Micro-renewal of old communities in Huang Shi city

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ABSTRACT

With the rise of the urban renewal motion in recent years in China, more and more cities have shifted the focus of construction to the renovation and renewal of old areas. The renewal of the old community plays an essential role in the urban upgrading of China, which is related to the quality of a city, as well as a crucial criterion for evaluating the comfort of the living environment. The old community to retain their vibrancy and culture is needed to renew by a way of modernization. The paper will discuss how to use micro-renewal design to improve the quality of the old community, awaking the historical memories of the community simultaneously, thereby balance the relationship between history and use-value.

KEYWORDS

micro-renewal, old communities, historical memories, urban upgrading, modernization

1. INTRODUCTION

Residence is an important carrier of human life. It reflects people’s living conditions for a certain period, is also a marking left by city’s development. The overlapping of old residences and new-style residences in the city, that enables reflect the urban renewal process, and makes a sustainable development of urban context. In the past, the renewal strategy of old community in China was entirely reconstructed the whole areas. Although, the renewal mode has greatly improved the living environment of the residential area, it also tore up the historical features of the city, cause the fragmentation of historical context. The issue of relationship between the new and old architecture in the urban fabric are crucial in all cities, which represent physically the combination of historical part of corridor streets, grid organization of the roads, squares, green public spaces, free standing public buildings and buildings articulated in a line with a main façade [1]. Therefore, any new design and intervention in these historical places should be done without damaging their cultural heritage values [2]. According to the old community renewal project data released by the China Housing and Urban-Rural Development Bureau from January 2020 to July 2020, 32 regions in China have undertaken renewal projects in old communities, with a construction start rate of 70% (Fig. 1).

The renewal of old communities plays an important role in the urban renewal system. It can not only improve the quality of life of residents, but also protect the unique cultural and historical context of the city.

2. METHODOLOGY

2.1. Micro-renewal

‘Micro-renewal is a new revival method, that rebuilds the infrastructure in the community by demolishing useless parts, and repairs and protects the historical parts of the area [3].
Difference from the past reform strategies, ‘micro-renewal’ does not require complete demolition of whole the area. It arises specifically for small-scale areas or communities in cities (Table 1).

Comparing with traditional renovation methods, the new one has advantages. First, the construction cost of ‘micro-renewal’ of the old community is lower than the cost of the overall demolition and rebuilding. Secondly, the construction organization of ‘micro-renewal’ is more flexible and simpler than that of traditional. ‘Micro-renewal’, as a new upgrading method, which is evolution from the traditional upgrading method under culture demand, emphasizes balancing the usage function and historical culture by necessary new construction, protection, demolition methods [4] (Fig. 2).

2.2. Symbiosis between human and nature

The key to philosophy of symbiosis is to respect and protect the ‘territory’ of the sides, the sides of human and nature [5]. The landscape design of old communities, designers should use sustainable and green design as solutions on the basis of respecting and protecting the nature to create a pleasant natural landscape for residents (Fig. 3).

From author’s view relationship between human and nature is always a relationship of symbiosis. When human beings stay in nature, they will miss the buildings in the city; however, when they stay in the city, they will want to be surrounded by nature. In the renewal design of the Feng Ye Shan community, the authors will discuss about the symbiosis relationship between landscape and humans, changes

Table 1. Table of comparison function of entirely rebuilding and micro-renewal (Source: drawing by Pan Hao Wei)

| Comparison of Old Communities Reconstruction Modes          | Entirely Rebuilding | Micro-Renewal       |
|-------------------------------------------------------------|---------------------|---------------------|
| Reconstruction Mode                                         | Wide Range          | Small Modification  |
| Construction Scope                                          | Entirely Rebuilding | Partial Renovation  |
| Construction Pattern                                        | Long Period          | Short Term           |
| Historical and Cultural protection                          | Unprotected          | Good Protected      |

Fig. 1. Source from China housing and urban-rural development bureau August 2020 (Drawing by Pan Hao Wei)

Fig. 2. Diagram of methodology (Source: Drawing by Pan Hao Wei)

Fig. 3. Symbiosis between human and nature (Source: drawing by Pan Hao Wei)
the current situation of lack of landscape in that community by design, and make a symbiosis between residents and nature by design.

2.3. Protectionism
Historical cities are host to exciting historical site, outstanding heritage buildings and unique local cultures; there represent a country and can be a source of pride [6]. The history of old communities is an essential part of the city. Protecting the historical features and restoration the historical memories of the community are significance for urban history and nation’s culture. The protection the old community is not a simple overall preservation, but a compromise method for protecting the valuable parts and rebuilding the abandoned areas of community to reactivate the old community.

2.4. Space spirit
The trend from living to lifeless cities and residential areas that has accompanied industrialization, segregation of various city functions, and reliance on the automobile also has caused cities to become duller and more monotonous. People who live in the cities, needs a space with spiritual to satisfy their needs [7]. Contacts that develop spontaneously in connection merely being where there are others are usually very fleeting. From this simple level, contacts can go grow to other levels. Meeting, being present in the same space, is in each of these circumstances the prime prerequisite [8].

Spirit is an attribute, humanistic care that people give to space. Space plays a significant role in people’s communication, as well as a carrier for communication. Feng Ye Shan community has a strong historical background, while, with the passage of time, and the entertainment and sport facilities of the community are lost, these historical heritages are on the verge of disappearing. It is necessary to create a space that can stimulate the cultural context of the community to rebuild the history and cultural connotation of the community.

3. THE FEATURES OF THE FENG YE SHAN COMMUNITY

3.1. The basic overview of Feng Ye Shan community
Feng Ye Shan community is located in Huang Shi Port district - the downtown of Huang Shi city, with unique geographical advantages. As in the process of building architectural design, geographical location, surrounding environment and architectural orientation, and many other factors have an impact on the development of design [9]. The downtown is built for long time, and infrastructures, traffic networks in the downtown are completed. Commercial centers, residential areas and office buildings in the downtown are closely connected. It is a superiority of the downtown, because of the superiority. People, who live in the community, could choose variety of ways of commuting to arrive every place in the downtown, in a short time. Moreover, diversified transportation also increases social activities on the streets and enhance the vitality of the city (Fig. 4).

The traffic networks around the Feng Ye Shan community are developed. On the south side of the community is Hua Xin Road, which connects Huang Shi Avenue and Hu Bin Avenue, the two main avenues of Huang Shi. Wu Yang Alley is in the north of the community, connecting the community and Huang Shi Avenue, providing a more convenient transportation for residents who live in the community. Wu Han Road as the most prosperous commercial street in Huang Shi, is connected to Hua Xin Road. At the same time, it is also the street where most residents gather (Fig. 5).

Feng Ye Shan Community was built in the 1990s. There are 12 residential buildings in the community, accommodating 950 families. The majority of people who live in the community are elderly and children. Since the community is a welfare residential area, which is belongs to Hua Xin Company, most of residents were employees, who live in the community over 15 years, so they are familiar with their

Fig. 4. The external surroundings of the Feng Ye Shan community
(Source: Photographed by Pan Hao Wei)

Fig. 5. Diagram of traffic network around the Feng Ye Shan community
(Source: drawing by Pan Hao Wei)
neighbors, and the relationship between residents is close in
the community.

3.2. The crisis and difficulties in the Feng Ye Shan
community

According to the China Residential Building Code, the ser-
vice life of residential buildings is 50 years [10]. However,
the low quality of construction materials and the underde-
veloped construction technology in 20 years ago, and the
problems of unmanned management after the completion of
residential buildings have led to the average lifespan of
residential buildings in China’s residential buildings less
than 30 years [11]. The Feng Ye Shan community has been
built more than 20 years, infrastructures and environment
standard in the community have been outdated, which
cannot adapt to the modern city without being updated. The
negligence of the community management has caused the
Feng Ye Shan community to be in a state of unrepaired and
lack of community management for a long time. In the state
of disorderly, the community had many problems, which
reflected in the following points.

Façades damage of residential buildings: The façade of the
original residential buildings in the Feng Ye Shan community
is decorated with terrazzo. Due to the damage of the deco-
ration material, the façade of building is severely peeled and
damaged, which caused environment appearances of the
community was in dilapidated condition (Fig. 6).

The lack of public space in the community: The time
when community was built, the living standard of residents
who lived in Huang Shi city, was low. Improving the ma-
terial living standard and solving the problem of lack of
housing became the most concerned topic at that time.
Nowadays, with the economy growth of China, people’s
material living standards have been greatly improved, at the
same time, people have more requirements for the envi-
ronment of community housing. However, the lack of public
space in Feng Ye Shan community has become one of the
reasons that restrict the vitality of the community, so the
construction of community activity space is particularly

4. EXPLORATION OF ‘MICRO-RENEWAL’ IN
FENG YE SHAN COMMUNITY

The design principle of the Feng Ye Shan community is to
modernize and upgrade the public space within the com-
munity while maintaining the integrity of the basic area of
the community. In the “micro-renovation” of the Feng Ye
Shan community, not only the community parking lot was
added, the community road was renovated, but also the
layout and planning of the community’s internal activity
area and landscape planting area were emphasized. The
purpose is to establish a new community model, including
residential and outdoor activity functions (Fig. 8).

The reconstruction of the landscape area in the com-
munity transforms the functional unity of the landscape area
into a comprehensive landscape area integrating orna-
mental, open and playful features. The specific way to renew
landscape areas in the old community is need to demolish abandoned buildings and enlarge the boundary of the original landscape areas (Fig. 9).

According to the different characteristics of the four seasons in Huang Shi, the vegetation species should be selected the evergreen local vegetation in all seasons to improve the green coverage of the community and reduce the maintenance cost of the landscape. The lack of activity spaces in the Feng Ye Shan community is one of the reasons for the lack of community spirit in the community. In the renewal design of the community activity area, not only the scale and comfort of the community activity area should be considered, but the activity area should also be built into an area, which place could awake the vitality of the community (Fig. 10).

The jumping colors and childlike rubber floor pavement exude vitality throughout the activity area. The decoration of outdoor amusement facilities and multifunctional seats attracts children and parents in the community to play and chat here. After the refurbishment of the activity area, the spirit of the community that was about to dissipate was restored. Children who play are good at running. In order to prevent children from falling while running, the floor of the activity area adopts a soft plastic floor, which is a manifestation of humanized design (Fig. 11).

5. CONCLUSION

The ‘micro-renewal’ is a new method of engineering design and management for old communities retrofit, which requires the cooperation among the governments, design institutions and residents. The new method also needs to increase the function of communities and excavate the historical culture context, meanwhile, protects the historical buildings and gives a new use function to historical buildings, integrates the historical culture into present, make a symbiosis between past and present.
The old community buildings with historical charm are the most unique buildings in the city. They can reflect the development of human habitation. The 'micro-renewal' of old communities should not only pursue the neat form surfaces of buildings, but also consider the daily activities of residents in communities, which includes the improvement of communication spaces, the improvement of visual aesthetics and the penetration of history and culture into communities. Community spaces should become important places for daily life of residents, and they can bridge history and current times.

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