Characteristics of spontaneous commercial spaces in urban villages: a case study of three urban villages along Wuhe Avenue, Shenzhen City, China

Shan Chen1*, Qingyou Zeng1

1School of Architecture and Urban Planning, Shenzhen University, Shenzhen, Guangdong, 518061, China
*Corresponding author’s e-mail: c_shan@szu.edu.cn

Abstract. The mode of urban village renewal has changed from large-scale demolition and construction to organic renewal. The renewal of urban villages, especially commercial spaces, needs to be studied. Taking three urban villages along Wuhe Avenue in Longgang District, Shenzhen City, as examples, this study analyzed the characteristics of spontaneous commercial spaces and their existing problems. The study suggests that, for urban village renewal, the spontaneity and vitality of urban village businesses should be maintained and the environments of public spaces should be improved.

1. Introduction

Urban villages are informal settlements within Chinese cities, of which many are experiencing expansion at their urban fringes and the regeneration of their “urban villages” (rural villages encircled by an expanding city) in their downtown core [1]. Shenzhen, a city that developed after China’s economic reform in 1978, has transformed from an agriculture-based rural society into an industry-based modern city. During Shenzhen’s urbanization, many urban villages have emerged[2]. In 1980, the Shenzhen Special Economic Zone (SEZ), including the four districts of Luohu, Futian, Yantian, and Nanshan, was established as an experiment to attract foreign capital, technology, and management skills. The expansion of the urban village was mainly concentrated in the SEZ in the 1980s and 1990s. Since the late 1990s, with full-scale urbanization, the growth of urban village land has occurred mostly outside the SEZ[3]-[4].

Because of the shortage of land resources in Shenzhen, the poor living environments of the urban villages, and the pursuit of economic interests, the large-scale demolition and reconstruction of the urban villages was an urban development model for the past 10 years, but this mode of urban village renewal has been gradually spurring reflection among the people[5]-[6]. Although there are various problems, such as crowded spaces and disorderly environments, in the urban villages, they provide residents with low-cost residential areas and convenient living options. In 2019, the Shenzhen Municipal Bureau of Planning and Natural Resources issued the notices, ‘Master plan for comprehensive renovation of urban villages (old villages) in Shenzhen (2019–2025)’ and ‘Several measures to further promote urban renewal work and the high-quality development of cities’, which pointed out that urban village renewal should adopt more micro-transformation methods, increase comprehensive control, and implement organic renewal while not being hasty for quick success, as well as neither demolishing nor building large buildings[7]-[8].

In recent years, a variety of attempts, including the regeneration of single buildings and residential
units by commercial companies, comprehensive renovation guided by the government, and spontaneous renewals by the landlords of buildings, at protective renewal were made for urban villages. Most of the existing research focuses on the renewal of public spaces, buildings, or residential units[9]. While studies on commercial spaces are scarce, growing numbers of scholars have recently begun paying attention to them. Some scholars believe that commercial spaces in urban villages are formed spontaneously by the market [10]. Yanping, C. et al. pointed out that the commercial service facilities in the Shangsha Xiasha urban villages are distinctly different from those in common residential areas, which are also far away from the related residential standard [11]. The planning and construction of commercial spaces in urban villages are organized at the unit of each individual village. For an urban village, land use, road networks, and public facilities are organized to facilitate the local residents' daily lives and maximize the collective and individual incomes of the indigenous villagers [12].

The study of the urban villages found that although the residents had some opinions about their living environments, they all affirmed the convenience of the commercial spaces. In the renewal of urban villages, the maintenance of the characteristics and solutions to the problems are worth exploring. Thus, the goals of the current study were twofold: (1) to analyze the characteristics of commercial spaces and the problems of spontaneous commercial spaces in urban villages; (2) to make recommendations for the redevelopment of urban villages and improvement of the residents' lives.

2. Characteristics of spontaneous commercial spaces

2.1. Study Area

This study took three urban villages along Wuhe Avenue, which is located in Longgang District outside the SEZ, as case studies. Large parts of the urban villages have been built up since the 1990s with surrounding high-tech industries and commercial housing communities. We systematically investigated urban villages in Longgang District to look for those with different locations and typical characteristics to be used as case studies. Gangtouxinweizai (GTXWZ), Huangjinshan (HJS), and Hekan (HK) villages, which were built with high density and convenient commercial systems, were selected. These characteristics are common to urban villages in Shenzhen. Therefore, these three urban villages may be seen as typical and appropriate case studies.

GTXWZ is located to the north of Wuhe Avenue and adjacent to a gated industrial park, which is north of the village. Across the Avenue to the west and south sides of GTXWZ are high-tech industrial parks. Another urban village is located on the east side and across the road. GTXWZ is enclosed by urban roads on three sides and has a weak connection to the surrounding areas. A real estate company has renovated some buildings in the village.

HJS, which consists of several urban villages, is located in the middle of Wuhe Avenue and adjacent to Huangjinshan Park in the east and Datong market in the south. On the north side of the village is an industrial park. On the west side and across the road is a commercial housing area. On the south and east sides are urban villages. Some areas of the HJS area have been comprehensively renovated by the government.

HK is located to the south of Wuhe Avenue and is surrounded by various communities. Those adjacent to the northeast and northwest are all commercial housing areas. On the south and east sides are urban villages. The traffic in HK moves easily with the Wuhe Metro Entrance located in the northwest.

GTXWZ is almost wholly enclosed by industrial parks while lacking residences and supporting businesses, whereas HJS and HS are surrounded mainly by various residential areas. (Figure 1)
2.2. Characteristics of commercial spaces in urban villages

2.2.1. commercial space types

By analyzing the commercial spaces of urban villages, we saw that the distributions of the spaces could be divided into three types. Though the surrounding urban situations were different in our case studies, three types of commercial spaces could be found (Figure 2):

(1) Commercial spaces along urban streets at the fringes of the urban villages. (Figure 3)

Located along urban roads, commercial spaces spontaneously formed at the fringes of the villages. Because of the green belt and building setback, the spaces in front of these stores are spacious. Most of the shops are on the first floor and a few have two to three floors. The stores along the streets have strong correlations with the surrounding areas of the city. The businesses serve the urban villages and surrounding residents.

(2) Commercial spaces along the main streets in urban villages. (Figure 4)

The main streets have different forms in each urban village: the main street is T-shaped in GTXWZ, inverted F-shaped in HJS, and π-shaped in HK. The common features of these main streets are their connections to the main entrances of urban villages. They are the main paths by which residents travel to and from home. Also, they are the widest roads in the urban villages, constitute important parts of public spaces, and provide parking spaces for cars.

Shops are constructed at the bottoms of both sides of the inner main streets. Because of the limited spaces and the maximization of the benefits of the spaces, commercial space spillovers are very common. The spaces in front of these stores are crowded. Therefore, the main streets are one of the most active places in urban villages. There are also problems such as disorderly environments. The businesses mainly serve the urban village residents.
Figure 2. Characteristics of commercial space form in three urban villages

Figure 3. Commercial space along urban streets at the fringes of the urban villages

Figure 4. Commercial space along the main street in urban villages

Figure 5. Commercial spaces scattered in urban villages.

(3) Commercial spaces scattered in urban villages. (Figure 5)

To maximize the use of space, the secondary streets of the villages in the city are very narrow and accessibility is weak. There are only a few businesses scattered on the secondary streets. The businesses mainly serve the residents of the urban villages.

2.2.2. Commercial formats and their spatial distribution characteristics

The commercial supporting facilities of the villages are not allocated according to the commercial matching ratio of the city but are adjusted spontaneously according to the surrounding conditions and the needs of the residents.

We analyzed the proportions of commercial spaces on the first floors of the three urban villages and found them to be 30%–46%. GTXWZ, which is nearly completely enclosed by industrial parks, had the largest proportion at 45.9%. HJS, which is not enclosed and is adjacent to a centralized
commercial market surrounded by different types of communities, had the smallest proportion at 31.2% while HK had 41.2%.

The commercial formats and proportions of the three urban villages were also analyzed and divided into four categories based on the type of business: catering (including restaurants and beverage stores), retail (including supermarkets, convenience stores, and grocers), services (including drugstores, photoshops, lunch care, training, maintenance, housing agents, hotels, laundry shops, pet stores, banks, and telecommunications), and others. The formats and proportions were quite different among the three urban villages. As shown in Table 1, GTXWZ had the largest proportion of commercial spaces on the first floor with both catering and services constituting 82%, whereas the proportion of retail was only 16%. In both HJS and HK, catering had about 40%, retail had about 12%, and services had about 45%.

(Table 1) (Figure 6)

Table 1. Commercial formats and proportions

| Urban Village | Catering (%) | Retail (%) | Services (%) | Others (%) |
|---------------|--------------|------------|--------------|------------|
| GTXWZ         | 85 (55%)     | 25 (16%)   | 42 (27%)     | 3 (2%)     |
| HJS           | 58 (39%)     | 18 (12%)   | 70 (47.5%)   | 2 (1.5%)   |
| HK            | 119 (43%)    | 35 (12.6%) | 121 (43.5%)  | 3 (0.9%)   |

The spatial distributions of different commercial formats in three urban villages were also analyzed. In GTXWZ, most catering businesses were located on the east–west main street and along urban streets in the south. Most services were located along the urban streets in the west. Retail businesses were distributed along the inner main street. In HJS, most catering businesses were located along the main street in the north and most services were located along the urban road in the south. In HK, catering and services were located along urban roads in the south and east. We can see that catering and services tend to be located close to each other along the urban roads, as well as the main streets close to the entrance of the urban village. Most retail businesses tend to be scattered inside the urban village. Catering and services serve not only the residents of the urban villages but also the surrounding areas. Retail businesses in the urban villages serve mainly the local residents.

Complex and flexible uses of commercial stores are common in urban villages. One store can contain several business forms at the same time. For example, one store is used by one shopkeeper selling breakfast in the morning while it is used by another for catering in the afternoon and evening.

Combining our analysis with the surrounding urban functions and characteristics of the commercial spaces in the urban villages, we found that urban village businesses were not closed systems. The characteristics of commercial spaces varied according to self-demand and the surrounding urban situations. Located among industrial parks and having fewer residential areas, GTXWZ had a high proportion of commercial spaces, especially catering and services. Surrounded by different kinds of residential areas, HJS, which was adjacent to a big market, and HK had similar and lower proportions of commercial spaces. The urban village businesses served the surrounding neighborhoods. The surrounding service industry will also have an impact on the proportion of village businesses in the city.
2.3. Problems of commercial spaces in urban villages

Because of the spontaneous characteristics of village businesses in the city, the shops are diversified. Such diversification makes life more convenient for the residents. Urban villages are low-cost residential areas. Most businesses in these villages have low operating costs and the areas of the shops are small. To maximize the incomes in the spaces, their uses are more intensive and the phenomenon of commercial spaces’ occupying pedestrian footpaths, public spaces, etc., is common. Because of the limited public spaces in urban villages, mutual influences are common among commercial spaces, pedestrian footpaths, parking spaces, roadways, open spaces, etc. The lack of management contributes to the disorderly states of the commercial spaces. (Figure 7-8)
3. Discussion: maintenance and optimization

The renewal modes of urban villages have changed from demolition to comprehensive renovation in Shenzhen. For commercial spaces in urban villages, maintenance of the characteristics of the original commercial spaces and solutions to the existing problems are the key issues for improving the residents’ lives.

(1) Maintain characteristics of commercial spaces in urban villages. Commercial facilities of commodity housing communities are built according to related residential standards, but the commercial facilities cannot meet the needs of residents in many cases. In comparison, the self-regulation mechanisms of urban villages can quickly understand the market demands for businesses. In urban renewal, we should respect the commercial characteristics of urban villages and allow full play to their self-regulation mechanisms so that they can provide better services to the residents in both the urban villages and surrounding areas.

(2) Systematic optimization of urban village environments. While affirming the commercial characteristics and advantages of urban villages, the problems existing in the commercial spaces require attention. Commercial spaces are part of public space systems, so it is difficult to solve the problems by simply renovating the commercial spaces. Regarding the spatial and temporal dimensions, we should maximize the efficiencies of the uses of the public spaces and reduce the negative spaces. While the elastic characteristics of the uses of commercial spaces in time demand are considered, the complexities of the spaces and the other types of uses of public spaces are considered in a comprehensive renovation. For example, in the morning, a public space could be used for fruit and vegetable stores, whereas, in the afternoon, the leisure functions of the public space could be restored.

4. Conclusion

China is still in the acceleration stage of urban development. As low-cost residential areas for migrant populations, urban villages will continue to exist for a long time. Low-cost settlements do not mean that residents should have to endure bad living environments. Residents in urban villages also have the right to enjoy convenient service facilities and good living environments. It is of great social and economic significance to conduct systematic problem analyses and formulate feasible development strategies for urban villages in Shenzhen. From the current situation of development, the renewal of urban villages, especially commercial spaces, requires more professionals to conduct academic research and formulate reasonable strategic plans, which could make contributions to the harmonious and healthy development of urban villages, and even, the city.

Acknowledgments

The authors are grateful to the Ministry of Education of Humanities and Social Science Projects, Project Number 18YJCZH013, and the National Natural Science Foundation of China, Project Number 51808340, for the funding of this study.

References

[1] Yanpeng J, Nalini M, Renfeng M, Lichao W and Mingxing C 2020 Whose village? Stakeholder interests in the urban renewal of Hubei old village in Shenzhen J. Land Use Policy 91 1-9
[2] Ya Ping W, Yanglin W, and Jiansheng W 2009 Urbanization and informal development in china: urban villages in Shenzhen J. International Journal of Urban and Regional Research 33 957-973
[3] Hao P, Geertman S, Hooimeijer P and Sliuzas R 2013 Spatial analyses of the urban village development process in Shenzhen, China. International Journal of Urban and Regional Research 37 2177-2197.
[4] Tong D, Changchun F, Guicai L and Peng C 2010 Categories and characteristics of urban villages by GIS-based analysis: a case study of the Shenzhen special economic zone J. Science in China Series E: Technological Sciences, 53 150-157.
[5] Ning M and Beibei G 2019 Study of the protection and renewal of urban villages in emerging
cities: the example of Hubei Ancient Village in Shenzhen. Journal of Architectural Conservation DOI: 10.1080/13556207.2019.1678258

[6] Ling Hin L, Jie L, Xin Land Fan W 2014 Redevelopment of urban village in China - a step towards an effective urban policy? A case study of Liede Village in Guangzhou. Habitat International 43 299-308.

[7] Notice of Shenzhen Municipal Bureau of planning and natural resources 2019 Master plan for comprehensive renovation of urban villages (old villages) in Shenzhen (2019-2025), http://pnr.sz.gov.cn/xxgk/gggs/201903/t20190327_481807.html

[8] Notice of Shenzhen Municipal Bureau of planning and natural resources 2019 Several measures to further promote urban renewal work and promote high-quality development of cities, http://wap.sz.gov.cn/ghj/zcfgfxwj/zcfg/ghl_6/201906/t20190611_17880219.htm.

[9] Bin L, De T, Yaying W and Guicai L 2019 Government-backed ‘laundering of the grey’ in upgrading urban village properties: Ningmeng Apartment Project in Shuiwei Village, Shenzhen, China. Progress in Planning, https://doi.org/10.1016/j.progress.2019.100436

[10] Haihong S and Ping L 2017 Research on the Problems and Strategies of the Commercial Development of Villages-in-City in Shenzhen. J. Modern Urban Research 95 119-124

[11] Yanping C, Yan Z, Xin J and Naiyan H 2012 A Study on Commercial Service Facilities of Low-Cost Residential Area: Based on the Case of Changsha & Xisha Urban Villages in Shenzhen. J. Urban Planning Forum 204 66-72

[12] Hao P, Sliuzas R and Geertman S 2011 The development and redevelopment of urban villages in Shenzhen. Habitat International 35 214-224.