The Community Space Delimitation of Fuzzy Responsibility ——Based on the Comparative Study of Two Community in Shanghai

Ze Zhang[1], Ying Gu[2]

[1]Tongji University, Zhangze47@126.com
[2]Tongji University, 931782016@qq.com

Abstract: In the Planning and construction of community, clear and definite public space is a necessary, and all community residents should be responsible to the public space. In China, however, with the acceleration of urbanization and the frequency migration of the residents, the responsibility for community public space has become blurred. Community wall construction was an Effective method for community governance，and now it was also used to delaminate of "fuzzy responsibility public space and Facilities"，which were considered to be open and shareable for the whole community when they were constructed. Thus, several problems appeared, such as the Residential segregation and the Security problems. Based on the six census data of Shanghai's communities and field research, two typical community was selected for the comparative study: the rental rate was 80% and the self-occupied housing rate was 20% in Sichuan north Road community, while the rental rate was 20% and the self-occupied housing rate was 80% in Quyang Road community. Finally, by associating the spatial distribution of communities walls in two communities, this paper eventually 1: found a complex relationship between community residential structure and spatial distribution of community walls between buildings; 2, indicated that the community walls reflected the community property cognitive differences between different resident groups; 3, put forward some management recommendations under the existing regulatory framework accordingly.

Keywords (maximum 3): Party walls, Residential segregation, Comparative study

1. Introduction

1.1 The migrant population increases continuously in the metropolis of China

With the continued advance of urbanization and employment opportunities continued to convergence in large urban areas, huge attraction are also produced by urban areas for the people of surrounding areas. In large cities, the proportion of foreign population gradually increased. In Shanghai City, for example, from 2008 to 2013, the population grew by 2,332,000 people, which means an average annual increase of 466,000 people, the proportion of the resident population of the resident population rose to 40% (National bureau of statistics of the people's republic of China, 2011).

Table 1. Population changes in Shanghai City, 2008-2013

	2008	2009	2010	2011	2012	2013
Permanent Residents(million)	21.41	22.10	23.03	23.47	23.80	24.15
Native Residents(million)	13.91	14.00	14.12	14.19	14.27	14.32
Migrants(million)	7.50	8.10	8.90	9.28	9.54	9.83
Percentage of Migrants（%）	35.02	36.63	38.66	39.54	40.06	40.69

1.2The confusion of rights and obligations for community public space

Community public space was an important content in the construction of community planning, and all community residents are the owner of the community public space, and they should supply finance

support for the maintenance of community public space and facilities. However, with the enhancement of community residents liquidity, both "people who live in the house does not have the ownership of house" and "people who own the house does not live in the house" dual phenomenon are becoming increasingly apparent, community residents' groups in of China are becoming increasingly decentralized (Massey, 1988). This trend was not conducive to the maintenance of the atmosphere in the community building and community public space, and it also caused the fuzzification of the main responsibility of the community public space (Waters M C, 1990).

2. Residential segregation of Shanghai

In 2010, 39% of Permanent Residents of Shanghai are migrants, and the percentage of rent housing was also 39%. To prove the correlation between the migrants percentage and rent housing percentage, a spatial comparison was made as following:

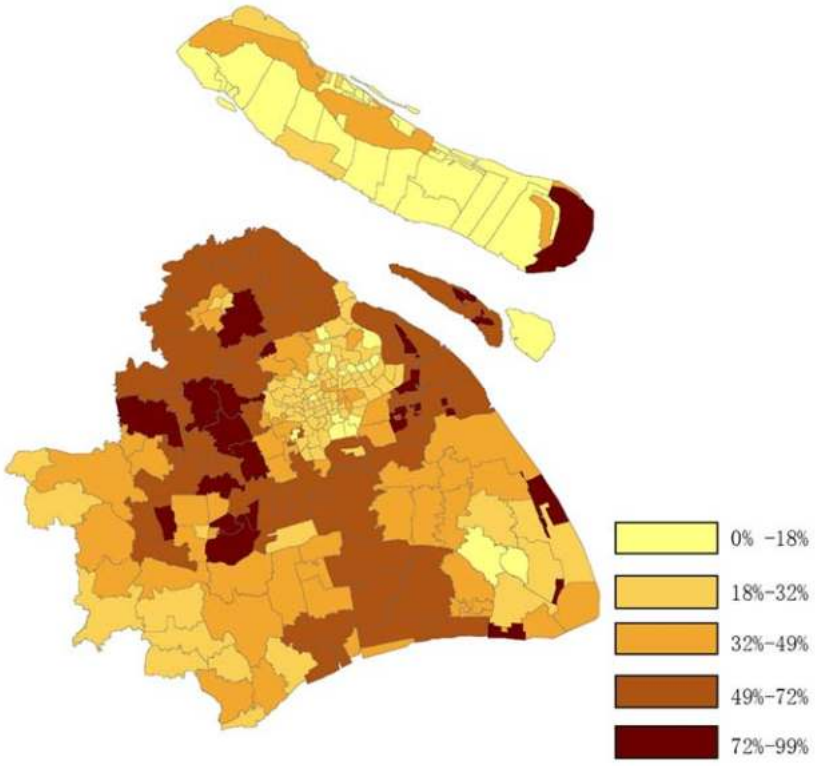

Figure 1. The Spatial Analysis of Migrants Percentage in Shanghai, 2010

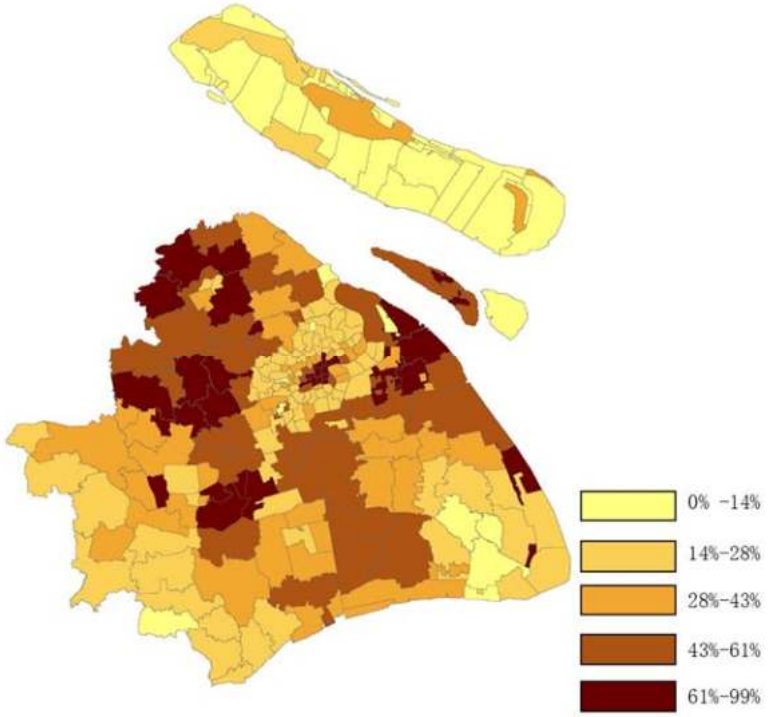

Figure 2. The Spatial Analysis of Rent Housing Percentage in Shanghai, 2010

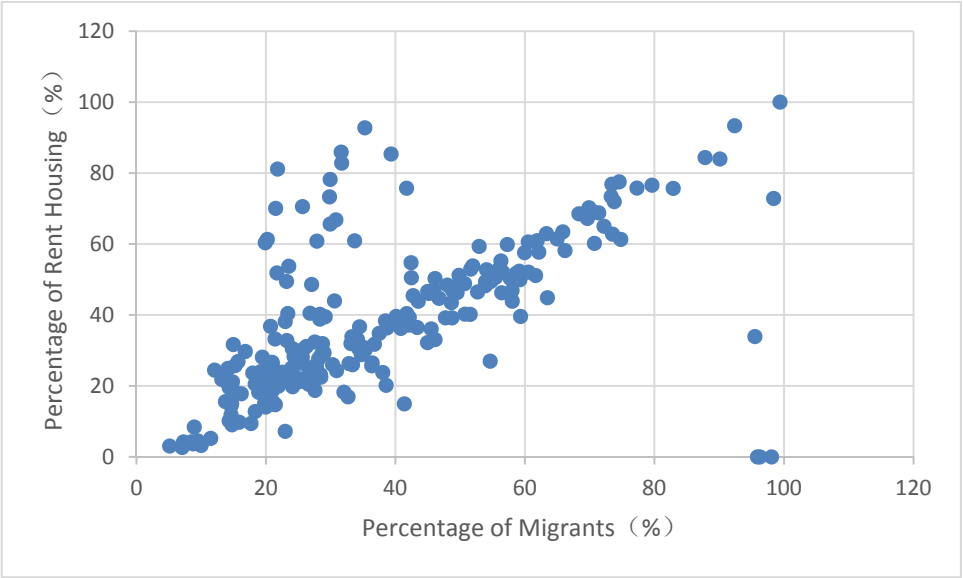

Figure 3. Correlation between migrants and rent housing in Shanghai, 2010

The positive correlation between the migrants percentage and rent housing percentage was characterized by figure 3. Generally speaking, a community with high percentage of migrants always show high percentage of rent housing.

3. Party wall as a symbol of residential segregation

A party wall was a dividing partition between two adjoining buildings (or units) that was shared by the tenants of each residence or business. When built for this purpose, the builder will lay the wall along a property line dividing two terraced flats or row houses, so that one half of the wall's thickness lies on each property. This type of wall was usually structural. Party walls can also be formed by two abutting walls built at different times. The term can be also used to describe a division between

separate units within a multi-unit apartment complex. Very often the wall in this case was non-structural but designed to meet established criteria for sound and/or fire protection between residential units.

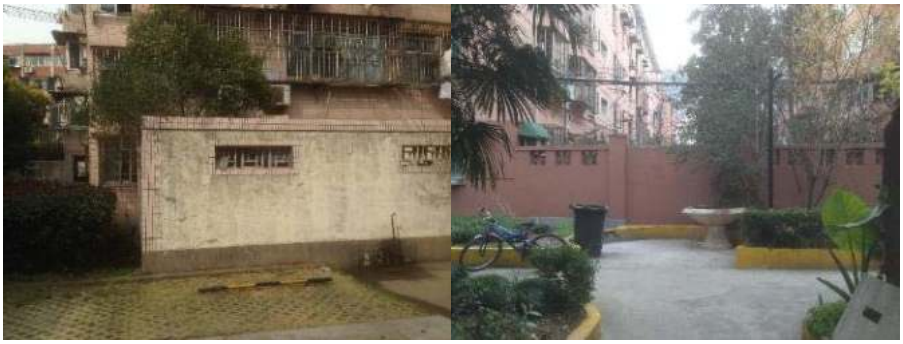

Figure 4 . Party Walls in Shanghai's Communities, 2014

The so-called adjacent relationship refers to the relationship between the rights and obligations of the neighbouring parties due to the exercise of ownership or the right to use. The fact that the wall space was established means that at least one of the rights of the neighbour was the default, and the violation of the wall was equal to the infringement of the right of the other party. Through the construction of community interior wall, the access control and community unit of residential community were divided, and the effective governance of community units was attempted. However, the construction of the community wall also led to the fragmentation of residential blocks and community groups, was not conducive to the creation of public life among community groups.

4. Comparative study of two communities in Shanghai

4.1Quyang Community

Quyang community was located in the north of Hongkou district, Shanghai. With an area of 3.05 square kilometers, it had a resident population of 10.26 million, including 2.04 million migrants resident, which accounted 19.86%. The residential land of Quyang streets was 142 hectares, 13.8 square meters per person (National bureau of statistics of the people's republic of China, 2011).

Figure 5. Quyang community, 2012

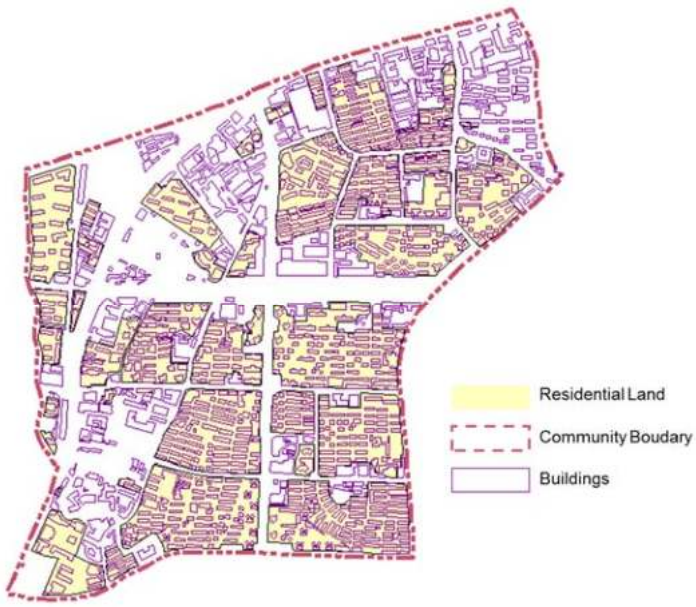

Figure 6. Residential Land of Quyang community

Through the investigation, 80 party walls were found in the Quyang community, and the longest was 362 meters, while the shortest 20 meters, the total length of 12216 meters, and the average length 152 meters. The 39 residential blocks were divided into 118 basic space units in the community by 80 party walls.

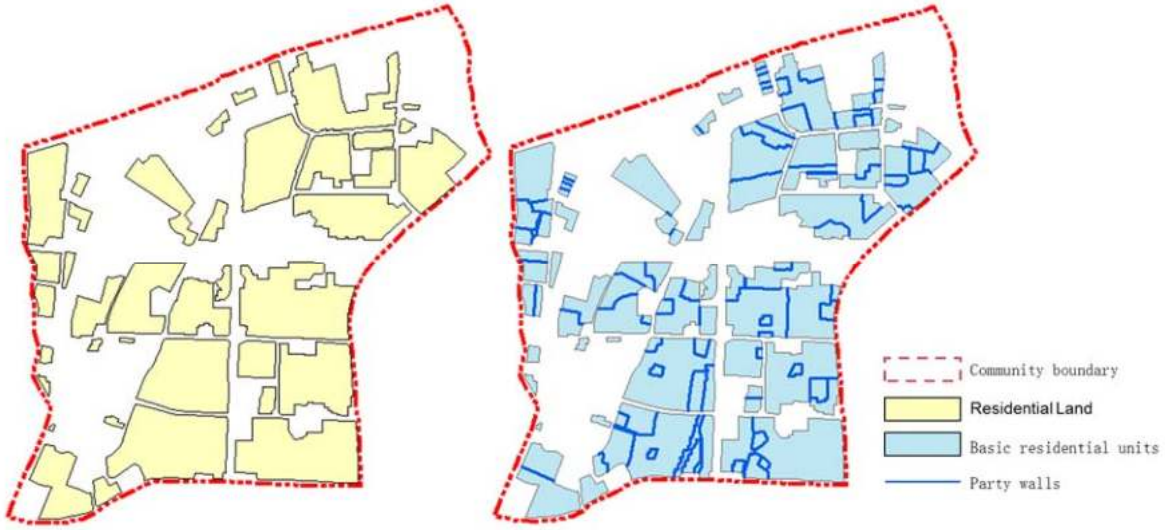

Figure 7. Spatial Layout of Residential Plots (left) and Basic Residential Units (right)

The residential land was made up with 39 plots, with the largest area of 13.62 hectares, the smallest area of 0.06 hectares, and an average of 3.66 hectares. The 118 basic residential units showed a different feature: the largest area of 11.09 hectares, the smallest area of 0.06 hectares, and an average of 1.22 hectares.

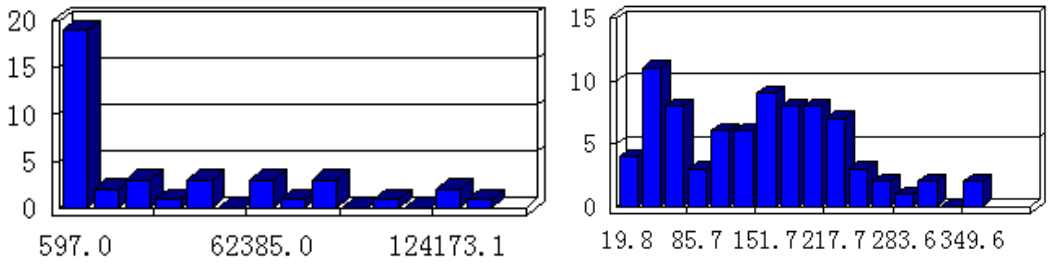

Figure 8. Statistical Chart of Residential Plots (left) and Basic Residential Units (right)

4.2 North Sicuan Community

North Sicuan community was located in the south of Hongkou district, Shanghai. With an area of 2.29 square kilometers, it had a resident population of 8.74 million, including 2.62 million migrants resident, which accounted 29.94%. The residential land of North Sicuan community was 142 hectares, 10.86 square meters per person (National bureau of statistics of the people's republic of China, 2011).

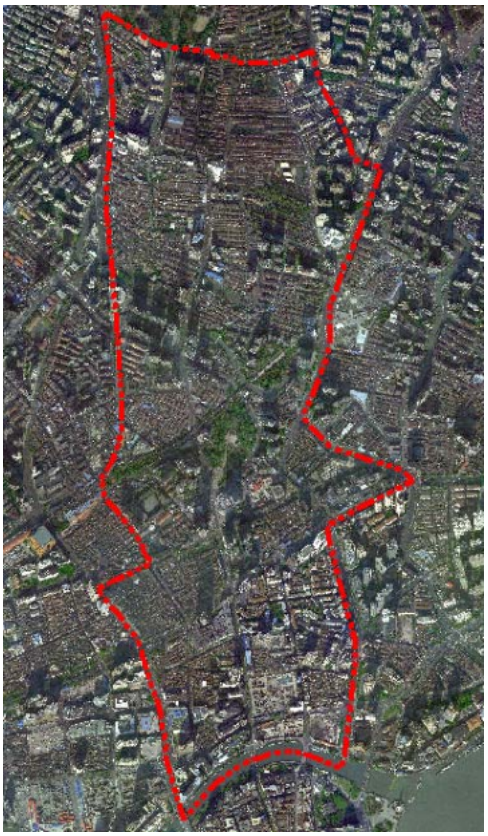

Figure 9. North Sicuan Community, 2012

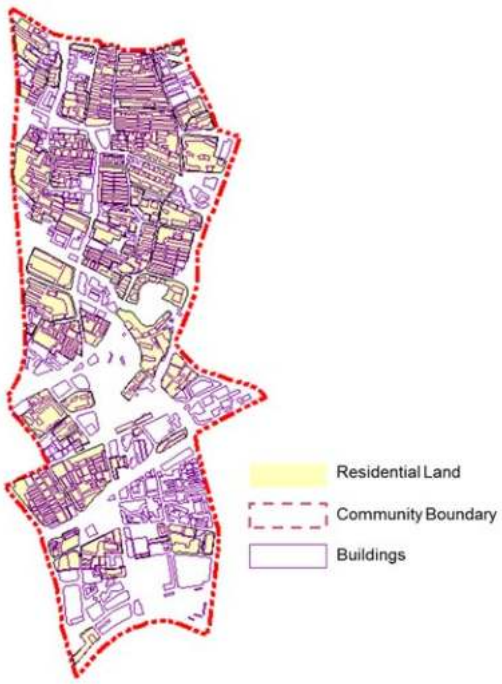

Figure 10. Residential Land of North Sicuan Community

Through the investigation, 33 party walls were found in the North Sicuan community, and the longest was 349 meters, while the shortest 19 meters, the total length of 3915 meters, and the average length 119 meters. The 58 residential blocks were divided into 90 basic space units in the community by 33 party walls.

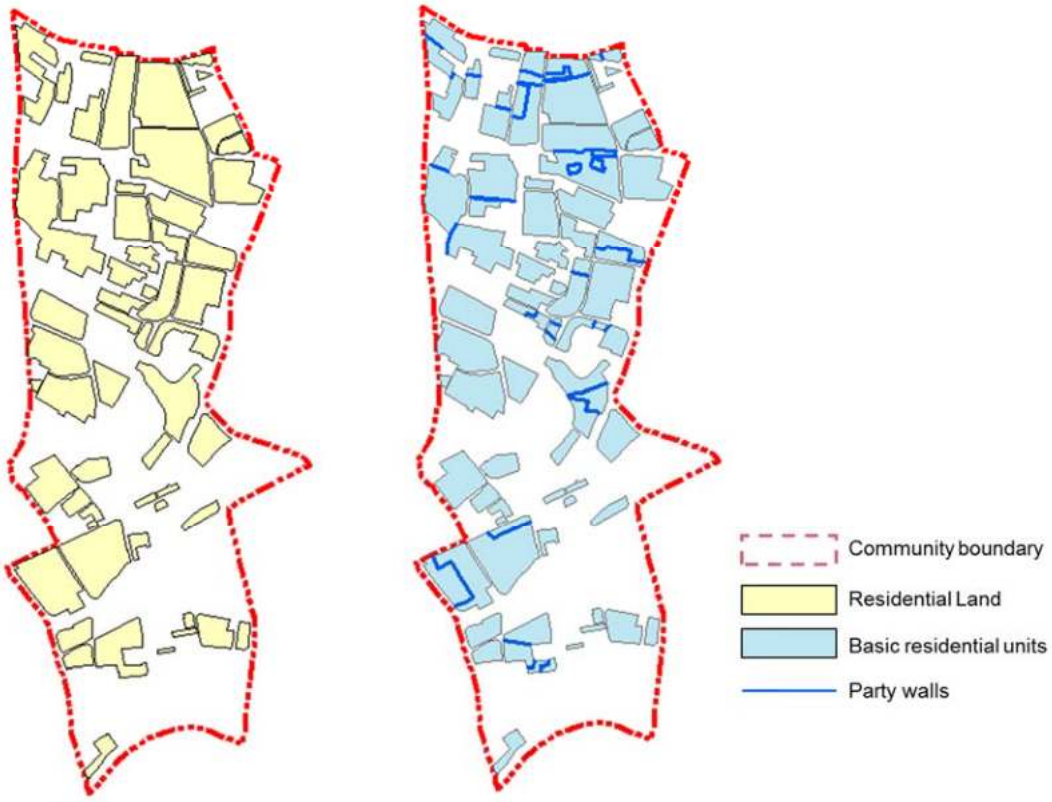

Figure 11. Spatial Layout of Residential Plots (left) and Basic Residential Units (right)

The residential land was made up with 58 plots, with the largest area of 69 hectares, the smallest area of 0.09 hectares, and an average of 1.64 hectares. The 90 basic residential units showed a sample feature: the largest area of 4.34 hectares, the smallest area of 0.06 hectares, and an average of 1.06 hectares.

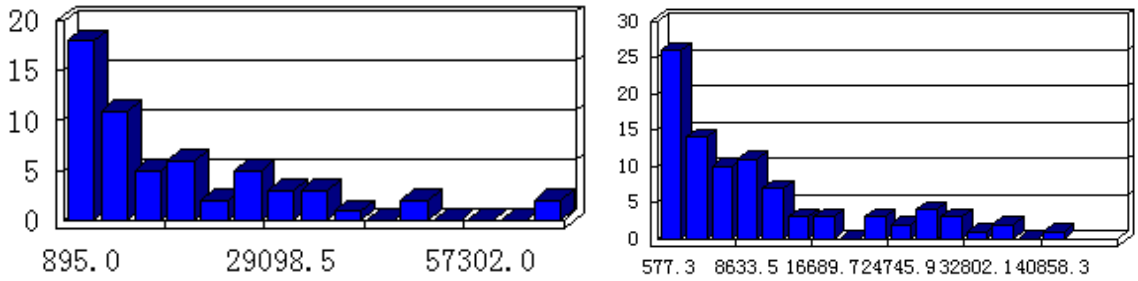

Figure 12. Statistical Chart of Residential Plots (left) and Basic Residential Units (right)

4.3 Results

Table 2. Compare between two communities

	Residential land (hectare)	Length of Party Walls (meter)	Density of Party Walls (meter/ hectare)	Percentage of Migrants （%）	Percentage of Rent housing （%）
Quyang Community	142	12216	86.03	19.86	18
North Sicuan Community	95	3915	41.21	29.94	78

As we can see in table 2, party walls density of Quyang Community was significantly higher than that of the North Sichuan community, while migrant population and rental housing had significant negative correlation. Therefore, one conclusion could be reached: with the increase of migrant population, the construction of party walls was slowed down, and the dilemma of residential separation was also improved (Semyonov M, 1981).

5 Conclusions

The difference between different living groups was constantly strengthening, and the party wall between different units was becoming a common phenomenon (Gieryn T F, 2000). The party wall also has an impact on the adjacent relationship, which defines the property rights of the property owners, but also brings some negative social impacts, such as the space segregation and the hindrance path (Miaoxi Zhao & Zilai Tang, 2007).

With the acceleration of the urbanization, more and more migrants occupy a more and more important study on the separation of the residence. However, through this study, we found that there was a positive correlation between the proportion of migrant population and community rent in Shanghai. And through the comparison between Quyang community and North Sichuan community party wall construction, it shows that with the increase of migrant population, the proportion of rental housing will increase, but the construction of the party wall in the community was somehow reduced, which also showed that the migrant population contributes a lot to alleviate the residential segregation.

6 References

- National bureau of statistics of the people's republic of China, The Sixth National Census [M]. 2011, 132(1): 26-214.
- Massey D S, Denton N A. The dimensions of residential segregation[J]. Social forces, 1988, 67(2): 281-315.
- Waters M C. Ethnic options: Choosing identities in America[M]. Univ of California Press, 1990.
- Semyonov M, Tyree A. Community segregation and the costs of ethnic subordination[J]. Social Forces, 1981, 59(3): 649-666.
- Gieryn T F. A space for place in sociology[J]. Annual review of sociology, 2000: 463-496.
- Miaoxi Zhao, Zilai Tang. City planning and management of neighboring rights and community walls [J]. Shanghai city planning, 2007,04:20-24.