abandoned Bauhaus-style industrial plants, thereby maximizing the preservation of their unique spatial character and historical traces. Its function successfully transitioned from a declining industrial site into a cultural and creative industry cluster centered on contemporary art exhibitions, artist studios, and design firms(Ma & Li, 2025). This process originated from the spontaneous aggregation of artists in its early stages and only later incorporated systematic management.

The success of 798 lies in the unique architectural value of its industrial heritage and its proximity to Beijing's cultural core. Through a "new wine in old bottles" approach, it converted cultural resources into economic vitality, achieving a win-win for historical preservation and industrial innovation. However, its development faces challenges: as reputation and rents rise, the early artist communities face displacement pressure. Balancing the purity of the artistic ecology with commercial sustainability remains the core challenge for long-term management.

2.2.3. Mixed Incremental Model: Guangzhou Yongqing Fang Micro-regeneration

The Guangzhou Yongqing Fang project represents an exploration of incremental renewal that prioritizes the social dimension. Adopting an "embroidery-style" precision in micro-regeneration, the project utilized a hierarchical and classified strategy for buildings. This included meticulous restoration for heritage protection units, as well as functional insertion and structural reinforcement for ordinary buildings. Functionally, it did not completely abandon residential use, instead creating a composite format where residential, cultural-creative, commercial, and community services coexist. The project was implemented in phases and attempted partial resettlement of indigenous residents, aiming to balance the continuity of community vitality with the enhancement of spatial quality.

The Yongqing Fang model is suitable for areas with high requirements for historical character and strong community cohesion. It attempts a difficult balance between economic development, historical heritage, and the maintenance of social networks. The complexity lies in the unprecedentedly intense bargaining between diverse stakeholders (government, enterprises, residents, and merchants), where even subtle decisions can disrupt the balance of interests(Yin, 2021). Consequently, while theoretically ideal, this model places extremely high demands on governance capacity and financial patience in practice.

In comparison, these three models possess no absolute superiority or inferiority. Their effectiveness depends heavily on the specific socio-economic environment and the core renewal objectives of the project. The commercial-led model pursues efficiency and economic value, the cultural and creative-led model emphasizes branding and cultural value, while the mixed incremental model seeks to synthesize and balance multiple objectives.

3. CASE STUDY: TRANSFORMATION OF GROUP 8, HUANGHE VILLAGE, CHANGSHA

3.1. Project Overview

The Group 8 project of Huanghe Village, located in Zone D of the Houhu Art District in Changsha (hereafter referred to as "Group 8"), is situated in the core area of the Yuelu Mountain University Town. It is bounded by Mayuan Road to the east, Houhu Lake to the west, and the Yuelu Mountain Scenic Area to the north, covering a total area of approximately 4 hectares. The site is surrounded by a cluster of prestigious institutions, including Central South University, Hunan University, and Hunan Normal University. Possessing both rich ecological resources and a deep cultural heritage, it serves as a representative practice area for "cultural-creative empowerment combined with ecological governance" in Changsha's urban renewal efforts.

Prior to renewal, Group 8 exhibited the typical morphology of an urban village (Fig. 2). The buildings primarily consisted of self-built villager houses constructed during the 1980s and 1990s, characterized by a fragmented layout, dilapidated facades, and a heterogeneous mix of architectural styles. In 2003, the first art training institution was established in Huanghe Village. Subsequently, as the largest urban village west of the Xiangjiang River in Changsha, its strategic location adjacent to universities and relatively low rental costs allowed it to rapidly evolve into a nationally renowned "Training Village." At its peak, the area hosted over 200 training institutions and more than 50,000 students(Qin et al., 2021). However, this unregulated expansion led to frequent illegal construction, a lack of public space, and chaotic traffic organization. More critically, the direct discharge of domestic sewage and waste into Houhu Lake resulted in water eutrophication and ecological degradation, rendering the area an "ecological and developmental depression" within the city center.

Figure 2. Location of Huanghe Village, Changsha

In 2015, the Yuelu District Government initiated the "Houhu Comprehensive Remediation Project," with Group 8 of Huanghe Village incorporated into the core scope of renewal. Strategically positioned as "ecological restoration + cultural empowerment," the project utilized a non-demolition organic renewal model to transform original villager-built residences into a multi-functional art district centered on cultural creativity, art exhibitions, and light catering (Fig. 3). The renovation preserved the primary structural integrity and the original street and alley fabric while commissioning several designers to execute personalized architectural interventions. Concurrently, the project systematically upgraded infrastructure, optimized traffic circulation, and reconstructed the waterfront ecological landscape, ultimately facilitating a profound transition from a "point source of pollution" to a regional "cultural landmark."

Figure 3. Current state of the Houhu Art District

3.2. Mode Matching Analysis

The renewal practice of Group 8, Huanghe Village, represents an innovative exploration of urban village regeneration models. Based on its unique locational endowments and renewal objectives, the project creatively integrates and localizes the "cultural and creative-led" and "mixed incremental" models identified previously, forming a composite pathway characterized by "culture-led development, functional mixing, and incremental renewal."

From the perspective of model characteristics, the project first exhibits typical attributes of cultural and creative-led renewal. Leveraging the humanistic environment and creative resources of the Yuelu Mountain University Town, it builds upon the "pan-art" genes inherent in its history as a "training village" to adopt a culture-oriented renewal strategy. During the renovation, the primary structures of the original buildings and the spatial fabric of the village were preserved, with spatial value enhanced through personalized architectural interventions. The functional configuration centers on creative sectors such as artistic creation, design consultancy, and cultural exhibitions. This aim to cultivate a regional cultural ecology aligns closely with the core features of the cultural and creative-led model: "driving development through creative industries, preserving spatial identity, and attracting creative communities."

However, the project is not confined to the insertion of a single cultural function; it further incorporates the planning philosophies of the mixed incremental model. Building on a cultural-creative foundation, it appropriately introduces catering services, leisure commerce, and public art functions to form a culture-centric functional complex. This business mix not only bolsters the project's economic sustainability but also enhances its social inclusivity and spatial vitality. During implementation, the project adopted a phased approach, responding to uncertainties in the development process through gradual updates and dynamic adjustments—a key characteristic of incremental renewal.

In the social dimension, the project responds to the social benefit concerns of the mixed incremental model to a certain extent. Although large-scale resettlement of indigenous residents was not implemented, the residents secured significant economic benefits through rental income. Furthermore, through comprehensive ecological governance, infrastructure upgrades, and the creation of public spaces, the renewal practice transcended the economic goals of a single project. It promoted the holistic optimization of environmental quality and spatial image in the Houhu area, reflecting a pursuit of comprehensive social value.

In summary, the renewal strategy of Group 8 can be defined as a "cultural-social" hybrid regeneration model. It utilizes the cultural and creative-led model as the core engine for spatial and functional updates while drawing on the flexibility of the mixed incremental model regarding functional composition and implementation pathways, all while injecting local demands for public value. This model choice highly suits the unique locational conditions of being "surrounded by universities and ecologically sensitive." It avoids the ecological damage and context severance potentially caused by commercial-led models and overcomes the slow economic returns of purely cultural-creative models through functional mixing, providing a viable practical template for the organic renewal of urban villages in similar regions.

3.3. Planning Analysis

The spatial transformation of Group 8 relies on a systematic planning and design strategy. Based on the characteristics of the existing building layout, the plan divided the site into nine building clusters, with design tasks assigned to eight different designers (Fig. 4).

Figure 4. Division of building clusters and assigned designers

This "overall coordination, itemized implementation" design organization model maintains holistic harmony while granting unique spatial personalities to different clusters, thereby preserving the "collage-like" quality characteristic of urban villages.

Regarding functional configuration, the plan eschews single-function zoning in favor of a hybrid layout based on the "culture-led, functional mixing" model. Five major business formats—public buildings, creative sales, co-working spaces, Chinese dining, and bars/cafes/light meals—are not simply zoned but organically combined according to architectural characteristics and locational conditions (Fig. 5). This composite functional arrangement enhances spatial efficiency and bolsters the sustained vitality of the area.

Figure 5. Analysis of planned business formats

The transportation organization employs a hierarchical strategy. The primary roads follow the original network structure, connecting major building clusters with urban thoroughfares. Secondary alleys are optimized based on traditional scales to meet fire safety and transit requirements. Pedestrian paths link landscape spaces and public nodes, forming a complete slow-traffic system. This multi-layered circulation organization ensures accessibility while enriching the spatial experience (Fig. 6).

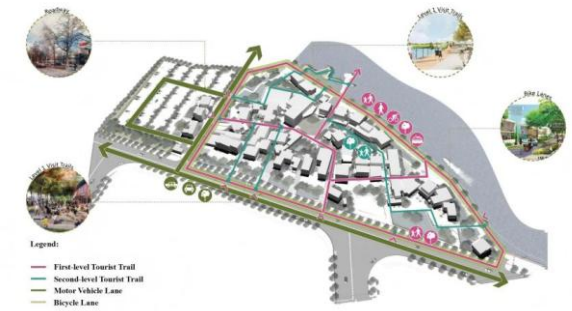

Figure 6. Analysis of traffic circulation

Landscape design focuses on the dual restoration of ecology and humanities. Through measures such as softening embankments and adding waterfront platforms, the ecological quality and accessibility of the Houhu waterfront space have been improved. Simultaneously, the use of diverse vegetation and art installations has transformed formerly negative spaces into active public activity venues (Fig. 7).

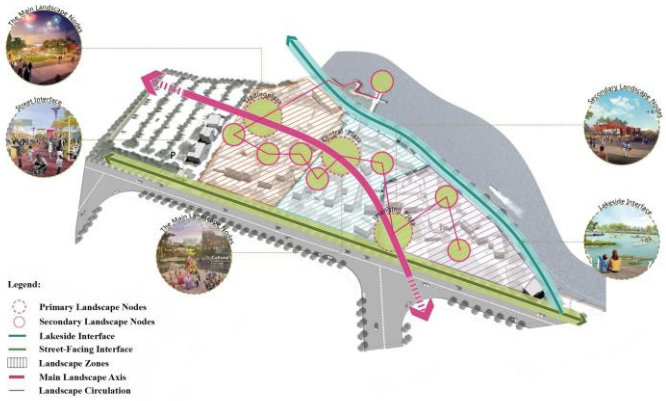

Figure 7. Analysis of landscape structure

Architectural renovation employs a differential strategy. Under the premise of retaining the primary structures, the original self-built villager houses were adapted for new functions through facade updates, material replacement, and spatial reorganization. For instance, waterfront buildings were converted into cafes by adding glass curtain walls and viewing platforms, while internal buildings formed co-working spaces through courtyard integration and the addition of connecting corridors. These renovation measures controlled costs while maximizing the continuity of site memory, achieving a dialogue between the historical and the contemporary (Fig. 8).

Figure 8. Analysis of key building renovations

Overall, the planning practice of Group 8 has successfully achieved a transformation from a traditional urban village to a cultural landmark through multi-system synergy, offering a replicable pathway for urban village renewal in similar contexts.

4. DISCUSSION

The renewal practice of Group 8, Huanghe Village, provides an insightful case study for exploring the functional regeneration models of urban villages. By situating this project within a tripartite analytical framework—comprising commercial-led, cultural and creative-led, and mixed incremental models—this study finds that its innovation lies in the organic integration of the cultural-creative and mixed-incremental models. This finding supplements the existing theoretical framework in two ways:

first, it demonstrates that the successful regeneration of urban villages does not necessitate adherence to a single model, but rather allows for the combination and innovation of models based on locational conditions and development goals. Second, it validates that in areas with a high density of university resources, an update path centered on cultural creativity with mixed multi-functions possesses particular applicability.

Compared with Dachong Village in Shenzhen, Group 8 avoided the disruption of social networks and the loss of historical context associated with large-scale demolition and reconstruction. Compared with the 798 Art District in Beijing, it reduced the economic risks of purely culture-oriented projects through functional mixing. Compared with Yongqing Fang in Guangzhou, although it falls short in terms of preserving original social structures, it achieved broader social benefits through the enhancement of the overall environment and the optimization of regional functions. Such differentiated choices fully reflect "local wisdom" in urban renewal—adaptive decisions made based on local resource endowments and situational constraints.

However, this study also identifies certain limitations in the Huanghe Village model. First, the level of participation among indigenous residents remains limited; while they received economic compensation through rental income, the reconstruction of social networks and the continuity of cultural identity still need strengthening. Second, the project may face the risk of excessive commercial expansion in its later stages of operation, necessitating effective control mechanisms to prevent the dilution of cultural characteristics. Finally, this government-led and designer-driven renewal model still has room for improvement regarding community engagement.

5. CONCLUSION

Taking Group 8 of Huanghe Village in Changsha as a case study, this research explored the model selection and practical effects of functional regeneration in urban villages during urban renewal. The primary conclusions are as follows:

First, the renewal practice of Group 8 has formed a "cultural-social" hybrid regeneration model. It successfully integrates the cultural value leadership of the cultural-creative model with the functional complexity of the mixed incremental model, providing a replicable path for the renewal of urban villages surrounding universities.

Second, through systematic planning and design—including hierarchical building renovation, mixed functional layout, multi-level circulation organization, and ecological landscape restoration—the project achieved a synergistic enhancement of physical space and social functions. This confirms the applicability of the organic renewal concept in the transformation of urban villages.

Third, the ternary analytical framework constructed in this study (commercial-led, cultural and creative-led, and mixed incremental) provides an effective analytical tool for understanding urban village renewal. The case of Huanghe Village indicates that practical projects often exhibit a hybrid coexistence of multiple model characteristics.

Although the Huanghe Village project has achieved significant results, future renewals must strengthen the design of participation mechanisms for indigenous residents and the maintenance of the cultural ecology. Subsequent research could track the long-term operational effects of the project to further explore gentrification risk prevention and sustainable development mechanisms in culture-led renewal.

The primary value of this study lies in providing an empirical case of organic renewal in urban villages, enriching the application of urban renewal theory in areas with dense cultural resources, and providing a reference for urban renewal projects in similar regions.

REFERENCES

[1] Du, J., Yu, Z., Cheng, S., Li, L., & Miao, C. (2026). Exploring the role of government-driven culture-led micro-regeneration in shaping the sense of place within urban historic districts in China. Cities, 169, 106575.

[2] Li, B. H., Yang, F. D., & Dou, Y. D. (2022). The organic renewal of the human settlement environment in traditional villages: Theoretical cognition and practical path. Geographical Research, 41(5), 1407–1421 (in Chinese).

[3] Lin, Z. R., Han, L. W., Wang, S. M., & Xu, L. J. (2019). Research on the renovation planning of ancient villages based on organic renewal theory: A case of ancient road in Xijiao village in Yangquan. Urbanism and Architecture, 16(14), 19–24 (in Chinese).

[4] Ma, X. G., & Li, R. T. (2025). Deconstructing the factory: Ternary spatial struggle in industrial heritage renewal—An empirical study based on the Beijing 798 Art District. Geography and Geo-Information Science, 41(06), 41–50 (in Chinese).

[5] Qin, S. Q., Zhang, N., Zhang, Y., Zhang, C., & Zhu, P. J. (2021). Exploration of sustainable renewal paths for urban villages: A case study of Huanghe Village in Houhu, Changsha. Tropical Geography, 41(03), 461–471 (in Chinese).

[6] Wang, Q. (2024). Intersecting dynamics: Migration, state control and urban expansion in Shenzhen's urban villages. International Journal of Social Sciences and Public Administration, 5(1), 1-7.

[7] Wang, Z., Zheng, Y., Chen, C., & Qian, Z. L. (2016). The micro-activated organic renewal of a village of Tube-style houses: A case of Zhangluwan village in Deqing county, Zhejiang province. Architectural Journal, (8), 79–83 (in Chinese).

[8] Yin, L. S. (2021). Research on the transformation and upgrading of historical and cultural blocks from the perspective of urban regeneration: A case study of Yongqing Fang in Guangzhou. Urban Watch, (05), 69–76 (in Chinese).