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ID 1466 | THE CONSTRUCTION OF PUBLIC SPACE IN HIGH INTENSITY GATED COMMUNITY: A CASE STUDY OF ZHONGYUAN TWO-BENDS COMMUNITY IN SHANGHAI

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1 INTRODUCTION

1.1 REAL ESTATE DEVELOPMENT WITH CHINESE CHARACTERISTICS

China started housing reform in 1992, abolished the welfare housing sharing in 1998, and ushered in real estate boom since then. China started housing reform in 1992, abolished the welfare housing sharing in 1998, and ushered in real estate boom since then. China's newly started residence area is 166.37 million square meters in 1998, 244.01 million square meters with residence complete achieving 2,139,702 in 2000, and 551.85 million square meters with residence complete achieving 3,682,523 in 2005. Under the state-owned urban land system and the land leasing system, large-scale demolition and construction became a common phenomenon. Taking Shanghai as an example, the quantity of residence expropriation is 386,430 with the area of 14.68 million square meters between 1995 and 1999, 359,545 with the area of 18.68 million square meters between 2000 and 2004, 317,176 with the area of 37.56 million square meters between 2005 and 2009, 138,708 with the area of 9.19 million square meters between 2010 and 2014.

This large-scale space production model caused spatial differentiation, which is one of the most important reason for gated community. From 1999 to 2004, 83% communities in Shanghai became gated communities (SONG Mi, 2015). Gated communities ensure the management and operation, while become isolations separated from the urban context. Meanwhile, with the development of technology, and the increase of land prices and housing prices, the residence development intensity showed an increasing trend.

Compared with the previous multi-storeys residence district, which floor area ratio is usually not more than 1.7, the floor area ratio of high-rise and high intensity communities, which is the mainstream now, is always more than 2.5, or even reach 4.0(LI Jiangyun & WANG Hongjie, 2015). But in fact, the floor area ratio of the residential area should not be more than 2.5 according to code for planning and design on urban residential areas(GB50180-93). In 2003, the fifth Shanghai planning meeting also suggested that the floor area ratio of residential area should be under 2.5 in central city. Newly built high-intensity communities meet people housing demand, but bring challenge to urban infrastructure and public service facilities. Higher intensity communities do not mean more liveable community life.

High intensity gated community as the main form of community now will exist for a long time in the city. It shows great significance to find the better way of public space construction to create better public life. The State Council pointed out in Comments on Strengthening Urban Planning and Development Control that urban blocks system will be promoted among newly built communities and gated communities will not be

constructed further in principle. The Quito Paper also appeal for transformation from gated community to open city. It's important to promote in at least two levels — urban and community - to create better public life.

1.2 DEFINITION

1.2.1 PUBLIC SPACE AND PUBLIC LIFE

Public space in community is generally understood as what between the residential buildings, such as squares, green space, public buildings and every other thing considered as part of the built environment. In a board sense, public life is everything that take place between buildings (Gehl J, Svarre B., 2013, p.11). Tonnize suggested that there are four conditions for community formation: social network, relatively independent area, complete public services and the sense of value identity.

1.2.2 HIGH INTENSITY COMMUNITY

Floor area ratio is an important indicator of the development intensity of commercial residential area. The higher the floor area ratio is, the higher the intensity of land development. According to the Urban Residential Area Planning and Design Specifications (GB50180-93) in the high-rise residential area floor area ratio of not less than 2.0. In general, the higher the floor area ratio is, the higher the residential buildings are, and the lower the building density is. According to the Residential Design Specification(GB50096-2011), the height of residential buildings is always no more than 100 meters, or the design and construction standards will be stricter, because the building over 100 meters are defined as the ultra high-rise building.

1.2.3 GATED COMMUNITY

Gated community is 'walled or fenced housing developments, to which public access is restricted, characterized by legal agreements which tie the residents to a common code of conduct and (usually) collective responsibility for management' (Atkinson & Blandy, 2005, P.197). It's an important type of communities in a number of cities all over the world.

1.3 AN OVERVIEW OF ZHONGYUAN TWO-BENDS COMMUNITY

Zhongyuan two-bends community located along the Suzhou River in Shanghai, where used to be one of the largest shantytown. Shanghai started large scale transformation of old urban residential districts in 1992, aiming to finish 3.65 million square metres replacement before 2000 (Figure 1). Zhongyuan two-bend community was built in 1999, and was completed in 2005. The community covers an area of 49.5 hectares with a total construction area of 1.6 million square meters (1.4 million square meters' buildings are residential buildings) and a population of 35,800.

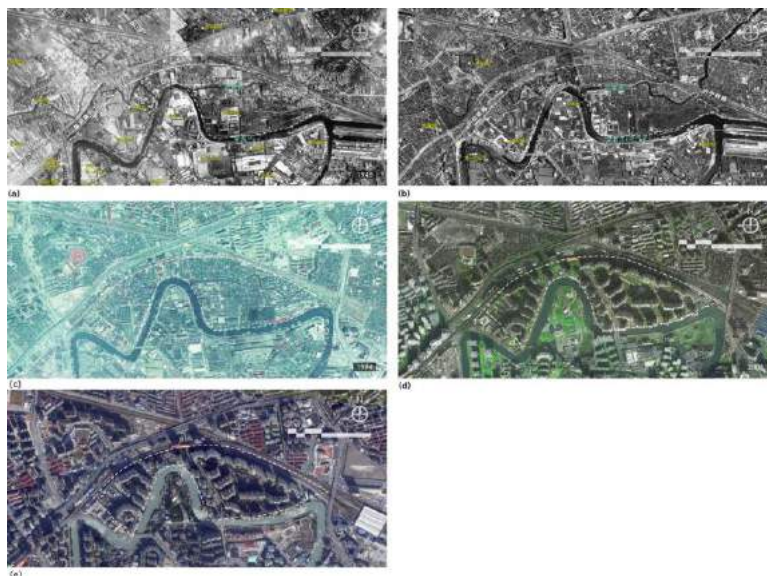


Figure 1 - Historical Map of Zhongyuan Two-bends Community Site
 (a) in 1948 (b) in 1979 (c) in 1994 (d) in 2006 (e) in 2016 Source: Tiandi Map Shanghai and Google Earth

2 PUBLIC SPACE SHAPING IN COMMUNITIES

2.1 THE OVERALL LAYOUT OF PUBLIC SPACE IN THE COMMUNITY

2.1.1 SPATIAL FEATURE

As a high intensity community, Zhongyuan Two-bends Community faces the contradictions between living quality and high floor area ratio, public services and the population, design specifications such as the sunshine requirement and sum of buildings and so on. From the perspective of spatial arrangement, there three main feature: mix of building types, clear layout of open space and human scale space created by skirt buildings (Figure 2 and Figure 3).



Figure 2 - The Sketch Map of Zhongyuan Two-bends Community



Figure 3 - Photos of Zhongyuan Two-bends Community

It adopts the way of mixed arrangement, that is, instead of row-layout of board buildings, it combines board high-rise buildings with the point-type high-rise buildings to make the overall space well-arranged. The cluster of board high-rise buildings confines the important public space. It's a kind of transform of figure and ground, which is good for balance the building and the space outside. As for the layout of open space, there are three key open space: entrance square, waterfront space and green open space of residential group. From the perspective of spatial experience, the differences between urban space, community open space and more privacy residential group are significant. It ensures the quantity of public space and helps the residence to build the sense of identity. As for the quality of public space, both the green space and the construction of skirt buildings are helpful to assuage the stress from the board high-rise buildings. What's more, the design of skirt buildings, sky bridge, spatial corridors and so on enriches the spatial experience of pedestrians.

Overall, at least for physical space itself, there are public space design methods worth learning about. But the community itself cannot be separated from the whole city. Traffic problems and lack of public service caused by the high intensity still remains unsolved.

2.1.2 PHYSICAL ENVIRONMENT

Sunshine condition, nature ventilation and noise control are important factors that affect the physical and physiological living quality. Through modelling and analysing by Ecotect and Windperfect, this paper tried to find the physical environmental feature of high intensity community, wondering whether the high intensity will decrease the quality of physical environment.

Zhongyuan two-bends community is located in 121 degrees 20 minutes east longitude and 31 degrees 15 minutes north latitude. Shanghai belongs to hot summer and cold winter climatic region, whose summer is muggy, while winter is raw and wet. Favourable orientation helps residential lighting and natural ventilation. The optimal orientation of residential buildings in Shanghai is 10 degrees south by east, while the most unfavourable orientation is 80 degrees north by east (Figure 4). Thus there are lots of east-and-west facing residence in the community. And it's a common design method that turning the buildings at a slight angle on the plans will get richer open space. The residential in Shanghai need to follow strict requirements of sunshine, building interval and so on to ensure the physical environment of every apartment. As for the physical environment of the open space (figure 5), the total solar radiation is higher around point-type high rise buildings than around board high-rise buildings clusters. And the major open

space of the community has an appropriate amount of solar radiation. And trees and structures are used to provide shade for the residents.

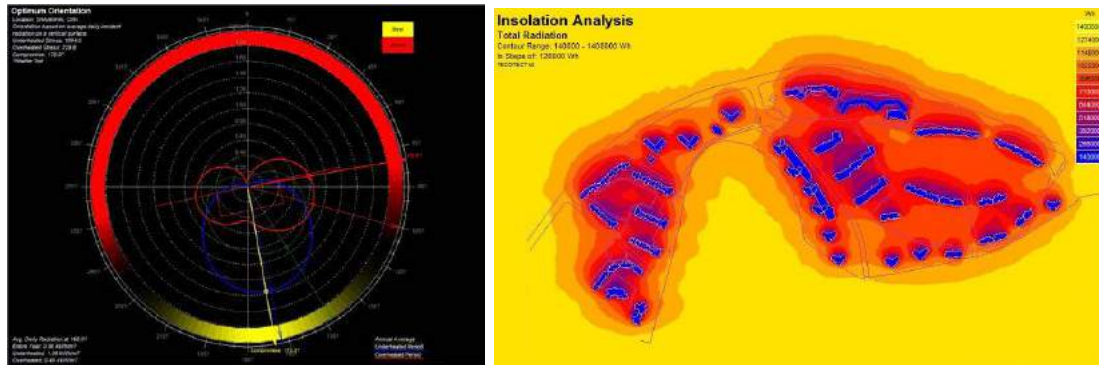


Figure 4 - Optimum Orientation of Shanghai | Figure 5 - Total Solar Radiation of Zhongyuan Two-bends Community
 Source: Provided by Yuhui LIN

As for the wind environment, Shanghai prevails southeast winds in summer, while northwest wind in winter. This paper calculated the air flow rate at 1.5 meters high of Zhongyuan two-bends community (Figure 6). The majority of the roads run northwest-southeast, which will force the wind through the community to lower the temperature in summer. And the board high-rise buildings in the north of the community will keep the northwest wind out of the community in winter. And the skirt buildings reduce wind speed at 1.5 meters high to make the public space of the residential group more comfortable. The overall layout of the community can have a great influence the microclimates. According to the interview with the residents, most of them are satisfied with the wind environment.

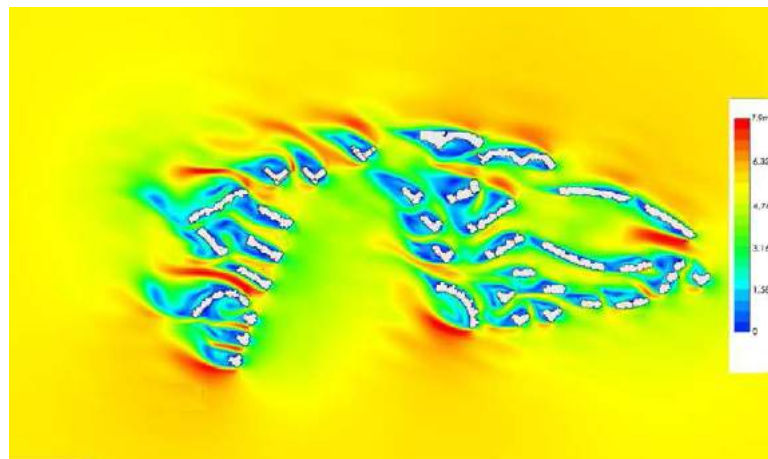


Figure 6 - Air Flow Rate of Zhongyuan Two-bends Community

As for noise control, its north neighbourhood is the inner ring line and metro line 4, which can be an important noise source. The overall layout of the community intended to arrange board high-rise buildings in the north of community, acting as an acoustic barrier. This approach effectively guaranteed the acoustic environment quality of most area, but the residents living in the north of the community are living in a high level of noisy environment.

Overall, thanks to the design specifications, the physical environment in the communities can always be protected. What's more, it's possible to improve the physical environment by design methods such as ingenious skirt building design, reasonable green space layout system and so on.

2.2 PUBLIC SPACE DESIGN OF A RESIDENTIAL GROUP

As a super block community, there are several housing residential groups, which make it possible that it can make a compromise between super block mode and small-and-open block mode. Taking one of the

residential groups as an example (Figure 7), the methods used to create public space are worth learning. Five board high-rise buildings and their skirt buildings confine two main courtyard. The large courtyard, where the activities are concentrated, has plenty of gym equipment, benches and other interesting structures. Thus the interaction between green space and surroundings is positive. Although the buildings around the courtyard are almost 100 meters high, it does not make pedestrian stressful for the trees and other structures provide them with a better visual context. There is also negative space in the residential group. But the case of this residential group at least proves that it's possible to create high quality public space in a smaller block, while meeting the requirements of intensity at the same time.



Figure 7 - A Typical Residential Group of Zhongyuan Two-bends Community

3 PUBLIC LIFE CREATION IN COMMUNITIES 3.1 NEIGHBORHOOD COMMUNICATION IN PUBLIC SPACE

The boundary of gated community cut off from the urban fabric. In the gated community often causes the fragmentation of social space, while the space privatization often leads to the segregation of residents. What's more, the block scale can influence the interpersonal interaction. This paper tried to analyse neighbourhood communication in public space through behavioural observation, chat and analysis of social media topic.

What they care about on social network, is emotional expression of daily life, feeling of environmental transition of the block and time-efficient city event, such as dragon-boat racing on the Suzhou river around their apartment block and news events happened in the community. It has been more than 10 years since the community was completed, thus the residents have already created the feeling of identification and belongingness. As for the daily life of most residents, their activities are centred inside the community, and the entrance square, waterfront space and green open space of residential group are the most frequently used place. From 2 pm until 4 pm, there will be a majority of residents gathering around gym equipment or in the shade of trees and many public activities taking place in the public space (Figure 8). The residents who often stay in public space are primarily old people and children. And the interaction is limited among them for the limited form of activities. This meant that the design methods used to create public space in Zhongyuan two-bends community is effective. The comfortable open space indeed leads to spontaneous activities and social activities.



Figure 8 - Activities Happened in Zhongyuan Two-bends Community

During the last ten years, Zhongyuan two-bends community was well known for group-renting dwelling phenomenon. At that time, an apartment was divided into several parts and was leased to 8-30 tenants. And there were about 2000 tenements in the worst time. The reason is that investment-driven clients tried to shelter from risk in house pricing regulation and earn huge profits through group-renting dwelling. Group-renting dwelling phenomenon is not only a challenge to community security, but also harmful to the community identity and the community public life itself. Nowadays, after problem-addressing action took by resident volunteer, property management company and the police, group-renting dwelling phenomenon is almost disappeared from the scene. In such a context, entrance guard seems good for community governance. The community need a compromise to balance between community governance, security and urban vitality and publicity, which need a combine public space construction with building community.

3.2 DIFFERENT MODES OF PUBLIC LIFE IN LILONG HOUSING, WORKER HOUSING AND HIGH INTENSITY GATED COMMUNITY

There are three main types of residential area in central Shanghai, Lilong housing, Worker housing and what this paper mainly discussed—high intensity gated community, according to the time sequence. Different types of public life show in different types of community, for the differences existing in spatial organization and social organization.

After Shanghai opened as the treaty port, Lilong housing, which absorbed the advantage of row house in Europe and adapted to local lifestyle, became the mainstream type of residential buildings in order to intensively utilize land sources to deal with population explosion. Lilong housing is a kind of small and open block mode, which makes the residential area more harmony with the urban fabric. The spatial organization of Lilong housing is characteristic —— the density of buildings is high, the quantity of public space is low, the total number of piles of it is often 2-3, the passage between buildings is always narrow. Thus, the lines between private space and public space always blur. Because the area private space is not enough, the sharing of “kitchen” and “laundry” is a common phenomenon. This mode of spatial organization leads to frequent contacts among neighbourhood and the formation of “street eyes”. Put another way, the contacts are so close that sometimes cause neighbour conflict. What’s more, the quality of built environment in Lilong housing is indeed not good enough, lacking of enough open space, especially green space. The mode of public life in Lilong housing is worth learning, while Lilong housing is not the first choice to settle life now.

Worker housing played a vital role in residential areas in 1950s, based on special urban construction and institutional improvement background. Working housing was an important part of institutional improvement. It gave workers a strong sense of community identity and greatly improved the quality of living conditions at that time. Compared with Lilong housing, worker housing has a lager scale, with higher multi-storays buildings, lower building density and higher intensity. And a considerable amount of worker housing is gated. Its contacts with the surrounding environment benefited from the special social organization, cause the residents is kind of homogeneous groups. However, compared with high intensity gated community, which was gradually becoming mainstream in 1990s, worker housing has a smaller scale and lower

intensity. As a whole, the street, square and green space in working housing are important and vigorous place for public life. And actions like tiny-regeneration in communities are improving the environmental quality, the interactions between people and the environment and space utilization.

In a certain sense, high intensity gated communities nowadays won larger private space and per capita open space area at the price of losing truly community life. It's not mean high intensity gated communities is the history of regression, which is a preferred choice for many people, but it can be better.

4 DISCUSSION

4.1 FROM GATED COMMUNITIES TO OPEN CITY

The Athens Charter suggest that High-rise apartments placed at wide distances apart liberate ground for large open spaces, which is just the scene showed in most high-intensity communities. With the growth of gated communities and car-centric streets, people earned more space at the price of the lose of community life and street vitality. The New Urban Agenda suggested to support the provision of well-designed networks of safe, inclusive for all inhabitants, accessible, green, and quality public spaces and streets. Chinese government also encourages small- and-open block mode recently. Compared with the super block mode, the small-and-open block mode integrates the communities and the urban environment around it. Instead of cutting off the traffic connection, the road system of the community in small-and-open block mode will be connected with the urban road network, which may ease the problem of congestion. What's more, it will be help for the sharing of public service between the communities and the whole city. And the resources will not be privatization, but belong to the whole city. For example, the riverside of Suzhou River is occupied by lots of real estate projects, one of which is Zhongyuan two-bends community. It's a pity that the resources of waterfront is privatization. Although there will be lots of barriers before breaking down the bounding wall of the gated communities, and it's not a "one size fits all" way that is suitable for every community, once the communities become part of the open city, the situation will change so much.

4.2 FROM COMMUNITIES TO "OUR HOMELAND"

What residents want from the communities is not only material space one satisfied one's physiological needs, but also community identity to satisfied one's spiritual needs. On the one hand, the residents living in gated communities also need the interaction space to perceive others emotions and built community identity. During the process, different social roles are involved. On the other hand, the drivers of the cities are complex, including economic momentum, social dynamics and so on. The transformation from our community to "our homeland" need the integration of dynamics.

In 2015, Measures for the implementation of urban regeneration in Shanghai presented the concept "urban organized renovation", of which the core is people-oriented space reconstruction and activation of the communities. And the Shanghai Spatial art Season promoted the idea of tiny-regeneration, which combined the top-down and bottom-up mode of planning and involved governments, developers, planners and residents. It's an attempt to move up from public space construction toward building communities.

5 CONCLUSION

The production of space is one of the most important driver of urban regeneration, with it improving the quality of traditional urban space, enlarging the quantity of public space and promoting residential condition. But it's unavoidable that the super block created by the process of urban regeneration made the "community" too large for residents to feel and decreased the richness of public life to some degree. Taking Zhongyuan two-bends community as an example, the design methods it used did create the high quality public space, but it does not equal to high quality public life for it missing the social aspects.

When the designer or the developer focus on the comfortableness and beauty of the space, it's worth to take the people in public space into account. On the one hand, it's not enough to just focus on the

community itself, ignoring the urban fabric around. Small-block mode maybe improve the situation that the community itself is always separated from the city. It will help the community sharing the public service with the whole city, and strengthen communication among the people at the same time. What's more, from the perspective of urban planning system, adding directive criterions and leading design principles at the stage of regulatory plan will be helpful. On the other hand, the self-organization of the community is also important. Favourable operation organization will improve the public participation of community making and the richness of public life it self. Once the residents are the maker of the public space instead of passive participants, the public space will own the most powerful endogenous dynamic.

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ID 1477 | URBAN CODES INDUCING STREET LIFE, A POSSIBLE APPROACH FOR THE BRAZILIAN CASE

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1 INTRODUCTION

Brazilian cities have experienced several cycles of transformation, which ultimately altered these places from colonial fabric to modern agglomerations and metropolitan regions. Population figures are still rising and the urbanisation ratio as well. There is nothing particular about those processes; it is a general trend observed in most countries of the world. What typifies the Brazilian case is that the country has an enormous income disparity that results in different ways to deal with urbanisation and expanding cities network. Perhaps the most striking feature of the major Brazilian cities, in general, is the social and spatial segregation and its impact on street life.

This paper is based on research developed for a master thesis (Carvalho Filho, 2014) in 2014 , that currently is further explored in a PhD study. The research aims to explain the effect of the relation between private and public spaces on urban dynamics. In particular, it will assess to what extent the spatial configuration of this boundary contributes to street life and urban vitality. This study addresses the current set of formal and informal planning institutions to discuss the way plots, buildings and blocks incrementally shape urban spaces and on the other hand how space impacts on human behaviour. So far, the case studies will be in Brazilian cities.

The historical context in the use of public spaces of Brazilian cities and the ongoing debate about the extent of street life and urban dynamics currently observed are inherited characteristics of a colonial past (Leitão, 2009), add specific questions to the discussion about public spaces and public domain. Is it a process that goes beyond the reach of urbanism?