### Urban "Home" for the Great Urban “Outcast”

Developing "Normalized Urban Residential System" in Second-tier City Changsha for the Low-income Migrant Workers

<table>
<thead>
<tr>
<th>INTERFACE</th>
<th>ENVIRONMENT</th>
<th>INFRASTRUCTURE</th>
<th>SURROUNDING PROGRAMME</th>
<th>RESIDENTIAL PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN SCALE</td>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
</tr>
<tr>
<td>LOCAL SCALE</td>
<td><img src="image5.png" alt="Diagram" /></td>
<td><img src="image6.png" alt="Diagram" /></td>
<td><img src="image7.png" alt="Diagram" /></td>
<td><img src="image8.png" alt="Diagram" /></td>
</tr>
<tr>
<td>RESIDENTIAL SCALE</td>
<td><img src="image9.png" alt="Diagram" /></td>
<td><img src="image10.png" alt="Diagram" /></td>
<td><img src="image11.png" alt="Diagram" /></td>
<td><img src="image12.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

HU Tuofu
Student Number: 4046374
Complex Cities
Faculty of Architecture, TU Delft
Email: hutuofu@hotmial.com
Tel. 0031626317907
Urban "Home" for the Great Urban "Outcast"

Developing "Normalized Urban Residential System" in Second-tier City Changsha for the Low-income Migrant Workers
Acknowledgement

I am heartily grateful to my first mentor, Dr. Stephen Read, whose encouragement, guidance from the initial to the final level enabled me to develop an understanding of this project. I am also sincerely thankful to my second-mentor, Prof. Henco Bekkering, for the support and assistance he gave me throughout the study. I am sure it would have not been possible without their helps.

Last, but by no means least, I offer my regards and blessings to all of those who supported me in any respect during the graduation project.

HU Tuofu
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>6</td>
</tr>
<tr>
<td>2. Problem Definition</td>
<td>8</td>
</tr>
<tr>
<td>3. Problem Statement</td>
<td>26</td>
</tr>
<tr>
<td>4. Aim</td>
<td>26</td>
</tr>
<tr>
<td>5. Research Questions and Sections</td>
<td>27</td>
</tr>
<tr>
<td>* Research Section 1</td>
<td>28</td>
</tr>
<tr>
<td>* Research Section 2</td>
<td>33</td>
</tr>
<tr>
<td>* Research Section 3</td>
<td>36</td>
</tr>
<tr>
<td>* Research Section 4</td>
<td>59</td>
</tr>
<tr>
<td>* Research Section 5</td>
<td>188</td>
</tr>
<tr>
<td>* Research Section 6</td>
<td>192</td>
</tr>
<tr>
<td>* Research Section 7</td>
<td>225</td>
</tr>
<tr>
<td>6. Appendix</td>
<td>233</td>
</tr>
<tr>
<td>7. Bibliography</td>
<td>242</td>
</tr>
</tbody>
</table>
Chinese urbanization is “Fake-urbanization”, because cities failed to accept the qualified rural migrant workers as urban citizens. It is urgent and necessary to cover all population who live and work in urban area with basic public services, especially the rural migrant workers and their children.


1. INTRODUCTION:

MAIN PROBLEM:
- Residential system - Fake urbanized situation

TARGET GROUP:
- Low income Migrant Worker

TARGET CITY:
- Second-tier city in China: Changsha

MAIN CONTEXT:
- "Hukou" System
- Post-socialist market economy

MAIN INSTRUMENT:
- Public realm related to the residential system

MAIN GOAL:
- Normal urban residential place
- Normal urban life

This graduation project tries to make a proposal on how to develop normal urban residential places for migrant workers, in order to help them to organize their normal urban life in urban area.

For clarity, the research is divided into seven parts: In first part, the study compares the argumentations on two streams of possible solution, to presents author’s position: the practical contextualized solution is more feasible and possible, and potential than the ideal universal solution; In second part, base on the position, the research find out the normal urban life for migrant worker means the livelihood and chance to live with urban population. the migrant worker-used residential places do not only provide housing for them, but also related to public spaces for livelihood and communication. The public realm is the interface between migrants and urban population. In third part, by case study of Chinese historical and contemporary normal residential system for urban population, the research find out there are public realm in those system to organize the interaction, and there hierarchy in the structure of public realm. They also form the basic structure of migrant worker-used residential places. In fourth part, by case study of three typical migrant-used residential places, the study shows the public realm positively organize the migrant workers urban living. In fifth and sixth parts, the strategy is developed, which focus on transforming the interface (public realm), to upgrading the MW-used residential places to normal urban residential system, to help MW achieve normal urban life. The planning and design choose one case from part four to test the strategy. In last part, the evaluation evaluates the strategy in relation with the expectation, author’s position, the flexibility of strategy by draft testing on other two locations.

The "migrant worker" (MW) is a new social group in contemporary Chinese society. After the "reform and opening-up policy", China stepped into post-socialist market economy; the rural migrant workers floated into urban area and became the irreplaceable force in economic development. Unfortunately, the Chinese "Humour" system did not accept this population as normal urban citizen. Their rights had been limited and they cannot have normal urban life. The term of "fake-urbanization (or under urbanization)" had been used in sociology and political documentation to describe the problematic situation of migrant workers.

In the field of urbanism, the migrant workers urban residential problems directly reflected the fake-urbanized situation. They are not acknowledged in urban residential system for urban population (UP), but they still try to make use of the existing residential places in urban area for themselves.
Fig. 1.1: City is not the home for migrant workers. In Chinese New Year, the only vacation for MW, they can return their real home in rural area. (Image: http://news.sohu.com/20100413/n271476083.shtml)

Fig. 1.2: MW has been treated as temporary population in city. There are few urban sub-systems for them. The picture shows they have to wait on street and use informal way to find jobs. (http://image.club.china.com/1116332/2009/2/1234065745114.jpg)
2. PROBLEM FIELDS:

In order to understand the MW residential problem, two crucial contexts must be clarified: one is P.R.C. "Hukou" system; the other is "Migrant Worker":

What is "Hukou" system?
The Chinese "Hukou" (Household Registration) system is a population registration system for defining the legality and citizenship of people in P.R. China. It is currently regarded as the root of all MW's problems (Ai, 2005). There are many figures; however, two of them directly influence the MW's destiny: First, it is a territorial registration. People can only have social benefits in their registration place. If they leave to other place without changing the registration, they cannot have local social benefits. In fact, there are only few people could qualify the conditions for changing registration; Second, it is a registration setting up differentiation of population. Before 1978, the registration was a hierarchical system distinguishing "Cadre" class from the "Mass" class. After 1978, The original definition has been blurred, but politically, it still emphasizes the difference of "agriculture population" and "non-agriculture population"; territorially, it strongly limited the rights of "outside population" to protect the "local population".

What is Rural Migrant Worker?
"Floating population" is the term to describe those who live and work in a place without the local "hukou" registration. "Migrant worker" is the majority of "FP". It is the concept to present the people who hold the "agriculture population" registration, but come to urban area and take non-agricultural jobs (Changsha MW low-rent housing research team, 2005). According to "Hukou", MW are the urban outsider from rural area, they are not accepted by the urban system and cannot have urban social benefits (Fig. 2.1).

M.W. is the new type of labour after 1978. They come to urban area simply because the non-agricultural jobs in city can offer them better income than agricultural work in rural area. Some of them only work in city in slack season and return home when new round of agriculture start.

But most of them stay in urban area searching for long-term employment, returning home only in Chinese New Year for a short rest (State Council, 2006).

They are currently working in all fields. Because of their education level, most of them can only take the hard and dirty labour jobs. They can be found in second-industries, such as construction worker and industrial factory worker, which drastically contribute to the urban GDP; and they can also be seen in third-industries (service industry), such as food service, entertainment, environment service, etc. which directly benefit the urban population (Fig.2.2). They are already the essential population and irreplaceable force for economic development.

Population in urban Area / Overall population = 44.9%
Non-agriculture population / Overall population = 32.93%

0.15 Billion populations are Migrant Workers!

Although they are extremely important to city, the "hukou" system strictly limited their rights. Their incomes are lower than the urban average without any assistance from the urban indemnificatory system; they are also living separately from the urban population when the urban environments are developed based on the interests of "UP". The residential problems they suffered are the typical reflection of the negative influence from "Hukou" system.
Fig. 2.1: Illustration of "Hukou population", "Floating population" and "Rural migrant workers". The rural migrant is the people who have rural household registration but live in urban area and take non-agriculture job. (Diagram by author)

Fig. 2.2: MW is needed in all fields in city. They are the irreplaceable population in urban development. (Source: google image, public resource)
What is the MW residential problem on National Level?

The academic research and political documentation use "fake-urbanization" or "under-urbanization" to illustrate migrant workers poor situation: because of the "Hukou system", they stay and work in urban area, making the same and even greater contribution to urban development, but cannot have normal urban life as the "urban population" (State Council, 2006).

There is a dual-structure in Chinese cities for M.W. and U.P. separately. For the local, they are protected by many policies. As a result, even the urban poorest population have possibilities to enjoy the basic urban life; for the MW, they seem to be urbanized since they work and long-term stay in city, and have higher income than people stay in agricultural filed. However, the urbanization level is much lower than UP, when they cannot be politically, socially accepted.

In the field of urbanism, MW's residential situation is also "fake-urbanized" or "under-urbanized". The problem can be perceived from

1. There is no urban residential planning for MW (Fig. 2.3)

According to "Hukou", the urban system only focuses on the interests of local U.P., but do not considerate the good of MW. As a part of urban system, the residential system naturally ignores the MW.

After 1978, the urban planning established "Shequ system" (community system) for UP. It is a gated residential compound named as "Xiaqiu" (small residential district) with relevant governance and public services. The U.P. acquire their residence through market of indemnificatory system. For the, MW, they are not acknowledged by "Hukou" and they are low-income, therefore it is not possible for them entering both fields to get the urban residence (Yang, 2010).

From the government angel, the MW are part of the urban residential system. They cannot have normal urban residential place as UP. As a result, it is hard for them to live as normal as other UP.

---

Fig. 2.3: MW is not part of the urban residential system (diagram by author)
2. MW themselves make use of urban existing places (Fig. 2.4)

Although the city do not positively solve the MW's residential problems by offering formalized urban residential places, the MV have to figure out the way of living for themselves. Most of them try to make use of the urban existing residential places (UERP)

The Chinese State Council made investigation with a group of MW on their residential situation, which can partly reflect the uncomfortable status: there are still more than 10% of MW cannot find any living place; For those who use the existing place to stay, we can find the conditions are developed for temporary living: Almost one third of them stay in Dormitory, which is initially created for the efficient industrial productivity. it is the place without sufficient private space; The private rent housing do not have sufficient daily facilities; Many of them live in their workplace, for example the MW work for retail or restaurant, they stay in shop as the keeper during the night, which help them to save the residential cost.

Investigation also proved that most of them found those poor neighbourhoods by themselves or partly with the helps from their employers (Zhang & Liao, 2009). Government and urban residential system do not in responsibility or provide any assistance during this process.

From MW’s angel, the way for MW accommodating themselves in City is full of uncertainties and provisionalities. They do not have the ownership of spaces; therefore, they may lose their living space easily, which consist their sense as the "outsider".

---

Fig. 2.4: Investigation of MW residential condition. MW try to fit themselves into urban residential system. The conditions are extremely poor (image: http://sh.house.163.com/special/000746FA/nmgjz.html)
What is the spatial, social and political condition of MW-used residential places in general?

Investigation also shows that the existing MW-used residential places have many similar problems. The complexity can be catalogued into three aspects:

Aspect 1: Poor Spatial Quality
On the urban scale, the surrounding urban spatial development were directed by the market, and become neither the commercialized housing as the gated residential block for people with similar economic condition. Or the public space for generating urban GDP. On local scale, those spaces were designed for original social organization. Local people may made modification to increasing the capacity of space, but without balancing the spatial quality. Those places have certain problems in openness, transparency and accessibilities. (Fig. 2.5)

Aspect 2: Social Segregation
The differentiations within some migrants, between the migrants in poor neighbourhoods and the urban population in surroundings, gradually became extreme. On one hand, the local do not have many chances to know the new social class, except seeing them at their workplaces; On the other hand, the migrants do not really regard themselves as the urban people. They come to city to earn money and do not care about their living space.

Aspect 3: Problematic Governance
The core layer of poor neighbourhood is the problematic governance. The migrant workers have been treated as the outsiders and they only rent the poor neighbourhoods from the local. The government provide governance for the original urban citizen of poor neighbourhoods, but not to organize the migrants’ activities.

Sum-up National Level:
The MW residential problem is a national problem with two sides. From the top-down perspective, the planning system failed to help the M.W.; from bottom-up, the M.W. has limited choice in urban existing residential places. The national problem is also reflected on urban level, with local figures.
How does the problem reflect on Urban Level?

The MW residential problems are different from city to city. Many specific points in these problem fields have been discussed deeply in first-tier city in China, but the discussions in second-tier city is still weak. The author choose the second-tier city - Changsha - to see how the national problem be contextualized.

Information of Changsha

The commonly agreed definition is based on the comprehensive evaluation of political hierarchy, urban spatial scale, population, economic developing level, and urban GDP.

Based on that, “Second-tier cities” include the capital of province, famous tourist cities, central cities in certain regions, etc. First-tier city indicates the biggest cities which had strong political, economic and social impacts on national scale. Accordingly, Second-tier cities have regional scale influences. Changsha is the Capital of Hunan Province. As one of the famous historical cities and economic engine of Hunan Province, it is a typical second-tier city at the leading position of provincial development.

(Figure: Established: 206 BC / Area (2008): Regional 11,819 km2 & Urban 598 km2 / Population (2008): Regional 6,557,300 & Urban 2,365,800 )
Strategic Role of Changsha

On urban level, Changsha is the second-tier city keeping on strengthening the industrialization level. The city is also famous for the third industries such as food service, entertainment, tourism, etc. The growing city has huge demand of labour, the migrant workers are needed. The data of population structure shows the importance of MW for this city. One sixth of the entire population is migrant workers; the bureau of statistics Hunan province (2010) proved that the number is still increasing. The data of MW's working fields shows the city provide working opportunities in both second and third industries (Fig. 2.7). Together it is easy to find out the MW forms the economic and social function of the city.

On regional level, Changsha is the working centre in Hunan, which benefits the rural population from this province. From the data we can find more than 30% of MW are from metropolitan Changsha, together there are more than 80% of MW come from Hunan. Less than 20% are from other provinces nearby. The city is essential for transforming the rural population on regional level (Fig. 2.8).

On national level, second-tier cities have long-term effect in homogenizing the population. Although there is no official policy to clearly support the "developing second-tier cities" idea, the relationship between "developing small cities" and "floating population" has been widely discussed for decades. Chinese scholar Fei Xiaotong argued that the "small town" is the "reservoir" of population. Instead of moving rural population to the biggest cities, he suggested accelerating the Industrialization and Modernization of small towns, in order to upgrade the quality of population (Fei, 1996). The report of "2008 Competitiveness of Second-tier City" (2008) claimed that the second-tier cities play crucial roles in urbanization, transfer of industries, and transformation of agriculture population to non-agriculture population. On national level and long-term level, the second-tier is the important backup for the first-tier city (Fig. 2.9).

![Population structure and MW working fields](image-url)

Fig. 2.7 Up: Population structure / Down: MW working fields (data, bureau of statistics Hunan province / diagram: author)
Fig. 2.8 Hukou registration place of MW in Changsha (data, bureau of statistics Hunan/ diagram: author)

Fig. 2.9: The NASA map partially represented the level of urban development. Second-tier city Changsha is a city has potential to concentrate more population (image: antwrp.gsfc.nasa.gov/apod/ap020811.html)
What is the MW residential situation on urban level?
The urban level problem directly reflected the problem on national level, which can be perceived from two aspects:

1. Insufficient governmental formal solution:
One of the advantages of second-tier city is the central government allows the local government to implement experimental strategy form MW. The local government have power to make specific policy for MW based on local condition but strictly under the "Hukou" framework.

As a result, although the "Hukou" still does not admit MW in residential system, the government can experiment a independent formal MW residence. Unlike the first-tier city without any formal residence for MW, Changsha government started to experiment low-rent public housing for MW from 2005 (Changsha MW low-rent housing research team, 2005). However, the solution only can help an extremely small group of MW.

The helped MW is merely 1%. The process is also much slower than the growing number of MW.

2. MW Private solution is the main choice:
As the same on national level, almost 90 % MW have to solve residential problem privately and individually without the assistance from the government.

According to the analysis of sociology (Hunan Academy of Sociology, 2008), the MW-used UERP are divided into five catalogues (Fig. 2.8), which also correspond to the findings from national level. Most of them are very poor neighborhoods out of the urban residential system.

Based on the research, the authors study tries to find out the places from the urbanism perspective. The map (Fig. 2.9) shows the location of all the MW-residential places both formal and informs. The following pages will show the details of different types of places.

Fig. 2.8 Up: MW's Residential Situation in Changsha city / Down: MW's Residential types in the private solution (data, Hunan Academy of Sociology / diagram: author)
Fig. 2.9: The map shows the MW-use residential places, including: the formalized solution from the government; and the MW’s self-solution from urban population privately or from their employers. (by author)
1. Ideal Formal Solution: Low-rent public housing

**Nature and Origin:**
* similar to "Shequ" system.

**Socio-spatial Organization:**
* Migrant workers live in the gated compound
* No interaction with urban population

**Governance:**
* For MW: "Shequ" community governance, urban formal governance

**Socio-spatial Characteristics:**
* Gated residential compound
* Green open space as public space
* Apartment as residential building
* Protective residential environment
* MW may suffer segregation from the urban population
Nature and Origin:
* the continuity of urban "Jie Xiang" System.

Socio-spatial Organization:
* Migrant workers and urban poor shared residential and public space
* Migrant workers worked in the public space (shops, restaurant, services, etc.)

Governance:
* For U.P.: Original "Jiexiang" for hierarchical feudalism governance / transformation into "Shequ" system

Socio-spatial Characteristics:
* Hierarchical streets with public function
* Streets as linear public space
* Multi-floor mixed-use buildings along street: ground floor open to the street for services. Upper floors for residence.
* Protective residential environment behind the main street
* Migrant workers highly integrated and mixed-live with local urban population
Shanties in Socialist Urban Area

**Nature and Origin:**
* Transformed "Danwei" compounds

**Socio-spatial Organization:**
* Migrant workers and urban poor shared residential space
* No working place related to the residential area

**Governance:**
* For UP: Original "danwei" for industrial productivity / transformation into "Shequ" system

**Socio-spatial Characteristics:**
* In socialist urban area
* Shanty in walled and gated compound
* Mono-functional flats, some residence reuse the ground floor for service.
* Limited open space and public facilities
* Migrant workers only integrated with urban poor population

---

Figure: Satellite map

Figure: Streetview

Figure: Location of "Shanty in Socialist Urban Area"
Village within City

**Nature and Origin:**
* Transformed Chinese village

**Socio-spatial Organization:**
* Migrant workers and villager shared residential and public space
* Migrant workers worked in public functions

**Governance:**
* For Villager: Original Rural Committee / Transformation, continuity of Rural Committee governance (not urban governance)

**Socio-spatial Characteristics:**
* in-between socialist and post-soc. urban area
* Open streets, but without clear hierarchy.
* Single and multi-floor village style buildings, the ground floor open to streets.
* Limited open space and public realm.
* Strong differentiation from the urban spatial surroundings.
* Migrant workers stay with local villager and isolate from urban population.

*Figure: Satelitte map*  
*Figure: Streetview*  
*Figure: Location of "Village within City"*
Shanties on Urban Periphery

**Nature and Origin:**
* Chinese village

**Socio-spatial Social Organization:**
* Migrant workers and villager shared residential and public space
* Migrant workers worked in public functions

**Governance:**
* For Villager: Original Rural Committee / Transformation, continuity of Rural Committee governance (not urban governance)

**Socio-spatial Characteristics:**
* In-between post-socialist city and rural area
* Open streets, but without clear hierarchy.
* Single and multi-floor village style buildings, the ground floor open to streets.
* Limited open space and public realm.
* Spatial fragmentation from urban environment
* Migrant workers stay with local villager and far away from urban population.

---

* Figure: Satellite map
* Figure: Streetview
* Figure: Location of "Shanty village on urban periphery"
Dormitory in Industrial Factory

Nature and Origin:
* Continuity of "Danwei"

Socio-spatial Organization:
* Migrant workers concentrate live together, shared with some poor urban workers
* Migrant workers worke in the factory area

Governance:
* No residential governance

Socio-spatial Characteristics:
* In the socialist and post-socialist urban area
* gated compound integrating housing with work place
* Multi-floors building, many Migrant workers share one room, and share the facilities (toilet, bath room)
* Limited open space and public realm
* Spatial fragmentation, separated from urban environment
Dormitory in Construction Camp

**Nature and Origin:**
* Continuity of "Danwei"

**Socio-spatial Organization:**
* Migrant workers concentrate live together
* Migrant workers work in the Construction camp

**Governance:**
* No residential governance

**Socio-spatial Characteristics:**
* Most construction camps located in new post-socialist area
* Temporary gated compound without facilities
* Single or Multi-floor temporary building with only residential function
* No public space for urban life or interaction
* Spatial fragmentation, separated from urban environment
* No chance to interact with urban population
Rehousing Project for Local Villager

Nature and Origin:
* Modified urban "Shequ" system

Socio-spatial Organization:
* Migrant workers and "transformed villager" (now as urban population) share the living space
* Few MW work in the public space

Governance:
* For the "Transformed Villager": urban "Shequ" system

Socio-spatial Characteristics:
* In post-socialist urban area
* Open homogenized grid space
* Multi-floors building: public function on ground floor, residential function on upper floors.
* The ground space is the main public realm for both MW and UP
* MW integrated with "transformed villager", also have chance to interact with UP from outside
3. PROBLEM STATEMENT:

For the project: The M.W. s urban residential problems can be found on national level and urban level. In each level, the problem has two aspects:

On national level:

* From Government Aspect: The formalized urban planning system only focuses on the interests of U.P. and ignores the M.W.
* From Migrant Workers Aspect: They try to fit themselves into urban residential system by private and informal approaches

On Urban level in Changsha:

* From Government Aspect: although the government starts to make the experimental formalized approach to accommodate the M.W., only an extremely small group of people can benefit from the newly-born solution.
* From Migrant Workers Aspect: Most of them can only make use of poor existing residential places in urban area.

Migrant Workers are “under-urbanized” population. Although they work and stay in the urban area, they are politically and economically out of the urban system. Therefore, they do not have "normalized urban residential place" in contemporary Chinese cities. Socially, they still partly keep their rural community and rural lifestyle, and they do not belong to the urban community for the urban population. Therefore, they can hardly have "normalized urban life" with current existing poor residential conditions. They need solutions to formalize their residential situations in order to find out their own normalized urban life.

For the academic research: the problems of M.W. have been widely discussed in sociology, political study and economics. But in the fields of urbanism, there are many researches focus on the housing system; there are also studies on transformation of one specific residential area, such as Village within City, however, the focus is still the quality of housing. The urban scale perspective of the problem is still weak.

4. INITIAL GOAL

For the project, the initial aim is to create a normalized urban residential system for the migrant workers, where they can be integrated into urban community and have their own normalized urban life. However the aim has two stages:

In the first stage, the research wants to explore the possible directions of solution. The ideal situation is to figure out a universal approach to solve the problem on national level directly. It will be an ideal future new residential system for M.W. as for normal urban population. e. g. The standardized Low-rent public housing may be the choice.

Or, the practical situation is to develop a contextualized approach to solve the problem on urban level. It will be a realistic existing residential system transformed from formal and informal residential places now used by M.W.. For example, the formalization of shanties in urban area and its integration to urban environment may be suitable choice.

In the second stage, after defining the author’s direction, the research wants to develop a strategy to realize the possible new system in Changsha urban context. The planning and design is the key to test the strategy.

For academic research, the study wants an urban level perspective rather than housing level. The urban level research may result in a more systematic; Moreover, the sociology research has made great contribution to the problem fields. Much sociology information can be translated into urban spatial language. The study wants to combine the sociology knowledge with the urbanism knowledge to achieve a coherent socio-spatial solution for the problem.
5. RESEARCH QUESTION AND SECTIONS:

Main Research Question:

* How to develop a "normalized urban residential system", by exploration of a new national universalized residential system, or by formalization and integration of existing residential places, for low-income Migrant Workers in a rapidly urbanizing society, in order to allow M.W. access a "normalized urban life"?

To answer the main question systematically, the research is divided into seven sections:

Research Section 1:
This section explores the debates between "top-down universalized solution" and "bottom-up contextualized solution" for M.W.s' "under-urbanized" residential situations. The "contextualized" direction is chosen after comparison.

Research Section 2:
After defining the trend of "contextualized solution" as the author’s position, this section finds out the possible "normalized urban life (N.U.L.)" for M.W. and the relationship with the possible spatial instrument – public realm.

Research Section 3:
This section uses three cases study of "normalized residential system (N.R.S.)" for U.P.’s "N.U.L." in Chinese historical and contemporary urban context, to understand the structure of public realm and the way of integration. A “three level interfaces structure” concept can be found.

Research Section 4:
This section uses three cases study of "M.W.-used existing residential place", in relation with the "N.R.S." for U.P. and "N.U.L." for M.W. to understand the structure of their public realm. The “three level interfaces structure” concept can be argued and test.

Research Section 5:
The Strategy of transformation is developed in this section by using the “three level interfaces structure” concept.

Research Section 6:
In this section, the planning and design choose the "Village within City" from section 4 to test the strategy. The examination is carried out through the strategic planning, key intervention and implementation.

Research Section 7:
In this section, the evaluation focuses on the socio and academic contribution. The flexibility of the strategy is draft test in other two locations from section 4.
SECTION 1: DEBATES OF SOLUTION

What is the stream of "Top-down universalized solution" and what is the stream of "buttom-up contextualized solution"?

What are the pros and cons of each stream of solution respectively?

What are the realistic political, economic and social contexts for each stream of solution?

What is the author's position between the two streams?

Two main streams of solution:

The problem analysis on both national and urban level has highlighted two sides of the residential problem. On top-down side, the planning system failed to create formal residential system to formally accommodate MW; On buttom-up side, the MW have to make use of the poor existing urban residential places to fit themselves into urban residential environment. Together, they resulted in the fake-urbanized residential situation.

Correspondingly, the urban planners and sociologists argued solutions for both sides.

Top-down: New formal residential system for MW

From the top-down aspect, scholars thought the MW-used urban existing residential place will result in poor urban environment, and cannot help MW to enjoy urban life. The future solution should be new and close to the standard the urban residential system.

Some of them argued it is necessary and urgent for the government to establish a new formal residential system, in order to integrate the migrant workers into urban population’s residential system, to live normally as other urban population (Jin, 2011); Some of them believe it is very hard for the government to be fully responsible to create a new system as the normal system for urban poor and MW (Ye & Yang, 2008); For the research team from local government, although they experienced the failure of some experimental formal solution, they believe by gradually changing the policy, the formal solution, such as low-rent public housing will be the main choice for government to help MW (Changsha MW low-rent housing research team, 2005).

This stream of solution emphasizes the power of government, at the same time, load high pressure to the government.

Buttom-up: Transforming the Existing Residential Places

From the bottom-up aspect, researchers believe the MW-used urban existing residential places are currently the most efficient and useful way to integrate the MW into urban society, and the effect will last for long time.

By detailed research of different type’s residential
places, sociologists proved that each type has many positive meanings in different fields. Some could benefit MW's workplace choices. Some could benefit family migration. Some could save the cost of time and money (Zhang & Miao, 2009); other researchers think the government should not fully negative the UERP, instead of demolishing those places to create an entirely new residential system, they can simply provide guidance to the owner of the residence for upgrading (Zhang, Zhao & Tian, 2005).

This stream of argumentation respects the urban existing situation. It tries to achieve ambitious goal with minimum cost.

**Pros and Cons:**

**Top-down:**

Advantages:
* Universalized: as the normal "Shequ" system for UP, the universal rules can be set up and implemented in all cities in China.
* Formalized: The top-down argumentation presents a ideal structure of future. It is the formalized solution to give MW what the normal UP can have.
* Normalized: by this solution, the MW can make a leap forward of their life in urban area, they can live in the normal space as urban population.

Disadvantages:
* High cost: the government have to be fully responsible and participating in.
* Long time effect: the solution will be very new and innocent. It is hard to help all MW at the same time, but the number of MW keeps on growing.
* Complex: the solution needs the cooperation of all relevant fields. It requires the change of the entire urban system.
* Standardized: the solution may result in the standardized spatial figure, which ignores the power of local context.

**Bottom-up:**

Advantages:
* Contextualized: the solution respects the exiting urban context, which can keep more historical and cultural values.
* Flexible: the solutions can be various when the local conditions are different.
* Low cost: the transformation of existing condition is much cheaper than creating a entirely new residential system.

* Shot time effect: the solution can help the existing places change their conditions quickly to facing the increasing growing number of M.W.

Disadvantages:
* Guarantee of Quality: it is very hard to ensure the quality of solution, when the local contexts are diversified.
* Cooperation and negotiation: the biggest problem in contextualized solution is to balance the interests of different stakeholder. The government and private owners have very different views.

**Realistic Contexts:**

The argumentations must be compared within realistic context:

1. **Political aspect (fig. 2.10):**

According to the existing research(Zhang & Wang, 2006), Fundamentally abolishing the discrimination regulation in Hukou Policy is the key for social integration of the M.W. Other research (Wang, 2005) proved the city should either establish a complete and scientific welfare housing system, or release the essential limitations in Hukou policy, to achieve the integration. But changing the basic rules in Hukou is not a simple job.

Since the founding of P. R.C., the development of Hukou system experienced three stages: First, before 1985, people had free right of migration, which had been protected by the Constitution. Second stage is from 1958 to 1978. The Chinese government strictly controlled the floating of population. In 1985, the policy on household registration was the symbol, and in 1975, the Constitution officially cancelled the regulation of "free migration". The third stage, from 1978, after the "reform and opening-up policy", the "Hukou" system stepped into the period of "semi-opening". In last decade, the social-economical problems, including the problems of rural migrants, triggered a series of reforms, but in "Is China Abolishing its Hukou System," Chan and Buckingham's (2008) argued that previous reforms have not fundamentally changed the hukou system. Instead, it has only decentralized hukou control to local governments. The contemporary hukou system remains to serve as
one of the key institutions perpetuating China’s rural-urban disparity. Therefore, the “universalized solution” is on the opposite side of Hukou system, since the system cannot be changed immediately, it is not possible to create a realistic “universalized solution” for M.W. beyond this context.

2. Economic aspect (fig. 2.11):

The M.W. is a result of the double impact of the market economy and “Hukou” system. They were born and growing up in rural area, they come to the urban area searching for jobs with higher income. Due to the unbalanced development between rural and urban area, their education levels are much lower than the average standard in urban area. Most of them only have chance to find the hard and dirty labour jobs.

Without the protection of political “Hukou” policy, most of them only work informally without contract. The employers make use of the weakness of M.W., and pay them extremely low salary. Their average income can hardly afford the “normalized urban life” for urban population. Moreover, the advanced investigation shows that M.W. save most of their income and send back to their rural home for the pension and the education of their children. The proportion for renting housing in rural area is very small. Currently, it is impossible for most of M.W. afford any private rent housing for the “urban population”. It is an important reason for the M.W. use the private but informal approach.

Based on the background, if the M.W. want to get the formalized solution, it means the government needs to pay very high subsidy for M.W. When the scholars argued on the “Low-rent public housing system”, which is kind of “universalized solution”, they believe that the government have sufficient finance to undertake a national-built housing strategy (Ye & Yuan, 2008). However, for the researcher who supports the “contextualized solution”, they think the government’s current working centre is still boosting urban G.D.P. based on the interests of U.P., it is very hard to ask the government pay more attention and financial supports for the M.W. (Hu, 2005). That is reason why the “contextualized solution” is more feasible for both M.W. and Government.

Fig. 2.10: the reform process of “hukou” system for MW. From the beginning to now, MW slowly gain their basic rights in urban area. (Diagram: by author)
3. Social Aspect (fig. 2.12):

In contemporary China, there are still many differences between the rural and urban area environmentally and socially. The term “dual structure” is used widely to describe the differentiation in rural society and urban society (Sun, 2006). The dual-structures also exist in urban area, the “under urbanized” situation of M.W. is a reflection of it. Although the M.W. work and live in urban area, many of them still keep the rural lifestyle and community. In many of their urban residential places, the rural lifestyle can be clearly found, for example, in many “Village within City”, the farmlands are kept for crops or vegetables; In many reshousing project for the transformed villager, they live in the urban residential compound, but use the green area in public space as farmlands or fields for fowl.

The top-down solution focuses on a ideal formalized urban life for M.W., treating them as normal urban population. However, the gap between the dual-structures has been ignored. For the bottom-up solution, many existing residential places are developed from the rural environment, such as village within city and shanty village on urban periphery. They have been naturally developed as a transitional place between the dual-structures. The contextualized solution can optimize the potentials and transform the existing residential place as a transitional platform for M.W. to be integrated into urban community.
CONCLUSION: POSITION OF AUTHOR

No universal solution, the problem must be contextualized:

According to this research on the essence of both top-down universal solution and bottom-up contextualized solution, by comparing the pros and cons of both solutions, and putting the both argumentations in realistic political, economic and social context, it is obvious that the "contextualized solution" is more flexible, feasible, possible and potential than the "universal solution".

In the realistic dilemma of MW, the "universal solution" is an ideal approach, which requires the dramatic changes of many fields of the entire country. It may greatly benefit to the MW's normal urban life, but there are insufficient conditions to realize it.

Contrast, the "contextualized solution" is based on the realistic context. It is currently the MW's main choice. It can practically integrate both existing MWs and new comers into urban living.

Therefore, advanced research will be based on the "contextualized" direction, to find out what city itself can do for the M.W.'s residential problem.

Fig. 2.12: in China, there are many differentiations between rural and urban society. The migrant workers still keep many rural natures although they live in urban area. (Picture: google image)
What does the "normalized urban life (N.U.L.)" mean for M.W. based on the "contextualized solution"?

What are the relationships between M.W.s “normalized urban life” and urban space, especially the M.W.-used existing residential place?

How to transform the sociology argumentation into urban spatial language?

According to section 1, the advanced research in this section will focus on the position of "contextualized solution", tries to figure out developing the normal urban residential place based on the MW-used urban existing residential places to help MW organizing normalized urban life.

MW's normalized urban life:

In the "universal solution" the "normal urban life" for MW simply focus on creating good residence, and let M.W. live as normal U.P. in U.P.'s residential space. However, by studying the sociology argumentation, the M.W.'s normalized urban life can hardly be as the same as the U.P. due to their political, economic and social dilemma.

For the M.W., the “under urbanized” situation reflects their transitional figures in urban society. However, instead of seeing the transitional figure as a problem, it can be also understand as a potential. It can form a transitional community to fill the gap in-between the dual-structures of the society, in order to build a bridge in between the rural population and urban population, to help the rural people to be integrated into urban community gradually.

In this transitional community, two levels are necessary:
First level is the fundamental level. It is the livelihood of MW. Compared with good residence, what the MW really wants in urban area is the livelihood. Research shows that the MW's initial purpose of coming to urban area is searching for higher income; they minimize their residential cost for their families in rural area. The livelihood is the basic layer in M.W.s urban life. It is also the basic opportunities for the M.W. can interact with U.P. during the process of working, the communication and cooperation could help the M.W. and U.P. to understand each other.

Second level is the assistant level. It is the daily integration with U.P.. In residential places, most of M.W. still live separately from the urban environment and urban people. They only mixed with some special groups such as the local villager, urban poor, etc. The healthy society needs the M.W. to live with U.P. The Chinese Central Government promises "Developing Harmonious Society", which indicating an integrated, better qualitative and equal society for all social strata. The integration of M.W. to U.P. is the key step for achieving the goal (Qian & Zhang, 2006). The sociologist argued proposed several ways, for example, to let the M.W. participate in the U.P.s community public and cultural activities.

Therefore, the M.Ws Normalized Urban life can be seen as transitional urban community in between the “urbanized society” and “rural society”, in which the M.W. can interact with the U.P. through their livelihood and daily activities.
Spatial Instrument for Normalized Life: Public Realm

By combining the sociology and urbanism theory, the Public Realm can be found as the key instrument for realizing the M.W.’s normalized urban life. They argumentation could be perceived on two levels:

General Urban Level: Public realm for Friends and Strangers live together

Richard Sennett and Jane Jacobs both argued in their books on public realm that "we must live our lives with both friends and strangers." "City is the place where we meet strangers." "City, is the place where strangers meet." In city, the public realm is the place for friends and strangers live together.

In the terms of migrant workers and urban population, Instead of the private housing, the public realm in urban area is the place where the M.W. can find their livelihood and chances to meet the U.P. It is the place where they can live with their friends and strangers.

Specific MW Residential Place Level: Public realm for interaction between MW and UP

When the sociologists argued about the integration of M.W. with U.P., they said it is necessary to "establish the place for public activities to increase the interaction between the urban citizens and migrant workers." (Hu, 2006); they also said that “creating interaction space to stimulate the communication between the migrant workers and local urban residence can effectively eliminate the social segregation between them” (Gao, 2008);

The public realm is the place where the public activities can be organized; where the M.W. and U.P. can realize the daily interactions.

As a result, the public realm is the very important spatial instrument. In urban space, it is the place where the M.W. can find both livelihood and daily public interactions; the place where M.W. can interact with U.P.
CONCLUSION:

The spatial instrument for the formalization and integration of M.W.-used existing residential places in urban area is the "public realm" which related to the residential place.

Instead of focusing on housing system, the following research will analyse the public realm. Because there is no direct urbanism theory between the "public realm" and "formalization and integration of residential place", the research will be carried out practically, to see what the city has done and what the city is doing for the organization of residential place and urban life.

In section 3, the research will find out what the city has done. Three cases of U.P.s "normalized urban residential system" in historical and contemporary contexts are used to see the structure of public realm and how the public realm can organize the urban life.

In section 4, the study will explore what the city is doing. Three cases of “M.W.-used residential places” are used to see the structure of public realm and how the M.W. are organized by the structure. More importantly, it is finding out how the public realm can contribute to the M.W.s urban life.
SECTION 3. CASE STUDY OF "N.R.S." FOR U.P.

What is the Chinese "normalized urban residential system" for urban population in different politic-economic contexts?

What is the structure and form of the "N.R.S."?

How does the public realm of the "N.R.S." organize the residential environment?

How does the public realm organize the livelihood and meetings of dwellers and strangers?

In historical and contemporary urban society, the Changsha city itself successfully organized the urban population's urban life.

In different politic-economic contexts, the country developed different national formalized residential system to organize the urban populations' urban life. A detailed study of those system is written in author's literature review paper in the appendix of this report.

The city used the national formalized system, and contextualized them. In this research section, three most strategic and dominated system are chosen to make specific analysis of the public realm and organization of urban life. They are:

1. "**Jiexiang**" system in Feudalism commodity economy, when the society was under strict hierarchical governance.

2. "**Danwei**" system in Socialist planned economy, when the society was constructed for industrial productivity.

3. "**Shequ**" system in Post-socialist market economy, when the society is in rapid transition and emphasize the cooperation of individuals.

The contextualization of each system reflected the national universal rules, but more importantly, shows the local socio-spatial figures.

In each system, the public realm can be found to organize the livelihood and daily meetings of dwellers and outside strangers: the place and interaction can be found on: 1. urban level for dwellers in neighbourhood and strangers from the city; 2. local level for dwellers in the neighbourhood and urban surroundings; 3. Residential level for the neighbours.

The "**public realm**" becomes the "**spatial interface**" in-between neighbourhood and urban environment, and inside neighbourhood system. It is also the "**social and economic interface**" in-between the local dwellers and outside strangers, and in-between different groups of dweller.

In the following pages, the research wants to understand different system, especially the "interface". It chooses Changsha city in 1890s (pre-socialist period), 1970s (socialist period) and 2010 (post-socialist period) to see the impacts of different systems on the organization of the entire city. In each period, the detailed analysis will zoom-in to the neighbourhood scale to see the structure and organization of public realm in each formalized system.
Case 1: "Jiexiang" system in Feudalism Commodity Economy

Jiexiang System:
The nature is herachical streets system

Governance and Economy:
* Feudalism Hierachical Governance
* To organize the commercial activities in commodity economy

Social Organization:
* The herachical society, but different social strata mixed live with the street system.
* Many interactions and communications
* Rural people became urban population naturally to use the urban system.

Changsha city in 1890s, Feudalism Commodity Economy (mapping: by author)
Urban Scale Spatial Structure:

The urban scale was very small; the streets system effectively organized the entire city.
* The hierarchical streets is the main structure of the entire city.
* The streets system is a open system. There was a high level of accessibilities of the whole city.

The urban population and migrants have equal possibilities to use the streets system for their commercial activities.

Spatially, the city was an integrated pedestrian environment.

Changsha city in 1890, Details of Jiexiang System on Urban Scale (mapping: by author)
Structure and Organization of Jiexiang Neighbourhood

1. “Jie” was the main street with facilities, which was open and wide. It was the main public realm not only for transpiration, but also for the communication and interaction.
2. "Xiang" was the secondary street, which was relevantly narrow and close. The buildings along the street mix the housing with public services.
3. The buildings formed many inner yard and lane, which created private living environments.

The "Jiexiang" hierarchical streets formed the hierarchical interfaces for interactions.

Old "Jiexiang" in 2002 (built before 1949)
Urban Level Interface: Main street "Jie"

* Commercial street
* The Government collected tax from owners of building to provide relevant policing.
* The buildings along the "Jie" were the multi-floor building, the ground floor opened to the street for public function. The upper floors were residential functions.
* Dwellers have livelyhood and Interaction
* It is the interface for dwellers and outside form urban area.
Local Level Interface: Sub street "Xiang"

* Residential street with few retails
* The main connection of housing
* Multi-floor and single floor residential buildings
* Dwellers have livelihood and Interaction
* It is the interface for dwellers who live in the same neighbourhood.
Overview

* The complete structure includes "three level of interfaces”:
  1. Urban level: "Jie" main Commercial Street
  2. Local level: "Xiang" residential street with retails
  3. Residential Level: small residential lane

The system created a integrated spatial environment, which could allow the dwellers and strangers to access normalized interactions. It resulted in integrated society.
Case 2: "Danwei" system in Socialist Planned Economy

Danwei System:
Gated Compounds with workplace, service and residence.

Governance and Economy:
* Strict social controlling and policing.
* Efficient industrial productivity within limited funding.

Social Organization:
* Collectivism, People worked in "Danwei", collectively lived in that "Danwei".
* Strong differentiation between in and out: Integrated relation within the gated compound; few connections with people outside the compounds.

Changsha city in 1970, Danwei system, Socialism Planned Economy (mapping: by author)
Urban Scale Spatial System:

The urban scale was extended. The "Jiexiang system" in old urban area experienced socialist transformation, the new infrastructure and compound fabric could be found. The extension area was full of gated and walled "Danwei" compounds:

* The industrial factories and other state owned Danwei were the largest compounds in city, many rural population were transformed into those Danwei by national planning.

* The provincial owned and urban owned Danwei compounds were small. But all compounds have complete functions, including workplace, service and residence.

The city became a collection of independent industrial gated and walled compounds.

Changsha city in 1970, Details of Danwei System on Urban Scale (mapping: by author)
Structure and Organization of Danwei System

The "Danwei" compound formed the self-sufficient neighbourhood system.
1. Gated and Walled nature was the symbol of Danwei, which defined the enclosed and isolated environments. It created an important condition for strict governance and policing.
2. The large self-sufficient functions anchored people who worked for the compounds.
3. The small facilities in residential zone for daily services

They formed the interfaces for industrial productivity urban life.

Mechanism Factory 2002 (built in 1960s)
Urban Level Interface: Wall and Gate

* The gated compound defined the in and out environment
* No building along the wall and road outside
* No normalized interaction, the government controlled the free entrance of building, there are strict policing and controlling of the road along the wall.
Local Level Interface: Workplace and Large facilities in compound

* Workplace e.g. factory
* Public facilities e.g. canteen, sports field, schools, etc.
* Main public space in compound
* socialist public building
* Dwellers have livelihood and interaction
* It is the interface for people who work in the same compound.
Residential Level Interface: small facilities

* small facilities out of residential building, e.g. bike shell, small sports facilities
* facilities in building, e.g. kitchen, dining room
* Dwellers have interaction and communication
* It is the interface for neighbours in residential zone
Overview

* The complete structure includes three level of interface:
  1. Urban level: Gate and wall for policing and controlling, resulted in NO Urban Level Interaction
  2. Local level: Workplace (factory, office) and large facilities (canteen, sports field, etc.)
  3. Residential Level: small facilities in residential building (kitchen) and between residential building (bike shell, sports facility, etc.)

The Danwei system successfully organized the industrial productivity, but there are problems on the urban level interaction. It had many negative impacts to the normal urban life on urban level.
Case 3: "Shequ" system in Post-Socialist Market Economy

"Xiaoqu" compound with "Shequ" Governance:
Gated Compounds with residence and basic service, as a community for dwellers.

Governance and Economy:
* Market rules and Individual ability of Payment.
* Social security and grassroots power.

Social Organization:
* People who have the similar payment background can buy and living in the same gated neighbourhood "Xiaoqu" (small residential district).
* Possible to form the grassroots organization, such as Residential Committee to regulate and enrich their urban life, in order to build the "Shequ" (community).

P.S. the map also show the residential places used by M.W. (green color), but the research focus on the system for U.P.

Changsha city in 2010, Shequ system and MW-use UERP, Post Socialist Market Economy (by author)
Urban Scale Spatial System:

The urban scale becomes large. The urban mobility increases dramatically. The "xiaqu" system for the urban population keeps the form of gated compound.

* The gated residential compounds “Xiaqu” dominant the urban space, the mixed-use area provide works and facilities.

* "Xiaqu" compounds are independents but not self-sufficient.
* "Xiaqu" is a node of the increasing urban mobility and urban networks.

The city became a collection of gated residential compounds, on the growing urban transportation networks.

Fig. 33: Changsha city in 2010, Details of Dual-Structures on Urban Scale (mapping: by author)
Structure and Organization of "Shequ" System

The "Xiaoqu" is the gated residential compound governed by "Shequ".
1. There are large scale facilities related to many compounds for urban people
2. Gated and Walled nature is the continuity of Danwei, but it is transformed as part of the local facilities
3. Open space and relaxation facilities in compounds represent the quality of living.

They are the basic structure of the interface outside and inside the compound to achieve the integration into urban environment.

"De zheng yuan Xiaoqu" in 2002
Urban Level Interface: Facility and public space close to compound

* Large facility, e.g. library, bank, school, etc.
* The public facilities do not belong to the compound, but the people in the compound need them closely.
* Dwellers have Interaction.
* It is the interface for dwellers and outside urban population form urban area.
Local Level Interface: small facilities outside the compound

* Public facilities e.g. shops, restaurant, etc. along the wall
* Some facilities formed the wall of compound, to provide daily service for MW
* Dwellers have interaction
* It is the interface for dwellers in compound and dwellers form nearby compound
Residential Level Interface:
Open space in compound

* Open space with greenery and sports facilities
* It reflected the residential quality of compound
* Dwellers have interaction and communication
* It is the interface for neighbours in the same compound
Overview

* The complete structure includes three levels of interface:
  1. Urban level: Large urban scale facilities (school, library, bank, etc.)
  2. Local level: Small facilities (restaurant, service, entertainment along the road, etc.)
  3. Residential Level: Open space in compound with sports facility, relaxation facility and greenery

The “Shequ” system is a result of marketization of urban space, urban mobility and increasing grassroots power. **The interfaces in this system well organized the interaction of urban population.**
### Summary of the Structure:

The comparison shows the structure of public realm of three normalized residential system. In each system, the public realm can be perceived as "Three Level Interfaces Structure".

<table>
<thead>
<tr>
<th>System</th>
<th>Political Economic Context</th>
<th>Spatial Form</th>
<th>Hierarchical Public Realm</th>
<th>People in Interaction</th>
<th>Interface for Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danwei System</td>
<td>Socialist Planned Economy</td>
<td>Gate Compound Work place with Residence and Service</td>
<td>1. Urban Level: Gate and wall 2. Local level: Large facilities in compound(e.g.sports) 3. Residential Level: Small facilities in and out building (e.g. kitchen)</td>
<td>1. Urban Level: Policing and Controlling 2. Local level: People working in the same compound 3. Residential Level: Neighbours in same the building</td>
<td>1. Urban level: In-between Compound 2. Local level: Inside the entire compound 3. Residential Level: In residential area and in building</td>
</tr>
<tr>
<td>Xiaoqu System</td>
<td>Post-Socialist Market Economy</td>
<td>Gate Compound Residence with Basic Service</td>
<td>1. Urban Level: Large facilities (e.g. schools) 2. Local level: Small facilities out of compound (e.g.shop) 3. Residential Level: Open space, green area in compound</td>
<td>1. Urban Level: Local Dwellers and Urban population 2. Local level: Dwellers from different compounds 3. Residential Level: Dwellers in the same compound</td>
<td>1. Urban level: In-between Comp. &amp; urban environment 2. Local level: In-between many compounds 3. Residential Level: Inside residential compound</td>
</tr>
</tbody>
</table>
CONCLUSION:

Three "normalized residential system" adapt to the political-economic and social context

This research study examines the Chinese normalized residential system for normalized urban population.

In Feudalism commodity economy, the "Jiexiang" hierarchical streets system efficiently organized the integrated urban living in the hierarchical society.

In Socialist planned economy, the "Danwei" gated self-sufficient compound system highlighted the urban life for industrial productivity.

In Post-socialist market economy, the "Shequ" gated residential compound system adapted to the rising of market rules and urban mobility in urban life.

Public realm as the Interface for Integration

The public realm related to the "N.R.S." plays the key role in socio-spatial integration. The public realm becomes the interfaces, spatially, in-between the residential place and its urban surroundings, also in-between different parts inside the residential place; socially, in-between the dwellers in the residential place and outside people from the city.

In the public realm related to the residential system, it becomes the place where the dwellers and strangers naturally develop a connection based on the relationship of livelihood. It is also the place for dwellers and strangers increasing their daily interaction by daily meeting and public activities. Therefore, it is one of the key spatial parts to form the urban community and urban life.

Spatially and socially, the public realm of the "N.R.S." is the interface to achieve the integration.

"Three Level Interfaces Structure" in public realm

According to the study of three cases, it is not hard to find out the national formalized residential systems are various in different political and economic contexts. In each system, the local contexts also give the public realm very different spatial form and the way organization. The power of localization should never be ignored in any general formalized national system.

However, although the contextualization of each system shows various local spatial figures, the principles for the organization of "Interfaces" can be concluded. Basically, the structure can be understood at three levels:

"Urban Level Interfaces" is the place in-between the residential place and general urban surroundings, where the dwellers in residential place can meet the outside strangers from the city.

"Local Level Interfaces" is the place in-between residential place and surrounding residential places, where the dwellers can live with local dwellers from surrounding residential areas.

"Residential Level Interfaces" is the place in-between different parts inside the residential place, where the dwellers can live with their neighbours.

The "Three level interfaces" formed a complete structure integrate the residential system into urban system. Therefore, it is a critical structure to make the city into a place where we can live both with our friends and strangers.

This theoretical information can be used in seeing the "urban existing residential place used by migrant workers", in order to understand the city itself have potentials to normalize the M.Ws urban life.
SECTION 4: CASE STUDY OF M.W.-USED PLACES

What are the most strategic residential places used by migrant workers in contemporary Changsha city?

What is the structure and form of the "existing M.W.-used residential places"?

How does the "interface" of the place organize the residential environment?

How does the "interface" organize the livelihood and daily public interaction between migrant worker and urban population?

In contemporary urban society, the Changsha city itself use the existing residential places to organized 90% of the migrant workers.

In these research section, three most strategic M.W.-used residential places are chosen to make specific analysis of the spatial structure and public realm. They are:

1. "Shanties in Old Urban Area" is the place in central historical urban area. The acient "jiexiang" system experienced socialist and post-socialist transformation.

2. "Village within City" is the place in- between the socialist and post-socialist urban area. It is the village spontaneously extended by the local villagers without integration to the urban system.

3. "Shanties on Urban periphery" is the place in-between post-socialist urban area and rural area, where the shany village extension combines with the special urban area, e.g. the rehousing project for local villagers.

Three places are highly contextualized, but basically, they are not formalized by urban planning system. There is no planning document to organize the structure. The local people, e.g. house owners figure out the way to develop them spontaneously.

Based on the theoretical framework from research part 3, this research section focuses on understanding the "interface" in each place, in order to find out what the city is doing now for M.W.'s livelihood and daily public interaction, when those places are not formalized.

The "public realm" is both the "spatial interface" and "social and economic interface" for organizing the residential environment and M.W.'s urban life. In each system, the "Interfaces Structure" can be found to organize the livelihood and daily meetings of M.W. and U.P. The place and interaction can be found on: 1. urban level for M.W. in the residential place and U.P. from the city; 2. local level for M.W. in the residential place and local urban dwellers urban surrounding residential area; 3. Residential level for the M.W. and Local dwellers (Urban poor, Transformed villager or Local villager) within the residential place.

In the following pages, the research will explain the strategic meaning of each location from urban level. In each locations, the detailed analysis will zoom-in to the neighbourhood scale to see the how does the city formed the "three level interfaces structure" for organizing urban life, even it is not written in the formalized urban planning documents.
Three Strategic Locations

Locations of migrant workers' typical residential places:
1. Blue star: Shanty place in old urban area
2. Dark green star: Village within city
3. Light green star: Shanty village on urban periphery
Locations in history: 1897-1949

Locations:
1. Blue star: ancient urban area; Jiexiang system
2. Dark green star: Rural area, close to a river
3. Light green star: Rural area, close to a river
Locations in history: 1949-1960

Locations:
1. Blue star: Urban area, Jiexiang system
2. Dark green star: Rural area, close to socialist railway extension
3. Light green star: Rural area, far away from city, close to a river
**Locations in history: 1960-1970**

Locations:
1. Blue star: Urban area; experienced socialist urban transformation, new danwei compounds were developed, new infrastructure
2. Dark green star: Rural area, experienced "dawei" transformation, close to socialist urban extension
3. Light green star: Rural area, close to a river
Locations in history: 1970-1978

Locations:
1. Blue star: Urban area; socialist urban transformation
2. Dark green star: Rural area, close to socialist urban extension, under socialist rural transformation
3. Light green star: Rural area, close to socialist urban extension, under socialist rural transformation
Locations in history: 1978-2003
Locations:
1. Blue star: Urban area; experienced Post-socialist urban transformation, new "Shequ" compounds were developed, new infrastructure
2. Dark green star: Rural area, experienced Post-socialist transformation, engaging post-socialist urban area
3. Light green star: Rural area, experienced Post-socialist transformation, close to post-socialist urban area
Locations in history: 2003-2020

Locations:
1. Blue star: Urban area; Post-socialist urban transformation, especially infrastructure transformation
2. Dark green star: Village within city; village is surrounded by post-socialist urban environemnt
3. Ligh green star: Rural area; engaging Post-socialist urban environment
From the historical development of Changsha city,

1. **Shanties in old urban area**: The location is in old urban area. It is a urban block defined by the metropolitan and urban scale transportation infrastructures, which experienced socialist and post-socialist transformation. The transformation changed infrastructure greatly: The location is embedded into metropolitan, urban, urban secondary road system. The "Jiexiang" street system maintained the pedestrian environment. After several transformations, the ancient "Jiexiang" neighbourhood, Socialist "Danwei" Compound and Post-socialist "Xiaoqu" compound can be found in urban block. The "shanties", where migrant workers stay, mainly indicate the ancient "Jiexiang" neighbourhood area. There are also a few transformed "Danwei" shanty buildings were taken by migrants.

2. **Village within city**: the location is in-between socialist urban area and post-socialist urban extension. It is a neighbourhood area close to metropolitan scale infrastructure: urban ring road (purple line) and urban fast road (pink line); urban scale infrastructure: Urban sub-road (orange line); urban secondary infrastructure: urban public road (yellow line); the village environment was surrounded by both socialist urban environment and posts-socialist urban extension. The "village" indicate the original village and extensions on farmlands.

3. **Shanties on urban periphery**: the location is in-between the post-socialist urban area and rural area. The location was integrated with metropolitan scale infrastructure: urban fast road (pink line); urban scale infrastructure: urban road (red line) and urban sub-road (orange line). It is surrounded by post-socialist urban environment: Gated "Xiaoqu" compound and other specialized urban function, and also many rehousing project. The "shanty" indicates the original village area and extensions on original farmlands.

To sum-up, three places are the centralized residential place used by the M.W.

Under the rapid transformation, those places are embedded into the infrastructure system. The hierarchy of infrastructure can be clearly found from the metropolitan and urban scale infrastructure; to urban secondary infrastructure; to local small infrastructure.

However, there is a big difference of the urban fabric of each location. In the "shanty in old urban area", there are urban fabric from ancient "Jiexiang", "Danwei", as well as "Shequ" system; In the Village within city, the village fabric is surrounded by socialist and post socialist fabric; In the "shanties on urban periphery", the shanties are village and rehousing urban fabric from post-socialist period.

The following pages will show the detailed analysis of each location. The first case will be "Village within City" because it is also the location for testing transformation strategy; The second case will be "Shanties in old urban area", it is developed from the original urban system; The last case will be "Shanty on urban periphery". It is also a combination of rural and urban area,
Case 1: "Youyi Village" Village within City (V.w.C)

Village within city located in-between socialist and post-socialist urban area. It is a village surrounded by urban environment. The villagers and their political organization: rural committee, still have the ownership of the village, which is the main reason why the development of village is independent from the urban planning system.

Urban scale public function: Livelihood and Interaction

There are urban-scale public functions related to the location, which can provide both industrial and service working opportunities for MW. At the same time, they attract urban population to visit the location.

- North: Wholesale market district
- East: Logistics centre / Middle & High school
- South: Industrial factory
- West: Motor repair & motor material market
Public Transportation Networks: Urban Flow

The public transportation networks bring urban flow to the location, also connecting the MW's residential place with MW's working place in the central urban area and industrial zone.

It is one of the key elements influencing the livelihood and Interaction.

Figure: The village within city is well connected to urban public transportation networks.

- Two bus stops
- One bus stop with six lines on the north in-between wholesale market and V.w.C.
- One bus stop with eight lines on the west in-between motor repair area and V.w.C.
- The bus lines connect the location to central urban area and urban peripheries
Local History: 2002

Figure: the location was consisted of three original village with extension on orginal farmland.
In 2002, the location and surroundings were under the post-socialist urban transformation Infrastructure: metropolitan and urban level - it connected to the ring road system (purple line); neighbourhood level - the original village road was basic transportation infrastructure.

Urban environment:
West and South - Socialist urban area, with transformed gated "Danwei" compound
East - Rural Area, small village and farmland
North - Post-socialist urban area and rural area
Local History: 2005

**Figure:** In 2005, new infrastructure was developed:
- Metropolitan and urban level - new metropolitan fast road (pink line)
- Urban secondary level - new urban secondary road (yellow line)
- Neighbourhood level - the original village roads were still important.

The surroundings were transformed into urban environment:
- West - New compounds
- East - New post-socialist homogenised urban tissue
- North - Post-socialist urban area
Local History: 2010

Figure: in 2010, the transformation of surroundings continued, the "Village within city" was formed.
New infrastructure: metropolitan and urban level - new urban road (orange line)
Urban secondary level - new urban secondary road (yellow line)
New post-socialist urban blocks were fitted into the surroundings.

* The village within city was a fragmented environment. The surroundings were under systematic urban planning, while the villagers manage the extension by themselves.
In V.w.C. the urban level interface can be found related to the residential place:

North (red): Food market
West (purple): Motor repair area
Centre and East (brown): Logistics area

Those areas are the possible working area for the M.W. At the same time, they are part of the residential place, many MW also live in there. It is also the place to provide service for people who live and work in urban surroundings.
Urban Level Interface: Infrastructure

Figure: the location is directly connected to the metropolitan ring road system (dark purple line); it is close to the metropolitan fast road system (dark pink line); on urban scale, the urban sub-road infrastructure (orange line) crossed the village within city linking to metropolitan system.

The infrastructure framed the fundamental structure of urban scale interface for urban scale interaction.
Urban Level Interface: Surrounding Function

Figure: the location is surrounded by urban scale function.
North: Wholesale market
East: Logistics centre and Schools
South: Industrial Factory
West: Motor repair area

They provide working opportunities for both migrant workers and urban population, which became the strong node to attract urban flow.
Urban Level Interface: Public Transportation Networks

Figure: There are two bus stops connecting to the location, one on north, the other on the west. The bus lines were related to the Metropolitan and Urban scale infrastructure. The networks also set up stops to the surrounding urban scale functions. The migrant workers can reach their work place by the networks. At the same time, the networks can bring urban flow to the location.
Urban Level Interface: Overview

Figure: From the overview, the areas linking to the urban scale infrastructure are developed as interface to integrate with surroundings.

1. The motor repair area integrated with the motor repair and motor market on the opposite side of the metropolitan infrastructure, it provides working chances for MW and services for U.P.
2. The Food market connects to the bus line and metropolitan infrastructure. It provide livelihood for MW and food services for people who work and live in the surroundings.
3. The logistics areas connect to the urban sub road system and area integrated to the logistics centre. MW can find livelihood and interaction chance with UP.

The urban scale interface basically are integrated to the urban surrounding functions or providing services to the urban surrounding functions.
Detailed View of Interface 1: Motor Repair Area

Figure: the Motor repair area was developed on both sides of the metropolitan ring road system. On west side, the repair area was developed according to urban planning. On east side, the local villages transformed the village into motor repair function by themselves. The flyover released the transportation burdens on the ground, but the parking function was not efficient. The migrant workers work in repair shops, they meet the urban customers. The place achieved the meeting of the local and the strangers.
**Stree view**

The repair area in village within city is mono function area along the ring road. Pedestrian area was occupied by shops as repair ground. Some shops in between the repair shops were used to provide service and food. The migrant workers use the shop and street to meet the urban population.

Figure: Eastside of ring road: Motor Repair Area on "Village within city"

Figure: Ring road system: six lanes on flyover, four lane on the ground

Figure: Westside of ring road: Urban Motor Repair Area
Detailed View of Interface 2: Food Market Area

Figure: the Food Market area was developed along the ring road system. It mainly provides services to people from the wholesale market, logistics centre, schools, and also people who live in village within city. The bus stop was located close to the food market, many migrants use informal taxi and motor taxi around the bus stop.

The Food market and bus stop became a strong node. Migrant workers, local villager and urban population achieved interaction in this area.
Stree view

The Food market area is a mixed-use area, the food market spaces are integrated with shops and facilities. People from wholesale market also cross the ring road system to use the food market. Passengers waiting at the bus stop may also use the shops.

Figure: South side of ring road: Food market integrated with shops

Figure: Ring road system: parking area under flyover

Figure: North side of ring road: Wholesale market
Detailed View of Interface 3: Logistics Area

Figure: The Logistics Street was developed in the middle of the “village within city” area along the urban sub-road infrastructure. It is a connection of logistics centre and urban ring road system. The street naturally is developed as an extension of logistics centre. Some buildings are used as shops, restaurant to provide service.

In the Logistics road area, Migrant workers, local villager work for the urban customers. The local and stranger together live in this area.
The Logistics area in the middle of the "village within city" is a mono-functional area. Most building was used as Logistics Transportation Company. The pedestrian area in front of the shops was used as parking space and loading space. There are shops but also cart and stall in that area to provide services.

**Figure: view of Logistics Area with heavy transportation**

**Figure: Stall and Cart in the road of the Logistics Area**
Along the "motor repair area" (location 1 represented), the main building typology is: 2.1. single floor public function building (red);

Along the "food market area" (location 2), the main building typology is: 3. Large space storage building (light brown); the assistant typology is: 2.2. Multi-floor residential + public function building (orange)

In "logistics area" (location 3 represented), the main building typology is: 2.2. Multi-floor residential + public function building (orange)
2.1 Mixed-use Public Building

* Main Typology in "Urban Level Interface"
* New building used for motor repair area

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace</td>
<td>Electricity</td>
</tr>
<tr>
<td>Bedroom</td>
<td>Kitchen</td>
</tr>
<tr>
<td></td>
<td>Toilet</td>
</tr>
<tr>
<td></td>
<td>Water</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
</tr>
<tr>
<td></td>
<td>Fire Control</td>
</tr>
</tbody>
</table>

Lack of Facilities / share most Facilities

Border of Village / Main Village Street Group + Individual

* Main Typology in "urban level interface"
* New building used for motor repair area
# 2.2 Mixed-use Public + Residential Building

* Main Typology in "Urban Level Interface"
* New good quality building in village

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 Mixed-use / Public Function</td>
<td>Multi - floors / 2 - 3 Floors</td>
<td>Ground: Public Function Upper: Residential</td>
<td>Local Villager own the Building / Owner of Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Work and Live in Building / Only Rent Residential Rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L. V. hire the M.W. / Live Together in the Building</td>
</tr>
</tbody>
</table>

## Facilities

- Workplace
- Bedroom
- Electricity
- Kitchen
- Toilet
- Water
- Sanitation
- Fire Control

## Building

1. Border of Village - Main Urban Street
2. Pedestrian Street in Village
Local Level Interface: Local Level Function

In V.w.C., the Local level interface can be found related to the residential place:

**West and East (Pink): Mixed-use Commercial Street**

**East and South (Light brown): Storage, related to the Logistics area**

For Mixed-use Street, those areas are the possible working area for the MW. The urban residences from surrounding and dwellers in V.w.C. can get services from the street.

For storage area, there are not many interactions, but it is still the working place for MW, they can meet their urban client.
Local Level Interface: Infrastructure

The location is connected to urban secondary road (yellow line), and urban street (green line). The secondary road links to the metropolitan fast road system and urban sub-road system with four lanes. It is transportation-oriented. The urban Street also connects to the metropolitan fast road system and urban sub-road system with two lanes. It is pedestrian oriented but available for car transportation.

The urban secondary scale infrastructure framed the structure of local scale interface for the local scale interaction.
Local Level Interface: Surrounding Function

Figure: the location is surrounded by local scale function.
North: Workplace in office and hotel area
East: Elementary school and residence in logistics centre
West: Urban residential compound

The urban secondary road and urban street became the interface between and village within city and urban surroundings. People who maintain and use the local scale function can meet migrants and local villager in the interface.
Local Level Interface: Overview

Figure: In location, the areas linking to the urban secondary infrastructure were developed as interface to integrate with surroundings.

1. On the west, there are services, shops and entertainment (pink area) to serve the urban residential compound and Vw.C.
2. On the east, there are services, shops and entertainment (pink area) to serve logistics centre and schools.
3. On the east, the storage area is attached to the logistics centre.

The local level interface can also solve the problem of livelihood for some M.W., it focuses on providing daily service for the urban surroundings, or becoming the attachment of the urban scale function. It is the meeting place for M.W. in V.w.C. and U.P. from the surroundings.
Detailed View of Interface 1: Mixed-use Commercial street

Figure: this mixed-use street was based on the urban street infrastructure between urban residential compound and V.w.C. The border of urban “Sheqy” compound was designed as shops. The villager also transformed the border of village into shops, restaurant, etc. to serve the local urban dwellers, migrants and local villagers. The interface concentrates on serving the local scale function, especially residential function. It achieved the meeting of local urban population and migrant workers.
**Stree view**

* Space in-between RC and V.w.C., accessible for car transportation
* Linear public space, meeting place for urban dwellers in RC and migrants in V.w.C.
* Pedestrian area was taken to extend the shop and service

Figure: West side of Urban Street: Shops and services along the urban residential compound

Figure: East side of Urban Street: Mixed-use area on VwC
Detailed View of Interface 2: Mixed-use Commercial street

Figure: this mixed-use street was based on the urban street infrastructure between logistics centre and V.w.C. The logistics centre mixed logistics function with residential function, many people in the logistics area need the daily service. The villager also transformed the border of village into shops, restaurant, etc. to serve the local urban dwellers, migrants and local villagers. The interface concentrates on serving the workers and local urban dweller. In residential area it achieved the meeting of local urban population and migrant workers.
Stree view

* Space in-between Logistics centre and VwC, accessible for truck transportation
* Work place and meeting place for Local dwellers, services for L.C. and V.w.C.
Detailed View of Interface 2: Storage - Logistics Road

Figure: this logistics storage street was based on the urban street infrastructure between logistics centre and V.w.C. The villager transformed the border of village into logistics companies and storage related to the logistics function.

The interface concentrates on integration into the logistics function. Migrant workers can find working opportunities to interact with the urban customers.
* Space in-between Logistics centre and V.w.C., accessible for truck transportation
* Work place and meeting place for dwellers
* Few urban customers may need to visit the area

Figure: East side of Urban Street: Logistics Centre

Figure: West side of Urban Street: Logistics and Storage area on VwC
Local Level Interface: Main Building Typology

Along the "Mixed-use street" (location 1 represented), the main building typology is: 2.1. single floor public function building (red); the minority is: 2.2. Multi-floor residential + public function building (orange)

Along the "Mixed-use street" (location 2), the main building typology is: 2.2. Multi-floor residential + public function building (orange)

In "Storage road" (location 3 represented), the main building typology is: 3. Large space storage building (light brown); the minority is: 2.3 Residential + storage building (dark brown).
## 2.1 Mixed-use Public Building

*Main Typology in "Local Level Interface"
* New building in village designed as Single floor public function or multi-floors public function

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Mixed-use: Public Function</td>
<td>1 - 2 Floors</td>
<td>Ground: Public Function Upper: Non-residential</td>
<td>Local Villager own the Building / Owner of Business</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace</td>
<td>Electricity</td>
</tr>
<tr>
<td>Bedroom</td>
<td>Kitchen</td>
</tr>
<tr>
<td>Electricity</td>
<td>Toilet</td>
</tr>
<tr>
<td>Sanitation</td>
<td>Water</td>
</tr>
<tr>
<td>Fire Control</td>
<td>Lack of Facilities / share most Facilities</td>
</tr>
</tbody>
</table>

Border of Village / Main Village Street

Group + Individual

M.W. Family Rent Building / Work and Live in Building

Individual M.W. Rent Building / Work and Live in Building

L.V. Cooperate with M.W. / M.W. live in Workplace

* Main Typology in "local level interface"

* New building in village designed as Single floor public function or multi-floors public function
## 2.2 Mixed-use Public + Residential Building

* Main Typology in "Local Level Interface"
* New good quality building in village

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 Mixed-use / Public Function</td>
<td>Multi - floors / 2 - 3 Floors</td>
<td>Ground: Public Function Upper: Residential</td>
<td>Local Villager own the Building / Owner of Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Work and Live in Building / Only Rent Residential Rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L. V. hire the M.W. / Live Together in the Building</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace</td>
<td>1. Border of Village - Main Urban Street</td>
</tr>
<tr>
<td>Bedroom</td>
<td>2. Pedestrian Street in Village</td>
</tr>
<tr>
<td>Sufficient facilities</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>
3: Storage / Large Space Building

* Main Typology in "Local Level Interface"
* Extension on farmland

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Storage Building</td>
<td>Single Floor</td>
<td>Storage / Garage / Logistics</td>
<td>No Local Villager Live / Local Villager Own the Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Work for the Storage</td>
</tr>
</tbody>
</table>

Facilities

- Bedroom
- Electricity
- Kitchen
- Toilet
- Water
- Sanitation
- Fire Control

Group / Compound on Border of Village

 Short of facilities / Problem of Security / Share some facilities
Residential Level Interface: Residential street and open space

In V.w.C., the residential level interface was inside the residential space:

Yellow Area: Main Street in village, Residential building along street
Green Area: Open public space

The residential street and open public space is the basically meeting place for MW and local villager
Residential Level Interface: Infrastructure

Figure: The village within city kept the original village road (red arrow), the extension area on farmland followed the original farmland pattern, and formed path (orange arrow) connecting residential buildings.

The urban secondary scale infrastructure framed the basic structure of neighbourhood scale interface for the meeting of local villagers and migrant workers.
Residential Level Interface: Overview

Figure:
The road in the neighbourhood is the main interaction place.
1. The original village road cross original village area, the residential building formed the pedestrian street
2. The original village road in between original village and shanty extension
3. Path in-between shanty extension area

The Residential level interface is the place for transportation and daily passing by meetings. The neighbours also use the place for communication. It is the meeting place for dwellers in the Vw.C.
Detailed View of Interface 1: Village Street (in Village)

Figure: the original road in village is the basic street for transportation and pedestrian. The original village building was designed as residential building, but now the ground floor was used as storage, few of them were transformed as shops.

As the main neighbourhood transportation street, the local villager and migrant workers pass the street. The neighbours use the street meet each other.
Village Street (in Village) - Stree view

* space in-between village and village, wide enough for small car
* Main transportation for dwellers in original village area, meeting place for dwellers
* Visitors may pass the space

Figure: Village street as main transportation connection

Figure: Shop on the original road to provide basic services
Detailed View of Interface 2: Village Street (Village & Shanty)

The original street also crossed the shanty area. On one side is the original village building; on the other side is the shanty extension. The ground floor of buildings were used as storage, few of them were used as small shops. Migrant workers live in those street buildings and use the non-residential function.

It is the main transportation connection for both village and extension area. Migrant worker and local villager achieved meeting on the street. However the non-residential function could be improved to achieve better residential environment.
Street view

* Narrow space in-between shanty area and village
* Main transportation for dwellers in both village and shanty, meeting place
* Visitors may pass the space

Figure: East side of original road - original village area

Figure: West side of original road - shanty extension
Detailed View of Interface 3: Path in Extension

The extension was built up on original farmland pattern; the original farmland path became the path in extension area. The extension was basically residential area, some rooms of extension are developed as shops.

The narrow path is a protective environment for migrant workers and the main meeting place for the neighbours.
**Street view**

* Extremely narrow space in-between shanty buildings
* Transportation for neighbours and meeting place for neighbours
* Few outsiders come into the space

Figure: narrow path with mono residential function

Figure: narrow path with small shops
Residential Level Interface: Main Building Typology

Along the "original village street" (location 1 & 2 represented), the main building typology is:

2.3 Storage and Residential mixed building (dark brown) / 1.2 Multi-floor residential building (green); The minority is: 1.3 flats in compound (blue).

In "extension path" (location 3 represented), the main building typology is:

1.1 Single-floor residential building (yellow) / 1.4 Large space residential building (yellow green);
### 2.3 Multi-floors Residential + Storage Building

* Main typology in "Residential Level Interface"
* Original village residential building, villager transformed the ground floor as storage

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Mixed-use / Storage</td>
<td>Multi - floors / 2 - 4 Floors</td>
<td>Ground: Storage / Garage Upper: Residential</td>
<td>Local Villager Live / Local Villager Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room in One House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One Room</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>

Short of facilities / Problem of Security / Share some facilities

1. Main Street in Village / Border of Village
2. Brancing Street in Village

![Image of multi-floors residential + storage building with diagrams and illustrations]
### 1.1 Single-floor Residential Building

* Main typology in "Residential Level Interface"
* Informal extension on farmland

<table>
<thead>
<tr>
<th>Type</th>
<th>Architecture</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Residential Building</td>
<td>Single Floor</td>
<td>All Residential Function</td>
<td>No Local Villager Live / Local Villager Own the Houses</td>
</tr>
</tbody>
</table>

#### Lack of facilities / share with many different families
- Bedroom
- Electricity
- Kitchen
- Sanitation
- Toilet
- Water
- Fire Control

#### Location and Combination
1. On the Original Farmland Pattern / Open Form
2. On the Original Farmland Pattern / Enclosed Form
3. Individual in Residential Area
**1.2 Multi-floors Residential Building**

* Main typology in *Residential Level Interface*
* Original village building

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Residential Building</td>
<td>Multi-floors / 2 - 4 Floors</td>
<td>Residential Function</td>
<td>Local Villager Live / Local Villager Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room in One House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One Room</td>
</tr>
</tbody>
</table>

**Facilities**

- Bedroom
- Electricity
- Kitchen
- Toilet
- Water
- Sanitation
- Fire Control

**Problem of Security / Share some facilities**

1. Along Branching Street
2. Behind the Street Building / Residential Area
1.3 Residential Flat

* Minor typology in "Residential Level Interface"
* Private and informal extension on farmland pattern

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Flats</td>
<td>Multi - floors / 4 - 6 Floors</td>
<td>Ground: Residential (in Comp.) Public (Border of Comp.) / Upper: Residential</td>
<td>M.W. Family Rent One Room / Several Families Share one Suit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Local Villager Live / Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Suit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>1. Inside Compound</td>
</tr>
<tr>
<td>Electricity</td>
<td>2. Border of Compound</td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>

Average Facilities / Share with Some families
### 1.4 None Residential Building as M.W. Residential Place

* Minor typology in "Residential Level Interface"
* Originally non-residential function. It was used as shared accommodation now

<table>
<thead>
<tr>
<th>Type</th>
<th>Architecture</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 Large Space Residential</td>
<td>1 - 2 Floors</td>
<td>Residential Function</td>
<td>No Local Villager Lives / Local Villager Owns the Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Families Share the Big Space / Use Fence to Separate Space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share the Big Space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Families and Individual Share</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Location and Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>1. Group on the Street</td>
</tr>
<tr>
<td>Electricity</td>
<td>2. Individual in Extension</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Residential Area</td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>

Lack of facilities / share with many different families
Case 2: Shanties in Old Urban Area (S.O.U.A.)

The "Shanties in old urban area" is the place in the central urban area. The ancient Changsha city was ruined in a great fire in the World War II. The local people quickly built many shanties in those places where they did not have sufficient resource to realize the recovery. In the socialist and post socialist period, the shanty area experienced several transformations. Now the remaining shanties became the mixed-residential area for M.W. and local poor people.

Urban scale public function: Livelihood and Interaction

There are urban scale public functions related to the location:
- North part: cultural centre
- East part: hospital and office
- West part: training institute
- West part: middle and high school

M.W. cannot work directly to those places, but they have livelihood as service for those urban scale functions.
The public transportation networks bring urban flow to the location, also connecting the MW's residential place with MW's working place in the central urban area and industrial zone.

Figure: The "shanties in old urban area" is well embedded into public transportation networks.

- Six bus stops with numerous lines
- The bus networks almost covered the entire city, including many M.W. central work places
Local History: 2002

In 2002, the old shanty fabric, socialist compound fabric and post-socialist compound fabric can be clearly found in the location. The infrastructures are under drastic development. The M.W. use the shanty (gray) area as both residential place.
Local History: 2010

In 2010, new infrastructure was established. The new urban level infrastructure was designed on the south and west of the location.

Basically, the residential places are the shanties from the W.W.II built on the "Jiexiang" system. Besides, there are few transformed "Danwei" shanties inside. (gray)

The urban poor and M.W. mixed live in the shanty area. However, the middle and rich class live in the compounds nearby. It is a highly integrated situation.
**Pink area:** The M.W. do not for the urban level functions directly, but they can work in service, entertainment, restaurant, shops, etc. to facilitate the urban population who live and work in the urban level function. The map shows the location of the mixed-use commercial street.
Urban Level Interface: Infrastructure

Figure: the location is directly connected to the metropolitan ring road system (purple line); on urban scale, the urban road (red) and sub-road infrastructure (orange line) is surrounded the location.

The infrastructure framed the fundamental structure of urban scale interface for urban scale interaction.
Urban Level Interface: Surrounding Function

Figure: the location is integrated with urban scale function.
Blue: middle and high schools
Yellow: cultural centre
Red: office compounds

The M.W.s work in the mixed-use commercial street provide service for those urban scale functions.
Urban Level Interface: Public Transportation Networks

There are six bus stops around the location, with numerous bus lines connecting to the urban environment. The accessibility of the interface is very high.
Urban Level Interface: Overview

Figure: From the overview, the areas where is linked to the urban scale infrastructure and urban scale functions are developed as interface to integrate with surroundings.

The urban scale interfaces are the places where M.W. can work and live to provide services to the urban surrounding functions.

Location 1 is the mixed-use commercial road along urban main road, which is close to many urban office compounds.

Location 2 and 3 are the mixed-use commercial roads related to the urban sub-road infrastructure. The services and commerce in location 2 focus on serving the school. While the in location 3, they focus on serving the hospital and office compound.
Detailed View of Interface 1: Commercial and Service Road

Pink block: They are the commercial and service building in shanty area where M.W. work and live.

Dark Blue area: That is the hospital compound where the U.P. used frequently.

Red area: That is the office compound for U.P.
Stree view

It is the Interface in-between the urban working enrironment and residential shanties.

Figure: south side - office compound and hospital compound

Figure: urban main road

Figure: north side - commercial and service area in shanty residential place
Detailed View of Interface 2: Commercial and Service Road

Pink block south: They are the commercial and service buildings (outside the location)
Pink block south: They are the commercial and service buildings (inside the location)

Light Blue area: That is the high school where many teenagers need services.
Gray block: they are the residential shanties for the urban poor and M.W.
**Stree view**

It is the Interface in-between the urban working environment and residential shanties. The area experienced transformation, where the buildings restored the traditional facade.

Figure: north side (outside the location) - commercial and service area

Figure: south side (inside the location) - commercial and service area
Detailed View of Interface 3: Commercial and Service Road

Pink block east: They are the commercial and service buildings (outside the location)
Pink block west: They are the commercial and service buildings (inside the location)

Red area: that is the office compound for the urban population.
Stree view

It is the Interface in-between the urban working environment and residential shanties. The area experienced transformation, where the buildings restored the traditional facade.

Figure: east side (outside the location) - commercial and service area

Figure: west side (inside the location) - commercial and service area
Local Level Interface: Local Level Function

**Pink area:** The local mixed-use commercial and service area, where the M.W. and U.P. live and work.
Local Level Interface: Infrastructure

Green line: The urban secondary infrastructure is developed based on the pattern of ancient "jiexiang" street system. It is Pedestrian Street but available for the private car transportation.
Local Level Interface: Surrounding Function

The location is integrated with local scale function. Dark Green area: those are the local urban residential compounds Blue small area: elementary school

The M.W.s work in the mixed-use commercial street provide service for the local people who live and work in the local urban fabric.
Local Level Interface: Overview

From the overview, the areas where is linked to the local scale infrastructure and local scale functions are developed as interface to integrate with local surroundings. The M.W. can use the mixed-use streets to live with the local people.

Location 1 is the mixed-use commercial street along urban pedestrian street, which is close to many urban residential compound and shaty residential area. Location 2 has similar condition as location 1.
**Detailed View of Interface 1: Mixed-use Local Service Street**

*Pink block: They are the commercial and service buildings along the urban pedestrian street, where the M.W. live with the local urban poor from the shanty and U.P. from the urban residential compound.*
**Stree view**

It is the Interface in-between the shanty residential places and local urban compounds. The shops are very local e.g. the small food service, cheap clothes, cheap haircut shop, etc.

Figure: east side - commercial and service area

Figure: west side - commercial and service area
Pink block: They are the commercial and service buildings along the urban pedestrian street, where the M.W. live with the local urban poor from the shanty and U.P. from the urban residential compound.
Stree view

It is the Interface in-between the shanty residential places and local urban compounds. The shops are very local e.g. the small food service, cheap clothes, cheap haircut shop, etc.

Figure: south side - commercial and service area

Figure: north side - commercial and service area
Residential Level Interface: Residential Lane

Yellow area: the residential environment with shanty but traditional residential buildings. The main meeting place for the neighbours.
Residential Level Interface: Infrastructure

Red line: They are pedestrian-oriented original residential lane. They are the main connection for the residential buildings.
Residential Level Interface: Overview

The small lanes in the residential place are the main interaction place. It is formed by the residential buildings along the lane. It is the continuity of "jiexiang" system.

Location 1 is the typical residential lane in the shanty area, including the wide and narrow areas.
Detailed View of Interface 1: Residential Lane

Yellow block: they are the residential building along the residential lane. Basically, they are the shanty extension of traditional "Jiexiang" system.
Stree view

It is the interface in-between different part of the residential place, in-between the M.W. and local urban residence.

Figure: narrow area - extension of residential space

Figure: wide area - linear public space for chatting and rest
Main Building Typology

**Urban Level Interface:**
1.1 Single-floor public building (red); 1.2 Multi-floors public and residential building (orange); 1.3 Transformed "Danwei" public building (brown)

**Local Level Interface:**
1.1 Single-floor public building (red); 1.2 Multi-floors public and residential building (orange); 1.3 Transformed "Danwei" public building (brown)

**Residential Level Interface:**
2.1 Single floor residential building (yellow); 2.2 Multi-floors residential building (green); 2.3 Multi-floors "Danwei" residential building (blue)
1.1 Single-floor public building

* Main Typology in "Urban Level Interface" and "Local Level Interface"
* Shanty building along the main pedestrian street

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Street Building with Public Function</td>
<td>Single Floor</td>
<td>Commercial Function + Residential Function</td>
<td>Local Population own shop and hire M.W.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. family rent shop / L.P. not live with M.W.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. individuals collectively rent shop</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Location and Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom, Electricity, Sanitation, Fire Control, Toilet, Water, Kitchen</td>
<td>1. Along Pedestrian Street / Group</td>
</tr>
<tr>
<td>Share Many Facilities</td>
<td>2. Along Pedestrian Street / Single</td>
</tr>
</tbody>
</table>
1.2 Multi-floors public and residential building

* Main Typology in "Urban Level Interface" and "Local Level Interface"
* Shanty building along the main pedestrian street

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Street Building with Public Function</td>
<td>Multi - floors / 2 - 3 Floors</td>
<td>Commercial Function + Residential Function</td>
<td>L.P. Family live/ hire M.W.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Workin Shop and Live in Shop</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent one Room in one House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. individuals collectively rent One Room</td>
</tr>
</tbody>
</table>

Facilities:
- Bedroom
- Electricity
- Sanitation
- Toilet
- Fire Control
- Water
- Kitchen

Location and Combination:
1. Pedestrian Part of Urban Road
2. Pedestrian Street

Sufficient Facilities / share with few families
1.3 Transformed "Danwei" public building

* Minor Typology in "Local Level Interface"
* Shanty building from the transformed socialist "Danwei" compound

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Transformed Socialist Building to Mixed-use</td>
<td>Multi-floors</td>
<td>Commercial Function + Residential Function</td>
<td>Local Population own shop and hire M.W. / L.P. not Live in Building</td>
</tr>
<tr>
<td>M.W. Rent Building and Start Business / Live in Workplace</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>Single Building along the Street</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
</tbody>
</table>

Short of facilities / share with many different families
2.1 Single floor residential building

* Main Typology in "Residential Level Interface"
* Old residential building along the residential street and small lane

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Residential Building</td>
<td>Single Floor</td>
<td>Residential Function</td>
<td>Local Villager Live / Local Villager Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One House / One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One House / One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One House / One Room</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
</tr>
<tr>
<td>Electricity</td>
</tr>
<tr>
<td>Sanitation</td>
</tr>
<tr>
<td>Fire Control</td>
</tr>
<tr>
<td>Toilet</td>
</tr>
<tr>
<td>Water</td>
</tr>
<tr>
<td>Kitchen</td>
</tr>
</tbody>
</table>

* Share Many Facilities

<table>
<thead>
<tr>
<th>Location and Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In Residential Area Behind Commercial Street</td>
</tr>
<tr>
<td>2. Along Pedestrian Lane (Non-commercial Street)</td>
</tr>
</tbody>
</table>
2.2 Multi-floors residential building

* Main Typology in "Residential Level Interface"
* Old residential building along the residential street and small lane

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
<th>Location and Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 Residential Building</td>
<td>Multi-floors / 2 - 4 Floors</td>
<td>Residential Function</td>
<td>Local Villager Live / Local Villager Own the Houses</td>
<td>1. In Residential Area Behind Commercial Street</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room in One House</td>
<td>2. Along Pedestrian Lane (Non-commercial Street)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Room</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One Room</td>
<td></td>
</tr>
</tbody>
</table>

Facilities:
- Bedroom
- Electricity
- Sanitation
- Water
- Kitchen
- Fire Control
- Toilet

Share Many Facilities
2.3 Multi-floors "Danwei" residential building

* Minor Typology in "Residential Level Interface"
* Transformed building from the socialist "Danwei" compound

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Transformed Socialist Dormitory</td>
<td>Multi-floors</td>
<td>Residential Function</td>
<td>Local Villager Live / Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room / Several Families Share one Suit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Suit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Location and Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>In Residential Area Behind Commercial Street</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
</tbody>
</table>

Share Many Facilities
Case 3: "Huoju Village" Shanties on Urban Periphery (S.o.U.P.)

Shanty village on urban periphery located in between post-socialist urban area and rural area. It is several villages surrounded by post-socialist urban fabric and rural agricultural area. It is related to the metropolitan and urban fast transportation infrastructure. The area keeps the rural community and lifestyle, which attract many M.W. to live.

Urban scale public function: Livelihood and Interaction

The urban scale public functions centrally provide job opportunities for M.W>

- West: a small logistics centre
- South: office compound for U.P.
- Inside: storage for L.C. and small material market
Public Transportation Networks: Urban Flow

The public transportation networks connect the location and urban environment, which bring urban flow to the location.

The connection is relatively poor:
- **one bus stop on the south with one line**
- **one bus stop on the west with seven lines**
- the bus lines connect to the industrial zone in the east part of the city, which is the central workplace; few lines connecting to the central urban area
Local History: 2002

In 2002 the location was still the rural area. The farmland and village pattern can be clearly found. They formed the basic structure for the advanced urban development.
Local History: 2010

In 2010, new infrastructure were developed, the location became the shanties in-between post-socialist urban extension and rural area. The residential place is made of:

1. Original village (dark brown)
2. Shanty extension of village (light brown)
3. Rehousing area for Local villager (black block)

The place keeps many rural figures, such as rural community and rural lifestyle which attract M.W.
Urban Level Interface: Urban Level Function

The urban level interface can be found related to the residential place:

**Pink area:** the mixed-use service area in rehousing project

**Brown area:** small logistics centre

**Orange area:** material market in shanty extensions
Urban Level Interface: Infrastructure

Pink line: the urban fast road connects to the intercity and metropolitan infrastructure.
Red line: urban main roads are designed for heavy transportation but now it is under-used.
Orange line: the urban sub-roads are also designed for motor transportation.
There are few urban level functions located in the surrounding post-socialist urban fabric:
Red area: The office compounds with residential functions inside
Blue area: a school for urban population
Urban Level Interface: Public Transportation Networks

* One bus stop with one line located on the south part among the rehousing, storage area and urban environment.
* One bus stop with six lines located in the middle of the shanty area, among the reshousing project material market and shanty village residential area.
Urban Level Interface: Overview

The interfaces are the places in-between residential place and urban environment, where the M.W. could have livelihood and daily interaction with local villager, transformed villager and urban population. Location 1 is the place in-between the rehousing area, logistics centre and shanty residential area. Location 2 is the place in-between urban office compounds and storage area in “shanty residential place”.
Detailed View of Interface 1: Rehousing - Logistics area

Brown block: small logistics centre
Red block: service related to the small logistics centre
Pink block: mixed-use service related to the rehousing project
Sreet view

Interface in-between urban environment and shanty residential area.

Figure: west side - urban rehousing project and small logistics centre

Figure: urban fast road

Figure: east side - urban rehousing project and small logistics centre
Detailed View of Interface 2: Storage and service area

Dark brown Area: storage area in the "shanties" with working opportunities for M.W.
Pink block: Mixed-use service related to the storage area
Stree view

Interface in-between urban environment and shanty residential area.

Figure: north side - informal mixed-use service street in shanty area

Figure: urban main road under construction

Figure: south side - urban government office compound and urban residential compound

Figure: north side - informal mixed-use service street in shanty area
**Local Level Interface: Local Level Function**

**Pink area:** the mixed-use service road with shops restaurant, entertainment to offer job opportunities and chance of daily communication for M.W.

**Orange area:** the small market related to the rehousing area and mixed-use service road, can also provide livelihood and daily interaction for M.W.
Local Level Interface: Infrastructure

The local scale infrastructures are the basic bone of the interface. There are the urban secondary road in-between rehousing, logistics centre and village extension; there are also the original village road for village transportation.
Local Level Interface: Surrounding Function

Basically, the local level interface is related to the local scale functions in surrounding environment, which are the local urban residential compounds. The interface can provide service for both urban residential compounds and M.W.'s residential shanties.
Local Level Interface: Overview

The interfaces are the places to provide daily service to the M.W., local villager and transformed villager from the rehousing project area. It is related to the urban secondary infrastructure and original village road infrastructure. Location 1 is the mixed-use commercial street between and village extension and rehousing area. Location 2 is the mixed-use service street along the original village road.
Detailed View of Interface 1: Rehousing and small market area

Pink block: rehousing project with service and commercial function on the ground floor. Orange block: the extensions on farmland pattern which are used as small market.
**Stree view**

M.W. and local villagers and "transformed villager" in rehousing area use the place for livelihood and daily interaction.

Figure: west side - rehousing area

Figure: east side - local storage and market
Detailed View of Interface 2: Original Village Road

Pink block: They are the mixed-use commercial and service building along the original village road. It is the interface for livelihood and daily interaction between M.W. and local villagers.
Stree view

The original road with shops along the street is the place where local villager and M.W. have livelihood and daily interaction.

Figure: wide area - mixed-use service village road, motor transportation available

Figure: Narrow area - service and residential village road, motor transportation available
Residential Level Interface: Residential Level Function

Yellow area: the original village street with original village residential buildings. The main meeting place for the neighbours, which is similar to the residential lane in ancient "Jiexiang" system.

Green area: the existing open space, it is the central meeting place for neighbours. Basically, it is the unoccupied farmland.
Residential Level Interface: Infrastructure

Red line: They are pedestrian-oriented original village streets. They are the main connection for the village residential buildings.
Orange line: They are the path in-between shanty extension on farmland pattern. Some are wide connecting to the storage; some are narrow connecting to the shanty residential area
Residential Level Interface: Overview

The original village street is the main residential level interface. The neighbours have sufficient space to meet and communicate. The path in the extension area is the informal place for the M.W. to live with neighbours, there are problems with daily communication.

Location 1 is the original village street. Location 2 shows the informal path in storage residential mixed-use area.
Detailed View of Interface 1: Original village street

Yellow block: the original village building along the original village street, it is the original linear public space for the neighbours. The M.W. and local village now share the space.
Stree view

M.W. and local villagers use the streets as daily meeting places. The neighbours may access a closed relationship through the simple daily interactions.

Figure: west side - residential buildings

Figure: east side - residential buildings
Detailed View of Interface 2: Storage and residential area

Light brown block: the storage building, the area was the extensions on farmland pattern; it is a transportation-oriented development. However, some M.W. also use the area for residence. It is informal and problematic.
Some M.W. live and work in the storage building. They may only have interaction with U.P. (the client) in the interface on specific moment. It is a special case of residential level.

Figure: west side - storage

Figure: east side - storage
Main Building Typology

Urban Level Interface:
1. Rehousing project (dark blue); 2. Large Space Storage Building (light brown); 3.1. Mixed-use Public Building (red);

Local Level Interface:
3.1. Mixed-use Public Building (red); 3.2 Mixed-use Public and Residential Building (orange);

Residential Level Interface:
4.1 Multi-floors Residential Building (green); 4.2 Residential Building with Extension (yellow green); 4.3 Single-floor Residential Building (yellow)
# 1 Rehousing for Local Villager

* Main Typology in "Urban Level Interface"
* Good quality urban building

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-housing for L.V.</td>
<td>Multi - floors / 4 - 6 Floors</td>
<td>Ground: Public Function / Upper: Residential</td>
<td>Local Villager Live / Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room / Several Families Share one Suit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Suit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>Homogenized Grids</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>

- Average Facilities / Share with Some families
- M.W. Work for the Storage
- No Local Villager Live / Local Villager Own the Building
# 2 Large space / Storage Building

* Main Typology in *Urban Level Interface* and Inside Village
* Large space shanty extension

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Building</td>
<td>Single Floor</td>
<td>Storage / Garage / Logistics</td>
<td>No Local Villager Live / Local Villager Own the Building</td>
</tr>
<tr>
<td>M.W. Work for the Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom</td>
<td>Group Inside the Extension Area</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
</tr>
</tbody>
</table>

Short of facilities / Problem of Security / Share some facilities
### 3.1 Mixed-use Public Building

* Main Typology in "Urban Level Interface" and "Local Level Interface"
* Shanty new building in extension area

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed-use:</td>
<td>1 - 2 Floors</td>
<td>Public Function +</td>
<td>Local Villager own the Building / Owner of Business</td>
</tr>
<tr>
<td>Public + Non-residential</td>
<td></td>
<td>Non-residential / Storage</td>
<td>M.W. Family Rent Building / Work and Live in Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Rent Building / Work and Live in Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L.V. Cooperate with M.W. / M.W. live in Workplace</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Building</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace</td>
<td></td>
<td>Border of Village / Main Village Street</td>
</tr>
<tr>
<td>Bedroom</td>
<td></td>
<td>Group + Individual</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td>Lack of Facilities / share most Facilities</td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Image of mixed-use public building with facilities and user types]
### 3.2 Mixed-use Public and Residential Building

* Main Typology in "Local Level Interface"
* Original village building

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed-use / Public Function</td>
<td>Multi - floors / 2 - 3 Floors</td>
<td>Ground: Public Function Upper: Residential</td>
<td>Local Villager own the Building / Owner of Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Work and Live in Building / Only Rent Residential Rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L. V. hire the M.W. / Live Together in the Building</td>
</tr>
</tbody>
</table>

#### Facilities
- Workplace
- Bedroom
- Electricity
- Kitchen
- Toilet
- Water
- Sanitation
- Fire Control

#### Building
- Sufficient facilities
- 1. Border of Village - Main Urban Street
- 2. Pedestrian Street in Village
4.1 Multi-floors Residential Building

* Main Typology in "Residential level interface" and residential area
* Original village building

<table>
<thead>
<tr>
<th>Type</th>
<th>Building</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Building</td>
<td>Multi-floors / 2 - 4 Floors</td>
<td>Residential Function</td>
<td>Local Villager Live / Local Villager Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One Room in One House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One Room</td>
</tr>
</tbody>
</table>

Facilities

- Bedroom
- Electricity
- Kitchen
- Toilet
- Water
- Sanitation
- Fire Control

Problem of Security / Share some facilities

Building

1. Old Village Street
2. Behind the Street Building / Residential Area
### 4.2 Residential Building with Extension

* Main Typology in "Residential level interface" and residential area
* Shanty extension of the original village building

<table>
<thead>
<tr>
<th>Type</th>
<th>Architecture</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Non-residential Building for Residential Function</td>
<td>Single Floor</td>
<td>Residential Function</td>
<td>No Local Villager Live / Local Villager Own the Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Families Share the Big space / Use Fence to separate space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share the Big space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Families and Individual Share</td>
</tr>
</tbody>
</table>

#### Facilities
- Bedroom
- Electricity
- Kitchen
- Sanitation
- Toilet
- Water
- Fire Control

#### Location and Combination
1. Individual on the Street
2. In Extension Residential Area

Lack of facilities / share with many different families
### 4.3 Single-floor Residential Building

* Main Typology in "Residential level interface" and residential area
* Shanty extension on farmland pattern

<table>
<thead>
<tr>
<th>Type</th>
<th>Architecture</th>
<th>Function</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Building</td>
<td>Single Floor</td>
<td>All Residential Function</td>
<td>No Local Villager Live / Local Villager Own the Houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M.W. Family Rent One House / One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. Share One House / One Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual M.W. rent One House / One Room</td>
</tr>
</tbody>
</table>

**Facilities**
- Bedroom
- Electricity
- Kitchen
- Sanitation
- Toilet
- Water
- Fire Control

**Location and Combination**
1. On the Original Farmland Pattern / Open Form
2. On the Original Farmland Pattern / Enclosed Form
3. Individual in Residential Area

Lack of facilities / share with many different families
CONCLUSION:

Three strategic residential places used by M.W.

This research study examines the Chinese urban "Migrant Worker-used existing residential places".

In central urban area, the "Shanties in old urban area is the place where the ancient "Jiexiang", transformed "Danwei" and new "Shequ" fabric can be found together. Basically, the M.W. mixed with urban poor people living in the shanty building in "Jiexiang" fabric.

In-between socialist and post-socialist urban area, the "Village within City" is fragmented villages fabric surrounded by urban environment. The M.W. mixed with the local village centrally staying in the original villages and their shanty extensions.

In-between post socialist urban area and rural area, the "Shanties on urban periphery" is the place consists of villages, their shanty extensions and rehousing project for the local villagers. It is engaging the post-socialist urban environment without integration. the M.W. and local villager mixed live together.

Public realm as the Interface for Integration

Although the urban existing "M.W.-used residential places" are not part of the urban planning system, the spatial instrument cans perceived as similar instrument for the "normalized residential system for urban population.

The public realm related to the "M.W.-used residential place" plays the key role in socio-spatial integration. It is the interfaces, spatially, in-between the residential place and its urban surroundings, also in-between different parts inside the residential place.

Socially, it is the place where the M.W. and U.P. naturally develop a connection based on the relationship of livelihood. It is also the place for M.W. and U.P. have daily pass by meetings. As a result, it is one of the key spatial instruments to integrate the M.W.s under urbanized communities into the urban community.

Spatially and socially, the public realm of the "N.R.S." is the interface to achieve the integration.

"Three Level Interfaces Structure" in public realm

According to the study of three cases, the local contexts have strong impact to the "M.W.-used residential places". However, the principles for organization of public realm can be also understood as "Three level interfaces structure":

"Urban Level Interfaces" is the place in-between the residential place and urban surroundings with urban scale function, where the M.W. can live with the U.P.
"Local Level Interfaces" is the place in-between the residential place and surrounding urban residential area for local urban residence, where the M.W. can live with the local urban residence.
"Residential Level Interfaces" is the place in-between different parts inside the residential place, where the M.W. and other local dwellers (urban poor, villager, etc.) can live and meet their neighbours.

The "Three level interfaces" is the potential structure for the integration of residential space into urban environment. However, basically, this structure in those three cases is developed informally and privately. The shanty quality turned out to be the barrier for the livelihood and interaction.
SECTION 5: STRATEGY

What is the strategy for formalization and integration of the "M.W.-used Existing Residential Place", in order to allow M.W. to integrate into urban community?

**Strategy:**

In research section 2, the conclusion pointed out that the public realm makes the city into a place where the people can live with their friends and strangers; The public realm is the place where Migrant Workers can live with other M.W. and Urban Population; It is the place where M.W. can access livelihood and daily public interaction with other M.W. and U.P. It is the key spatial instrument to achieve the socio-spatial integration.

In research section 3, the case study of the "Normalized urban residential system" for urban population finds out that the public realm related the residential system organized dwellers to meet dwellers, also to meet the strangers from outside. The organization of public realm can be perceived as a "Three Level Interfaces Structure". On urban level, the structure organized the integration between the local dwellers and urban people; on local level, it organized the interaction between the local dwellers from inside and outside the residential place; on residential level, it organized the meetings between neighbours. In the process of interaction, the social integration can be achieved.

In research section 4, the case study of urban "M.W.-used existing residential places" finds out that although those places are developed out of the formalized urban planning system, the public realm are formed to organize the M.W.s urban life. It is the significant place where the M.W. live with urban population. The structure can be also perceived as a "Three Level Interfaces Structure". On urban level, the place allows the M.W. to live with the different U.P.; on local level, the place allows M.W. to live with local urban residence; on residential level, the place allows M.W. to live with their neighbours. In those places, the M.W. can have the livelihood and daily interaction.

**Concept: Three level Interfaces Structure (Fig. 5.1)**

According to the study, the concept of "Three level interfaces structure" can be developed. The public realm in this concept is the basic structure to organize the residential space and urban environment.

The urban level interface is the place in-between the residential place and urban environment. Spatially, the metropolitan and urban scale infrastructure forms the basic bone. It is related to the urban scale functions in the urban surroundings, e.g. the college, the wholesale market, etc. The public transportation networks are the key to bring urban flow. Basically, on the interface, the residential place is developed as parts the urban scale functions, or as an extension to provide relevant services to the urban scale functions. Socially, it is the place where the M.W. can live with different urban population: they may have economic connections, or they can participate in the same public activities, or only have pass by meetings. Economically, it is the place where the money starts to exchange, the resources from U.P. flows into the M.W.s pocket, from the urban environment into residential place.

The local level interface is the place in-between the residential place and local surroundings. Spatially, the urban secondary scale infrastructure forms the basic bone. It is related to the local scale functions in the urban surroundings, e.g. the elementary school, the urban residential compound, etc. Basically, on the interface, the residential place is developed as an extension to provide relevant services to those functions. Socially, it is the place where the M.W. can live with the local urban dwellers, which live and work...
locally: they may have economic connections, or they can participate in the same public activities such as community cultural activities, or only have pass by meetings. Economically, it is the place where the small scale exchange can be found between local residence and M.W.

The residential level interface is the place in-between different parts inside the residential place. Spatially, the residential scale pedestrian infrastructure forms the basic bone. It is related to the residential functions inside the place. Basically, on the interface, it is developed as the residential street or open public space with greenery and facilities. Socially, it is the place where the M.W. can live with their M.W. neighbours, or with the special group, e.g. the local villager, the urban poor, etc.: they can participate in the some public activities, or only have daily meetings. Economically, it is the place where M.W. rent is transformed into residential spatial quality.

The “Three level interfaces structure” is the basically public realm-oriented spatial structure to achieve the integration of space on different levels. It is also the social and economic structure to integrate the M.W. and U.P.. This concept established the theoretical framework of the strategy. It is the core for the transformation of the M.W.-used existing residential place.

Time line:

The transformation of “M.W.-used residential place” focuses on examining the problems of the “Three Level Interface Structure” in the realistic and practical context. Then by strengthening the existing “structure” and formalizing the “interface”, the residential place can be spatially integrated into urban environment and planning system. Economical-socially, the place can allow more M.W. access to better livelihood and daily interactions; it can be seen as a transitional place between the M.W. rural community and urban community. Consequently, the M.W.s own urban life can be formalized.

Due to realistic context, the transformation needs to be carried out in following orders.

Short-term: 1 to 2 years, the urban level interface needs to be transformed. For the M.W., the number is growing drastically in Changsha city. The transformation of urban level interface can provide more working opportunities for M.W. by which they can reach the first level “livelihood” of their normalized life; For the government sector, they are the main investor and organizer on this level, who can ensure the efficiency and implementation of transformation; Moreover, the government can earn more tax from the transformed interface, in order to implement the advanced transformation.

Middle-term: 5 years, the local level interface needs to be transformed. For the M.W., they can achieve better interaction with local urban residence by their livelihood, in order to establishing the second level “daily public interaction” of their normalized life; For the government sector, they are still the main investor and organizer on this level, who can ensure the quality of transformation; Moreover, they can earn tax from the transformed interface, in order to provide maintenance and services.

Long-term: 10 years, the residential level interface needs to be transformed. For the M.W., the elder generation and children generation add uncertainties to social structure. The transformation can allow them to concentrate on forming their own communities within the residential place; The public organization and private investor is the main organizer and investor in this level transformation, only when they have sufficient finance, they can start to transformation; The government sector only need to provide guidance and suggestion.
<table>
<thead>
<tr>
<th>Metropolitan and Urban Scale</th>
<th>Environment</th>
<th>Infrastructure</th>
</tr>
</thead>
</table>
|                            | * Urban Environment | * Intercity Road  
|                            |                        |   * Metropolitan Road  
|                            |                        |   * Urban Road |

<table>
<thead>
<tr>
<th>Local Scale</th>
<th>Environment</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>* In Urban Block</td>
<td></td>
<td>* Urban Secondary Infrastructure</td>
</tr>
<tr>
<td>* Neighbourhood + Local Surroundings</td>
<td></td>
<td>(connecting to urban scale infrastructure)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residential Scale</th>
<th>Environment</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>* In neighbourhood</td>
<td></td>
<td>* Main neighbourhood road</td>
</tr>
<tr>
<td>* Local Residential Environment</td>
<td></td>
<td>* Pedestrian - Oriented road for Houses</td>
</tr>
</tbody>
</table>

Fig 5.1
<table>
<thead>
<tr>
<th>Key Programme in Surrounding</th>
<th>Residential Place</th>
<th>Process</th>
</tr>
</thead>
</table>
| * Public Transportation node  
  * Specialized Urban Function related to M.W.s livelihood | * Integration to Specialized Urban Function  
  * Provide Service to Urban Scale Function | * Short-term 1~2 years |
| * Public realm related to the local scale function  
  * Local residence | * Provide Service to Local Scale Function | * Middle-term 5 years |
| * Residential Function along the road | * Strengthen the Residential Function  
  * Public Open Space | * Long-term 10 years |

- Individual M.W.
- Livelihood & Basic daily Interaction
- Benefit the Urban Economy and Urban Spatial Quality
- Family
- Basic daily Interaction
- Benefit the Residential Quality
SECTION 6: TRANSFORMATION OF LOCATION

How to use the "Three level interfaces structure" to transform the "Interface" of "M.W.-used existing residential place", in order to allow the M.W. achieve better livelihood and interaction with U.P. from outside and their neighbours?

How to use the planning and design to test the strategy? What is the key intervention?

Who are the main stakeholders? What is the process of implementation?

In this research section, the "Village within City" was chosen to make planning and design to test the strategy.

The transformation focuses on strengthening the "Three level interfaces structure", to restructure and upgrade the interfaces from urban level, local level, to residential level, in order to integrate the residential place with urban environment, also to establish a more integrated residential environment within the place.

In each level, one strategic location is chosen as the key intervention to show how urban design can change existing spatial condition, to adapt to the social and economic demands.

The planning and design also exams the implementation and stakeholders, to argue about the cost and feasibility of the strategy.

Basically, the strategy hopes to use the simple and low cost transformation to allow more M.W. access a better livelihood and daily public interaction in their residential place.
Existing:
* The urban scale function is the centralized workplace for M.W.

Proposal:
* The location can be integrated to the wholesale market on the north, logistics centre on the east and motor repair area on the west. Spatially, they form the interface between urban environment and V.w.C.
Public Transportation Network: Urban Flow

Existing:
* Two bus stops connecting the wholesale market side and motor repair area side of V.w.C.

Proposal:
* Pink line and pink circle: New bus stops connecting the interface between V.w.C. and Logistics centre; new bus line connecting V.w.C. with wholesale market, industrial zone (brown area).
Urban Level Interface: Infrastructure

Existing:
* Orange line: the urban sub-road for logistics transportation crossed the V.w.C.

Proposal:
* Orange line: design a new urban sub-road between V.w.C. and industrial factory. Transform the old urban sub-road in V.w.C. to urban secondary infrastructure.
**Existing:**
* Red circle: Two bus stops bring urban flow to the interface on wholesale market and motor repair area sides.

**Proposal:**
* Pink circle: Add new bus stop to consist the new interface among V.w.C. and industrial factory and logistics centre.
Existing:
* Three urban scale functions

Proposal:
* Purple area: enlarge the interface by densifying the motor repair programme and adding new shops under flyover to achieve the integration to the urban motor repair area.
* Red area: Densify the food market; and transform the parking area under the flyover to temporary stops for M.W.'s informal taxis and space for cart and stall
* Brown area: replace the old logistics area to the new infrastructure; Transform the unused factory area to logistics centre
Existing:
- Gray area: Urban ring road system with flyover, the space under flyover is used as parking space.
- West side: Urban motor repair area and motor parts market.
- East side Purple area: shanty motor repair area in V.w.C.
- Detail: the plantation, electricity and lamp facilities are barrier for motor repair work.
Key Intervention: Motor Repair Area

Proposal:
- Under the flyover- Purple and orange block: transform the parking space to motor repair and cart market area
- Purple block in V.w.C.: Densify and upgrading the shanty motor repair area to formalized motor repair area; add residential function
- New bus stop in the middle of the motor repair area
- Detail: Transform the facilities for residential and motor repair environment
Model 1

**Existing:**
* Yellow building: Shanty motor repair area

**Proposal:**
* Red building: Densify and formalize the motor repair area as motor repair, service and residential mixed-use area
* Transform the plantation, facilities of flyover and sidewalk for residential and motor repair mixed-use
Model 2

Existing:
* Under flyover: low efficient parking space

Proposal:
* Purple area: Transform the parking space to motor repair area, allow the poor M.W. renting the space to set up stall and cart
**Existing:**
* Parking space is the barrier between village within city and urban environment.

**Proposal:**
* New motor repair area add new layer into the existing interface to achieve the integration between V.w.C. and urban environment.
**Building Typology**

**Existing:**
* Shanty single floor motor repair shop

**Proposal:**
* New building will be Multi-floors large motor repair building with residential space on upper floors. The formalized building can make extension of the spatial interface.
Phenomenon

The new motor repair area will offer more jobs to M.W.; the new residential space will increase the vitality to the street. The formalization will access the integration of V.w.C. and urban environment, it also create more chance for the meeting between M.W. and U.P.
### Stakeholders and Implementation of Planning Test

<table>
<thead>
<tr>
<th>Sectors</th>
<th>People</th>
<th>Ownership</th>
<th>Transformation Investment</th>
<th>Key Action of Sectors</th>
</tr>
</thead>
</table>
| **Government Sector** | * Urban Planning  
* Transportation Department  
* Construction Department | * Urban Infrastructure  
* Transportation Facilities  
* Plantation and Facilities  
* Parking Area | * New Urban Sub road  
* New Facilities  
(Traffic Light, etc.)  
* New Green Area  
* New Bus Stop and Informal Taxi stop | Cooperation  
* Government + Public:  
1. To build the new bus line  
2. Maintenances of Facilities  
* Government + Private:  
1. Factory redevelopment  
2. Logistics redevelopment  
3. Food Market redevelopment  
4. Village facility redevelopment  
5. Collecting Tax from Villagers  
* Government will be the main investor and organizer. The cost is much lower than build-up a entire new system, moreover, the government could earn tax from villager in future. |
| **Public Sector** | Urban:  
* Bus Company  
* Facility Maintenance Company  
* Urban manager office | Urban:  
* Bus line  
* Drainage, electricity, water, etc. | Urban:  
* New Bus line  
* Maintenance of New Facilities  
* Organization of activities | Village:  
* Restructure the Facilities  
* Village:  
* Road and Facilities in Village  
* Village:  
* Redevelop the Factory  
* Extension of Logistics Centre  |
| **Private Sector** | Urban:  
* Factory Owner  
* Logistics Centre Owner | Urban:  
* Industrial Factory  
* Logistics Centre | Urban:  
* Redevelop the Factory  
* Redevelop the old area and Moving to New Logistics road  
* Redevelop the Motor Repair Area and New Business under flyovers. | Village:  
* Redevelop Food Market  
* Village :  
* Food Market  
* Logistics Area Building  
* Motor Repair Area Owner  
* Motor Repair Area Owner  |
| **Stakeholders and Implementation of Key Intervention** | * Urban Planning  
* Transportation Department  
* Construction Department  
* Landscape Plantation Department | * Urban Ring Road  
* Flyover  
* Transportation Facilities  
* Plantation  
* Public Facilities  
* Parking Area | * New Transportation Facilities for ring road and flyover  
* Replace bus stops  
* New plantation along ring road  
* New Electricity, Drainage, etc.  
* Parking to Motor repair field | Cooperation  
* Government + Public:  
1. Replacing the bus line  
2. Maintenances of Facilities  
* Government + Private:  
1. Redevelopment of Motor Repair Area  
2. New motor repair area under flyover  
3. Village facility redevelopment  
4. Collecting Tax from Villagers  
* Government is the main investor and organizer of the transformation; Local villager is the investor in neighbourhood area; the long-term maintenances need the public sector |
| **Government Sector** | Urban:  
* Bus Company  
* Facility Maintenance Company  
* Urban manager office | Urban:  
* Bus line  
* Drainage, electricity, water, etc. | Urban:  
* Modifying the Bus line  
* Maintenance of New Facilities  
* Organization of activities | Village:  
* Restructure the Road  
* New connection to ring road  
* New connection to urban facilities  
* Village :  
* Road and Facilities in Village  
* Village:  
* Redevelop the Factory  
* Extension of Logistics Centre  |
| **Public Sector** | Village:  
* Rural Committee | Village:  
* Road and Facilities in Village | Village:  
* Restructure the Road  
* New connection to ring road  
* New connection to urban facilities | Village:  
* Restructure the Road  
* New connection to ring road  
* New connection to urban facilities  
* Village :  
* Road and Facilities in Village  
* Village:  
* Redevelop the Factory  
* Extension of Logistics Centre  |
| **Private Sector** | Village:  
* Motor Repair Shop Owner  
* Housing Owner | Village:  
* Repair building along road  
* Housing in village | Village:  
* Demolishment and redevelopment of new motor repair building  
* Redevelopment of housing  
* Rent new motor repair area from government and invest new motor repair shop | Village:  
* Demolishment and redevelopment of new motor repair building  
* Redevelopment of housing  
* Rent new motor repair area from government and invest new motor repair shop  
* Government is the main investor and organizer of the transformation; Local villager is the investor in neighbourhood area; the long-term maintenances need the public sector |
Local Level Interface: Infrastructure

Existing:
* The green lines around V.wC. is the small urban street for pedestrian, but the logistics centre often use them as roads.

Proposal:
* Green line in the middle of V.w.C.: After designing the new urban sub-road, the old one crossing the middle of V.w.C. can be transformed as pedestrian oriented urban street.
* Yellow line: The old urban street between V.w.C. and L.C. can be upgrade to urban secondary road for transportation.
Local Level Interface: Programme

**Existing:**
* Pink: The Mixed-use commercial area serves both V.w.C. and L.C.
* Light brown: Storage is the attachment of Logistics centre

**Proposal:**
* Orange: After the replacing the Logistics area, the centre area can be transformed as "open street market" to organize the M.W. who have cart and stall but can't pay high rent for shop building.
* Brown: after the transformation of new road and replacing the L.C., more Logistics companies can be added to storage area.
* Pink: The existing service area must be kept.
**Key Intervention: Open Street Market**

**Existing:**
- 4 lanes urban sub-road for logistic transportation
- Truck traffic-oriented environment
- Logistics company (brown) dominate the street
- Few service (pink) and many stall and cart on the road
Key Intervention: Open Street Market

Proposal:
* Two lanes urban street to extend the pedestrian space for open street market to organize stall and cart
* Redesign plantation and lamp for pedestrian and commercial experience
* Transform the logistics company to service, restaurant, and entertainment shop
* Densify the residential building
Existing:
* Logistics Transportation-oriented road environment
* Logistics company-dominated architecture environment

Proposal:
* Transform the urban level road as urban secondary road to extend the open street market
* Transform the building for commercial pedestrian experience
Existing:
* Transportation-oriented 4 lanes urban sub-road, with very poor pedestrian quality
* Logistic company - used Single-floor and multi-floors building

Proposal:
* Add new plantation and redesign the lamp for pedestrian and street market experience
* Allow M.W. to rent street market and give them freedom to organize the activities
* Densify the good quality building and facade
Building Typology

Existing:
* Single floor public function building
* Multi-floors public function on ground floor with residential function on upper floors

Proposal:
* Densification of the existing good quality building by adding new floor
* Transform the existing homogenized facade to open facade with traditional characteristics
The new building typology can form the pedestrian environment and vitality of street.
Phenomenon

The street market will become the new central place for dwellers in V.w.C. and urban residence from surroundings. The M.W. should have freedom to use their own creativity to organize their livelihood and possible interaction with U.P...
## Stakeholders and Implementation of Planning Test

<table>
<thead>
<tr>
<th>Sectors</th>
<th>People</th>
<th>Ownership</th>
<th>Transformation Investment</th>
<th>Key Action of Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector</strong></td>
<td><strong>Urban Sector</strong></td>
<td>* Logistics Centre Owner * House owner in L.C.</td>
<td>Urban: * Logistics Centre * Apartment</td>
<td>* Government will still be the main organizer and investor. However, the village organization and individual villager will be the main investor in the transformation.</td>
</tr>
<tr>
<td>Village:</td>
<td>* Service shops owner * Logistics area owner * Storage owner * House owner</td>
<td>Village: * Shops * Logistics company * Storage * House</td>
<td>Village: * Redevelopment of shop building * Logistics company to street market, service shop * Storage street to Logistics Company</td>
<td></td>
</tr>
<tr>
<td><strong>Private Sector</strong></td>
<td><strong>Village Sector</strong></td>
<td>* Logistics shop owner * Storage owner * House owner</td>
<td>Village: * Logistics company * Storage building * House</td>
<td></td>
</tr>
</tbody>
</table>

## Stakeholders and Implementation of Key Intervention

<table>
<thead>
<tr>
<th>Sectors</th>
<th>People</th>
<th>Ownership</th>
<th>Transformation Investment</th>
<th>Key Action of Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government Sector</strong></td>
<td><strong>Public Sector</strong></td>
<td>* Urban Planning   * Construction Department * Urban Road * Facilities</td>
<td>* Transform urban sub-road to urban road + street market * New Green Area / Plantation * New public facilities</td>
<td>Cooperation * Government + Public: 1. Transformation of urban sub road to street market area 2. Street market facilities 3. Maintenance of road and facilities</td>
</tr>
<tr>
<td><strong>Private Sector</strong></td>
<td><strong>Village Sector</strong></td>
<td>* Logistics shop owner * Storage owner * House owner</td>
<td>Village: * Logistics company * Storage building * House</td>
<td>* Government will be the main investor to the road and public facilities. Meanwhile, the individual villager will play crucial role in the investment of building and activities. The public sector are important in maintenance of the interaction activities.</td>
</tr>
</tbody>
</table>

* Government will be the main investor to the road and public facilities. Meanwhile, the individual villager will play crucial role in the investment of building and activities. The public sector are important in maintenance of the interaction activities.
Local Level Interface: Infrastructure

Existing:
* Original village infrastructure was destroyed by unorganized extension.

Proposal:
* Restructure the street system to achieve better accessibility
Local Level Interface: Programme

Existing:
* Green area: Few open spaces are used as public meeting place, mixed with storage and garbage dumping place
* Yellow area: Few preserved residential building along Original Street

Proposal:
* Green area: Add new open space with facilities as central meeting place
* Yellow area: Regenerate the building along the original street as accessible residential environment
Key Intervention: Residential Street

Existing:
* Red and orange line: Disconnected original village street and shanty extension path
* Green and dark brown area: Destroyed open space as storage and garbage dumping
* Low dense and poor quality shanties (gray) and transformed original building with storage function on ground floor (dark brown)
Proposal:
* Red line: Reconnect the village street to urban infrastructure, transform it as linear public space for dwellers
* Green area: Restore the open space as central public meeting place
* Yellow block: Densify and regenerate the residential building
**Model**

**Existing:**
* **Light red area:** Disconnected original village street
* **Green:** Destroyed open space
* **Low dense and poor quality shanties (yellow) and transformed original building with storage function on ground floor (brown)**

**Proposal:**
* **Light red line:** Reconnect the village street to urban infrastructure
* **Green area:** Restore the open space as public meeting place
* **Red building:** Densify and regenerate the building
* **Brown building:** Transform the facade and function as residential building
Detail

**Existing:**
* Light red area: Original village street is destroyed
* Green and Dark Brown: Open space is used as public meeting place, storage and garbage dumping place
* Brown building: Ground floor of street building is used as storage or simply closed

**Proposal:**
* Light red and green: Redesign the street, sidewalk and greenery
* Green area: Redesign the open space by adding greenery and small facilities (chair, sports, etc.), which is essential for children and elders
* Red building: Add new residential building to form the street and public open space.
* Brown building: Transform as residence
Existing:
* Shanty single floor residential building on the original farmland pattern
* Shanty none residential building basically with storage function

Proposal:
* Multi-floors residential building with open and traditional facade, the M.W. and local villager can mixed live together.

The new building typology can densify the area and form the residential street phenomenon.
Phenomenon

The street will become a main access of the residential area. Widening the street, regenerating the building will form a linear public space for neighbours. The possible evidence can be found in traditional "Jiexiang" system.
### Stakeholders and Implementation of Planning Test

<table>
<thead>
<tr>
<th>Sectors</th>
<th>People</th>
<th>Ownership</th>
<th>Transformation Investment</th>
<th>Key Action of Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Sector</td>
<td>* Urban Planning</td>
<td>* Urban public facilities (electricity, water supply, drainage, environment, etc.)</td>
<td>* provide connections to the village public facilities</td>
<td>Cooperation</td>
</tr>
<tr>
<td></td>
<td>* Construction Department</td>
<td></td>
<td></td>
<td>* Government + Public: 1. Connection and maintenance of public facilities</td>
</tr>
<tr>
<td></td>
<td>* Facility Maintenance Company</td>
<td>* no ownership</td>
<td>* Maintenance of New Facilities</td>
<td>* Public + Private: 1. Restructure and maintenance of the pedestrian street environment</td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Urban:</td>
<td>Urban:</td>
<td>Urban:</td>
<td>* The village organization and individual villager will be the main investors to restore the village residential environment; Government do no need to participate in the process directly. It should give them enough freedom for self-assistance.</td>
</tr>
<tr>
<td></td>
<td>Urban:</td>
<td>Urban:</td>
<td>Urban:</td>
<td></td>
</tr>
<tr>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
</tbody>
</table>

### Stakeholders and Implementation of Key Intervention

<table>
<thead>
<tr>
<th>Sectors</th>
<th>People</th>
<th>Ownership</th>
<th>Transformation Investment</th>
<th>Key Action of Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Sector</td>
<td>* Urban Planning Department</td>
<td>* no ownership</td>
<td>* Provide transformation principles and suggestions</td>
<td>* Cooperation</td>
</tr>
<tr>
<td></td>
<td>* Urban Planning Department</td>
<td></td>
<td></td>
<td>* Government + Public: 1. Connection and maintenance of public facilities</td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Urban:</td>
<td>Urban:</td>
<td>Urban:</td>
<td>* The village organization will be the main organizer of transformation; the individual villager will be the main investors to change the residential environment; Government only need to provide suggestions and guidance.</td>
</tr>
<tr>
<td></td>
<td>Urban:</td>
<td>Urban:</td>
<td>Urban:</td>
<td></td>
</tr>
<tr>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village:</td>
<td>Village:</td>
<td>Village:</td>
<td></td>
</tr>
</tbody>
</table>

* Urban Planning Company
* Construction Department
* Logistics Centre Owner
* House owner in L.C.
* Logistics Centre
* Apartment
* Facility Maintenance Company
* Urban Planning Department
* Building owner
* Rural Committee
* Original house
* Shanty extension house
* Shanty non-residential building
* Original village road
* Path in extension area
* Open space in village
* Maintenance of New Facilities
* Organization of activities
* Maintenance of facilities (drainage, water supply, electricity, etc.)
* Restructure the original road and path
* New open space for residence daily activities
* New public open spaces
* New plantation and facilities
* Restructure the road and Facilities
* New public open spaces
* Demolishment and redevelopment of buildings
* Change the non-residential building along street into residential building
* Redevelop the facade and frontier
* Cooperate
* House owner in L.C.
* Village organization and individual villager will be the main investors to restore the village residential environment; Government do no need to participate in the process directly. It should give them enough freedom for self-assistance.
In this research section, the strategy of "three level interfaces structure" transforms the interface of "village within city".

On urban level:
The existing motor repair area and food market are kept and highlighted as the key interface between the V.w.C. and the urban motor repair market on the west, wholesale market on the north respectively. The informal existing logistics area in the middle of the V.w.C. will be replaced to the new infrastructure on the south, as a stronger interface to connect the V.w.C. to the Logistics Centre and industrial factory.
The key intervention is the motor repair area. The aim is to upgrade the capacity and capability of the existing informal village motor repair area, to integrate it with the urban motor repair area on the opposite side of the urban ring road. The new motor repair area under the flyover replaces the inefficient parking area. The accessibility between both side of the ring road is improved. The transformation of the single floor motor repair building to multi-floors residential + motor repair building is the key to enlarge the spatial and social interface.
Local Government is the main investor and organizer in this process. However, they can gain tax to pay the transformation. Local villagers need to follow the guidance to transform their buildings.

On residential level:
The original village streets and public open spaces are the interface in-between the M.W. and their neighbours. The transformation simply restores the destroyed original village street by redesigning the structure of the streets system and regenerating the village building along the main street as traditional residential building. The existing destroyed open spaces are facilitated, new open spaces are added into the shanty area as the main meeting place for those residence.

The key intervention chooses the open street market to make design. The aim is to transform the logistics transportation oriented road to commercial pedestrian oriented space. New open space is designed for the cart and stall, regeneration of building is crucial for residential commercial mixed experience.

On local level:
The existing two mixed-used service streets are kept as the key interface between the V.w.C. and logistics centre, urban residential compound respectively. The existing storage area is integrated to the logistic centre and new logistics area (urban level interface). The new open street market replaces the old logistics area in the middle of the V.w.C., to achieve a better integration between two parts of the V.w.C., it can be also the daily service and commercial centre in this urban block for the local surroundings.
The key intervention chooses the open street market to make design. The aim is to transform the logistics transportation oriented road to commercial pedestrian oriented space. New open space is designed for the cart and stall.
SECTION 6: EVALUATION

Aim and Research Process:
The initial aim of the graduation project is to develop a “normalized residential system” for the low-income migrant workers to allow them have their own normalized urban life, in order to achieve the integration with urban society.

The project starts with the debates between “top-down universalized solution” and “bottom-up contextualized solution”. In the political, economic and social dilemma for M.W. instead of choosing the expensive, grand and ideal “universalized solution”, the author argued that the “contextualized trend” is feasible and possible. It respects the urban context, which can achieve more by less cost.

Based on the sociology argumentations, the public realm was defined as the spatial instrument to formalize the urban existing residential places used by Migrant workers informally and privately. However, there is no direct theory for the “public realm” as the solution for “M.W.s residential problem”. The cases study of the “public realm” of historical and contemporary normalized residential system for urban population normalized urban life; and the cases study of the “public realm” related to the M.W.-used residential places, become the significant empirical evidences to find out how the “public realm” formed as a system to integrate the residential place into urban system.

A new concept “three level interface structure” is developed on the combination of sociology theory and urban empirical evidences on “public realm system”. It is not only a spatial structure to organize the residential space and urban environment, it is also the social structure to organize the meetings between the dwellers and outsider; moreover, it is also a economic structure to provide livelihood. The concept becomes the core of transformation strategy. One location used by M.W. experienced the transformation according to the structure, to find out if the M.W. can benefit from the new system, if the city can develop a new system.

Socio-spatial Contribution:
The transformation develops a new residential system based on the urban context and existing residential conditions. The detailed analysis of the socio-spatial contribution of this transformation strategy is made in the following pages in figure 6.1. To conclude, the contribution can be understood from three points:

Upgraded “Interfaces Structure”: The transformation directly restructures the “public realm system” and upgraded the spatial quality of interfaces on three levels. The new residential place becomes a system organized by the new “three level interfaces structure”, which results in the spatial integration with the urban surroundings, also an integrated environment within the system.

Increased livelihood and daily integration: By strengthening the old function and planning new programmes on interfaces, the new urban level and local level interfaces directly increases the working opportunities for the M.W., which will result in intensive interaction between the M.W. and U.P. At the same time, on residential level, the new interfaces can provide comfortable daily meetings experience. Therefore, the urban level and local level interfaces integrate the M.W. with the urban society; the residential level interface helps them maintain their own community within the residential place.

New residential system for the transitional community
M.W. are the transitional population in urban society, they keeps many rural figure when they stay in the urban area. Their urban lives are various from the U.P.s urban life. Instead of the normalized residential place for other urban population, they need the residential places which can adapt to their transitional figures. The transformation does not give an entirely new face to the old residential place. It simply optimizes and restructures the existing situation. Therefore, the new system still keeps most acceptable environment for the M.W. Meanwhile, the new system enlarges the interface in-between the urban environment and the residential area, also enlarges the interface between the M.W.s life and urban community. Consequently, it is a new system connecting to the urban system, it is the place where the M.W. can use as the transitional community to the urban community.
### SOCIO-SPATIAL CONTRIBUTION:

<table>
<thead>
<tr>
<th>Fig 6.1</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metropolitan and Urban Scale</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Local Scale</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Residential Scale</strong></td>
<td></td>
</tr>
<tr>
<td>Spatial</td>
<td>Social</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 1. Motor repair area (purple area)  
* Enlarged motor repair space in village  
* New motor repair space under flyover  
* New Residential function | 1. Motor repair area  
* More jobs for migrant workers  
* More places for customer from city  
* Residential space for MW add vitality to street |
| 2. Food Market Area (red area)  
* Enlarged the market space for more stalls  
* Better accessibility to market  
* Better connection between wholesale market and food market by under flyover station | 2. Food Market Area  
* More space for migrants’ jobs  
* Better accessibility and connection increases meeting opportunities for migrants and urban population |
| 3. Logistics Area (brown area)  
* Relocated to new infrastructure  
* Integration with new bus line  
* Extension of area for more shop and company | 3. Logistics Area  
* New and larger interface for interaction  
* New bus line connecting to the MW central work place  
* More shops with more job opportunities for migrant workers |
| 1. Street Market area (orange area)  
* Be transformed from logistics road  
* Centralized area for shops and services  
* New green area and better pedestrian environment | 1. Street Market area  
* A new central meeting place for the village neighbourhood  
* Better environment could upgrade the quality of life |
| 2. Service area: (pink area)  
* Strengthening pedestrian environment  
* Strengthening road for transportation | 2. Service area:  
* Better environment to separate the transportation and pedestrian to increase the accessibility for local urban residence |
| 3. Logistics and Storage area (brown area)  
* Extension of shops and companies  
* Better accessibility | 3. Logistics and Storage area  
* As continuity of logistics centre and new logistics area with more job opportunities for migrant workers |
| 1. Neighbourhood Street (yellow area)  
* Restore the Original Street and path in extension  
* Improve the residential building along the street  
* Change the storage building into residential building | 1. Neighbourhood Street  
* Migrant workers and local villager could reach their houses conveniently  
* Outside visitor could pass the neighbourhood easily  
* More residential space for new migrant workers |
| 2. Open space (green area)  
* Improve the existing open space with plantation and relaxation facilities  
* New open space in shanty area | 2. Open space  
* Open meeting place for neighbours, especially for children and elders  
* Shanty area could also enjoy the quality of residential life |
PRACTICAL MEANING AND FLEXIBILITY

The strategy is a flexible and practical solution for M.W.s "under urbanized" residential problem. The flexibilities and practical meanings can be understood from the following aspect.

On urban level:

In the research process: The strategy is developed from several practical empirical evidences from the Changsha urban context. The hypothesis is established on systematic organization of argumentation and empirical evidence. After learning lessons from the existing lessons, a concept is developed as a new principle to understand the city. Different from the concrete end design as final solution, the principle can be used to analysis the residential places which have similar socio-spatial conditions in Changsha urban context.

In the transformation process: the transformation rules are based on the new principle, combining with the realist political, economic and social contexts. The core concept is the framework; the conditions can be organized within the principles. When the specific conditions change, the final planning and design outcome may change. However, the core principle can ensure the transformation become a new normalized but also contextualized residential system for M.W. In order to show the flexibility of principle, the following pages will transform the other two locations from section 4 by the “three interfaces structure” concept.

On national level:

The strategy cannot be copied in other cities, because the solution is highly contextualized. However, the methodology framework can be used in finding solutions for M.W.s residential problem in other second-tier cities. Due to the local context and power, a very different concept for strategy may be found. Then the transformation may be different again after combing the local social political order.

In this study, the planning and design is not the final result but as the essential tool for the strategy. In the research process, it is the tool to understand what the city has done for people, and what the urban space is doing now for the society. By mapping different layers of the urban system, the empirical evidences are collected. In the transformation process, it is the tool to understand what the city can improve for the society. By using the lessons to make changes of the existing conditions, the hypothesis for future can be tested and argued.
Old Shanties in Old Urban Area

**Urban Level Interface**
1. Pink line: New bus line can be added.
2. Orange area: Material Market can be extended.
3. Brown area: The small logistics area can be transformed to large logistics zone.
4. Pink area: the mixed-used rehousing area should be kept.

**Local Level Interface**
1. Green and blue line: restoring the urban secondary infra. and village main infra.
2. Pink area north: extending the existing mixed-use service street along the village road.
3. Pink area south: new mixed-use service street along the urban main road.

**Residential Level Interface**
1. Red and orange line: reconnecting the existing village street and path
2. Yellow area: restoring the residential environment by regenerating the village building
3. Green area: adding facilities and greenery to existing open space
Shanties on Urban Periphery

Urban Level Interface

1. Pink area: The opportunities of mixed-use commercial road should be preserved.
2. Orange area: Node on infrastructure system, it can be transformed into a market area to concentrate more working opportunities for M.W.

Local Level Interface

1. Pink area: The main secondary road can be restored by transforming the unused shanty and removing the bad quality squatters.

Residential Level Interface

1. Yellow Area: the good quality building can be densified by adding floors to good quality building. The bad quality squatters should be regenerated to preserve the traditional residential environment.
ACADEMIC CONTRIBUTION

New Angles in Urbanism

The contribution to the fields of academic urbanism research can be divided into three points.

Urban level solution:

Currently, the M.W.s residential problem has been discussed widely in the fields of sociology, political study, population study, etc. In the field of urbanism, the research highlights the position of housing. In the “universalized trend” of solution, planner argued on a new housing system for M.W. or cover M.W. in urban indemnificatory housing system; in the “contextualized trend”, the planner and designer focus on upgrading the residential quality by stringing the housing and relevant facilities. Few studies argued on what the city can do for the M.W., and what is the position and role of city in M.W.s residential problem. This graduation project wants to see the problem and figure out solution from urban level. The role of “residential place” is understood from national context, urban context and also local context. Instead of seeing the “existing residential places” as many isolated areas, the research sees them as relevant parts of the urban system. Therefore, the solution can come out from the urban system.

Public realm as the main spatial instrument:

In the housing – oriented research, the role of public realm is frequently mentioned as the tool to serve the housing transformation. In this research, the public realm is the core instrument linking the urban system and residential place; integrating the M.W. with U.P.. The public realm can provide a much broader horizon to understand that the city itself has solutions for the residential problem.

Historical view of Residential system:

In order to understand what the “city” can do and what the “public realm” means for the residential problem, the research referred to the historical development of Chinese residential system, to find out what the urban system have already done for the urban residence. Some generalized principle can be found as the continuity of residential system, although the spatial outcomes were very different due to the historical and local order. The development also reflects how the city changes the existing conditions to organize the new comers from the rural area. The finding becomes the basic spatial layer of the strategy.

These three points are the academic contribution to the fields of urbanism research on M.W.s residential problem. They are the new angels for the planner and designer who only focus on housing problems.
ACADEMIC CONTRIBUTION

Coordination of Inter-disciplines

This urban spatial research combined many conclusions from the sociology knowledge. The contribution can be seen from two points:

New theory from sociology and urbanism:

There is no urbanism theory between the “public realm” and the “M.W.s residential problem”. The sociologists pointed out the power of public realm in organizing the urban life. The Chinese sociologists on “M.W.s residential problem” also mentioned the urban public space can benefit the integration of society in the sociological language. This research systematically organized their argumentations, and translates the spatial relevance into urban spatial language. By practical analysis of the urban condition, the empirical evidences are collected interrelated to the sociology information, to serve as the new theoretical framework to understand the city. Meanwhile, the urbanism practical findings become the important evidence to support the advanced sociological research.

New Transitional Community for “under-urbanized” situation

Some sociologists put the “under-urbanized” situation on the problem side. They believe the M.W. should be real urbanized as the normal urban population. But the political social dilemma turned the idea into another ideal future trend. This research tries to argue, instead of treating the “under-urbanization as” a problem, the city should accept what the M.W. is. From the sociology, the under-urbanization is a transitional status from the rural lifestyle and rural community to the urban lifestyle and urban community. The current conditions do not allow them to become the normal urban population. They used the urban existing residential places partly because those places adapt to their current nature. For the project, instead of creating a new urban system for urban community, it developed a strategy to optimizing the existing situation, and turned the residential area into a place for the transitional community in-between urban and rural society. The M.W. can integrate themselves into real urban community gradually trough this platform. It is a reflection of the syndicate of rural-urban society. The space adapts to the society and support the development of society.

These two points are the academic contribution to the interdisciplinary fields of sociology and urbanism.
Coherence between Space and Power
- Literature Review on the Design History of China’s Residential System

Tuofu Hu

Study number: 4046374_ T.Hu@student.tudelft.nl
Delft University of Technology, Department of Urbanism
6th Graduation Lab Urbanism Conference
January 27th 2011

Abstract – The Chinese migrant workers’ problematic neighbourhoods are under the transformation, which largely emphasized the quality of spatial form, while the significance of social, economic as well as the political order behind has been ignored.

Cuthbert (2005) argued that the materialization of space as urban form should be built on spatial political economy. Bray (2008) proved the relation between space and order from reversed side by arguing the spatial order is a vital component of governance. Chinese researchers also pointed out the understanding of Chinese residential system in contemporary society cannot be achieved without the comprehensive appreciation of the historical and local socio-political context (Xu and Yang, 2009).

This paper tries to review the historical development of the Chinese residential form and pattern, in relation to the evolution of society. The examination is divided into five small stages according to the figures of historical moments, from the ancient “Lifang” ward system to the contemporary “Xiaoqu” (small residential district) system. The conclusion would reveal the continuities in space and power in Chinese residential culture, and their inseparable relationships.

Furthermore, it would suggest a approach to achieve the proper perception and transformation of problematic neighbourhoods, to guide author’s graduation project.

Key words – Residential Form and Pattern; Social, Economic and Political Orders; History; Introversion; Collective Living; Hierarchy; Transformation

1 Introduction
The Chinese Migrant Workers’ problematic neighbourhoods are under transformations. When local governments and practitioners searched for future experimental urban residential project, the spatial quality was highly emphasized while the role of political governance, social organization as well as the cultural context were overlooked, though they are the determining forces in shaping space and urban life.

In the definition of urban design, scholars argued that the materialization of urban form is not arbitrary; the evolution of urban form is built upon spatial political economy (Cuthbert, 2005). There is no doubt that in most urban residential system the form is interconnected with the non-physical powers behind. In the history of Chinese urban transformation, “the new forms of space always emerges in parallel with the rise of new economic, social and cultural formation, and the spatial order is a critical component” of the way to establish the governance and form the organization (Bray, 2008).

Therefore, a literature review of residential pattern and form in relation to the non-spatial context becomes a crucial approach.

Meanwhile, Chinese researchers explained that rather than exhibiting a localized version of a global process, the introversive residential communities in China has its own socio-political rationale in the making (Xu and Yang, 2003). The restructures of the urban form and communities were deeply embedded in the historical movement of local forces (Zhu et al., 2005). Consequently, this paper intends to understand the Chinese introverted residential culture through examining the design history of Chinese residential system. The coherence between space and power will be interpreted not only as different stable stages, but more fundamentally, as a dynamic continuous process.

For clarified study, the review structure will follow the chronological order and be divided into two phases: before the Founding of P.R. China, which
can be seen as the evolution of traditional system; and after the 1949 A.D. which experienced drastic transformations and became the most influential system to contemporary and future city. The former could be analysed in three small sections, including: The feudalism monarchy before Song Dynasty (960-1276 A.D.), when walled residential blocks forming introspective courtyards (Lifang system) were strengthened, and turned city into isolated grids; The feudalism period from Song Dynasty to 1840 A.D., when the commodity economy grew rapidly, the walled system was torn down, and residential places were embedded into the entire urban environment (Jiexiang system); From 1840 to 1949 A.D., when the westernization and industrialization were introduced and integrated into traditional residential space (Linong system). Correspondingly, The later would be exam ined two sections: the socialist Planned Economy period from 1949 to 1978 A.D., when the gated workplace compounds (Danwei system) became the main typology to reorganized the urban industrial productivity; the transition period after 1978 A.D., when the gated small district residential compound (Xiaoqu system) was created and soon gained the dominant force in commercialized housing market.

The outcome of this literature review is expected to establish the theoretical framework for the author’s graduation project, which focuses on the comprehension and transformation of existing problematic neighbourhoods for Chinese Migrant Workers.

2 Pre 1949: Traditional Enclosure

The ancient Chinese city had a long-existing tradition of walled urban morphology and enclosed living patterns, which was formed in the slow evolution in the highly centralized feudalism society. The “walled enclosure” and “closed courtyard” have been used frequently to describe the main spatial figure. The former indicates the urban level while the later emphasizes the basic residential scale.

2.1 Before Song (960-1279 A.D.): Enclosed Residential and Urban Form

Chinese city before Song dynasty (960-1279 A.D.) had a highly hierarchical social structure due to the controlling from the centralized power. Commercial activities were rigidly suppressed. Chang’an city (Figure 1) in Tang dynasty (618-906 A.D.) was the capital, which successfully accommodated more than a million people within the gated physical form. It was a typical and influential model, reflecting the hierarchies on both urban and neighbourhood scale.

The ancient neighbourhood pattern was named as “Lv Li”, which was developed in slavery society in Shang Dynasty (1600-1064 B.C.). The lords organized slave’s residences based on the rules of agriculture production. The dwelling areas were combined with Chinese agriculture field grid system (Liang & Sun, 2003). In feudalism period, the individual family became the basic unit in social structure. In urban area, the ruling class gradually abandoned the agricultural function. The system was renamed as “Fangli” or “Lifang” in Sui Dynasty. Then the system reached its peak in Tang Dynasty. It reflected and strengthened the hierarchical society by divided population into respective wards. There were several morphological figures of the ancient ward system:

1. Mono-functional walled zoning system. The grid pattern divided the city into mono-functional zones which was called as “Fang”. Residential area, commercial area, agricultural area, palaces were separated to emphasize the hierarchical social strata. The rectangular fortress-like zone was the basic spatial element for social controlling (Liu et al., 2007).

2. Influential walled and gated architectural elements. The wall defined the border of zone, which was originally created for both protection and social control. The black high thick wall clearly separated the realm within the zone from its surroundings, which highlighted the introverted sense inside the residential area, and resulted in segregation of the entire city (Liang & Sun, 2003).

3. Hierarchical streets for transportation. The main street between “Fang” was designed for the transportation of Aristocratic classes. More fundamentally, the securities could patrol around different zones efficiently. Inside “Fang” unit, several main streets, together with

---

Figure 1: Chang’an City under the Lifang system in Tang Dynasty (Xu and Yang, 2003)
the branching narrow small road formed the residential pattern (Zheng & Yang, 2005).

“Lifang” system was a unique production from the conflicts of unequal hierarchical social strata. It successfully organized the large scale ancient Chinese city, when the city was developed under the agricultural economy with low level of urban mobility. After the changing of socio-economic order, the mono-functional walled form triggered problems not only in residents' conveniences in everyday life, more essentially, the prosperity of commercial activities.

2.2 Song Dynasty to “Opium War 1840 A.D.”: Fall of Ward Wall and Reinforcement of Residential Enclosure

By the long-term social stability and the revolutionary improvement of agricultural technologies in Song Dynasty, the economy grown dramatically and became the dominant force to break the highly demarcated urban form and residential pattern. The Stable society stimulated the unprecedented booming of urban population and the specialization of urban production. Handcrafts became independent industry, which promoted the prosperity of commercial activities. The gated and walled form turned out to be the physical and institutional barriers to trading. Meanwhile, the flourishing commercial activities encouraged the shaping of a secular and mercantile society. The Aristocratic class gradually gave their powers to pragmatic professional bureaucrats. Instead of maintaining the outdated ward system, the new government turned the demolition into part of commercial activities, by taxing the irregular phenomenon, such as setting squatters, and tearing down the original walls (Heng, 1999; Li, 2007).

As a result, a new opened urban and residential structure replaced the ancient physical and institutional barrier, which was named as “Jiexiang” system (Figure 2). Compared with “Lifang”, the following socio-spatial figures could be found in this new system:

1. It was an open hierarchical streets system with the mixed land-use. “Jie” was the Main streets to organize the rectangular residential area. “Xiang” was the branching small streets connecting residential units. People had higher degree of freedom in movement in urban area.

2. The flourishing of “Jieshi” (commercial streets) adapt to the growing commercial activities. The multi-floors buildings replaced the blank walls to form the small streets - “Xiang”. Many important “Xiang” were marked with doors at the gateways. The buildings around gateway were served as shops, restaurant, etc. to satisfy the daily needs of local residents (Liu, 2007).

3. The emergence of Mixed-residential area shows the hierarchical social strata were no longer designated in separated residential areas. The breaking down of walls resulted in an integration of residential environments. More fundamentally, the rising of commercial streets attracted more governmental power class and rich class to build up residential units around (Li, 2007).

All streets were entirely accessible, which actually became a linear communal and public space, with strong sense of community for the local inhabitants. However, at the same time, many enclosed
courtyards were formed behind the multi-floors buildings, and most streets were still confronted by walls belonging to the private houses. Therefore, the wall was still an elementary component in the renewed society. Although the form and nature of “wall” were varied, it still separated the private residential space form the public and chaotic urban environment (Fu, 2003).

It is obvious that the demolishment of walled ward system triggered the evolution into a integrated urban and residential environment. But the enclosed physical form was kept and re-consisted at residential unit level, since the hierarchies still remained in social orders, in relation between public and private.

2.3 1840 to 1949 A.D.: Integration of Westernization and Traditional Introversion

After 1840s, the wars caused the semi - colonial situation in many important cities along the coast area. According to treaties, the foreigners could not only set up modern factories but also residential zones in colonies. The confrontation of importing western lifestyle and Chinese native residential pattern resulted in new transformation (Zhu et al, 2005). A hybrid residential system called “Linong”, emerged in colonial cities adapting to the integration of western and eastern, as well as the modern and traditional way of living. The differentiations can be found between the new and old systems:

1. The multi-floor buildings were transformed in to higher density and more floors terraced houses. The ground floors of most buildings were transformed into open form with public functions, which strengthening the sense public sphere of the streets (Figure 3).
2. The residential area and units were organized by a new hierarchical street system, which was controlled by the local community. A main alley with several branches became the semi-private and semi public spaces, which discouraging the pass-by (Xu and Yang, 2009).

In this period, the urban environment became more chaotic and disorder, due to the spontaneous growth of industrial area, slums and colonies in and around the traditional urban pattern. However, the transformation of residential space tended to search for a more open and interconnecting relationship with the surroundings, while keeping the introverted sense in the private living space.

3. After 1949: Renewed Introversion

After the founding of P. R. China, the urban development experienced drastic transformation. The residential system had been give new forms and orders, but several layouts were still closely related to the traditional morphological continuities.

3.1 From 1949 to 1980s: Self-sufficient workplace compound

In the initial stages in socialist era, the Soviet model of urban planning was quickly taken up in China. Based on socialist ideology, the rationale of Soviet urban planning presumed that industrial production was the major function of cities. Consumption was disdained as associated with waste and the bourgeois lifestyle, so cities should be transformed into engines of production, rather than remaining sites of decadent consumption. The essentials for living would be guaranteed by the urban welfare system. Therefore, “to convert ‘cities of consumption’ into ‘cities of production’, a series of policies aiming at high industrial accumulation and low consumption were put into effect with low cash wages and in-kind welfare supplements like housing. In this process, the workplace (Danwei), including state owned enterprises or other service institutions, appeared to be the principal entity for both production and distribution in the resource allocation system of a highly centralized planned economy (Bray, 2005)”.

Although Chinese economic system and urban planning were deeply influenced by Soviet Union, the Danwei compound was a unique Chinese invention. Because the original factory unit model form Soviet Union was separated from the residential district, which relied on the public transportation. The Chinese Danwei compound integrated working and living functions. It is self-sufficient unit combining housing, workplace and the provision of social services. This spatial model soon dominated mass urban development because of the power and privilege of work units in the socialist economic structure. The city in this period “was a relatively weak entity characterised by the dominance of the work-unit (Danwei) (Cartier, 2005)”.

Basically, work-unit compounds shared three common features:
1. A self-sufficient compound: all the residential area in Danwei compounds were integrated with the basic social facilities such as clinics, sanitation, canteens, public bathroom. The medium and large sized compound may also integrated with the education, nurseries, sports, libraries, shops. Many special industrial compounds in rural area were developed as independent cities (Bian et al, 1997; Bray, 2005) (Figure 4).

2. Walled enclosure: all the compounds kept the walled nature. Although there was wide differentiation of function of working, scale, facilities, etc., the wall, no matter man made brick walls, iron fences or natural barriers, marked the realm of compound, which also defined the territory under the governance and organization. It also separated the inner space from the urban surroundings, and became an essential element to shape socialist lifestyle, since the members spend most of their time in the space within the wall (Xu and Yang, 2009).

3. Symbolic Buildings and Axis: in the large and middle – scale “Danwei” compound, there were always a central and several additional axis to from the basic pattern. The purpose of this axial sequence is symbolic and evolved in part from the principles of transitional Chinese architecture design. The tradition axis arranged the lesser important buildings and elements in front of the greater importance, in order to symbolize the strict hierarchy in feudalism society. However, the “Danwei” revered the order and put the most influential architectural elements in the beginning part of the axis, directly behind the entrance compound. Basically, the Main building on the axis was named as Principle Building, which was function as the main administrative offices, including the offices for the party branch committee and other senior “Danwei” officials. It symbolized the centrality of the party and its leadership (Ma, 1981; Bray, 2006).

The design of Danwei compound reflected both symbolism and collectivism way of living. On the one hand, the symbolism spatial component was generated based on two interrelated ideas: primarily, it highlighted the leadership of the socialist state and socialist party, which confirmed the irreplaceable position of socialist party in order to realize the ultimate socialism aim; then, it underscored the position of labour to socialist practice, which represented the practical way the aim could be achieved. On the other hand, the designer and planner believe that the spatial forms could impact positively to the collectivism way of living, which represented the proletarian consciousness. The collectively life within the compounds can be found at several levels, by share different facilities, for examples, at compound level, the members shared canteens, schools, etc.; at building level, they shared laundries, sports facilities, etc.; at basic level, every three to five families shared toilets and kitchens. The collectivism was embedded in every level of life (Huang, 2006).

The walled and gated form was regarded as the continuity of Chinese imperial “Lifang”. It is “Intrinsically political in its instrumentality to better control urban in habitants while imposing a socialist ideological order (Bray, 2005)”. Although there were several entrances around a compound, the gates were under control of the security department of every compound. And the entering conditions were always changing based on the time and social security. The pedestrian and vehicle access were also treated differently. Basically, the people who
Coherence between Space and Power  Tuofu Hu

was not the residence in a Danwei cannot cross the gates freely, which means people could not cross for a short cut to their destinations, also means that the non-residential people could not use the social facilities inside. The gates were closed at middle night for security reasons, but also because the capitalist night lifestyle was confront the socialist ideology.

The “Danwei” system was implemented as “Project” style investment and construction strategy by the Chinese Planning authorities in order to optimize the usage of limited funds. The large scale- “Danwei”, such as industrial factories, power stations, universities, were established through direct central investment. The regional and local sectors of the city, where the “Danwei” located, had little involvement. They had no control over the development of large compounds (Bray, 2006). The Local Urban Planning Bureau can only carried out the site planning, which only focused on the location and scale of land. The detailed design was left to the infrastructure engineering department assigned by the central government. Because of the wall, it became less important to respect the urban spatial context. As a result, the socialist city became dominated by a cellular spatial structure with independent cells. They were the collections of independent working-oriented communities, rather than integrated urban environment, which had fundamental impact on the contemporary Chinese cities and residential pattern (Nieuwenhuis, 2010).

The “Danwei” system showed a clear connection between power and space. It was initially created as a machine for boosting industrialization rather than a place for living. Moreover, it was expected to be a model to generate socialist loyalty and collective relationships. As utopian model of urban governance centred on the workplace, it functioned positively at the early stage of socialist planned economy, but soon doomed to failure, when China stepped into the transition to market economy.

3.2 From 1980’s to Present: Diversified gated residential compound

After the Chinese government announced the “Reform and Opening-up policy”, the country experienced transformation in many fields. The decline of state-sector employment, the rise of the private sector and the newfound mobility of rural migrant workers, has seen the emergence of new socio-economic groups amongst the urban population: entrepreneurs, private sector employees and migrant labourers from the countryside can pursue lives entirely independent of the old state system (Nieuwenhuis, 2010). The self-sufficient compound no longer qualified for the rule of “market economy”. The decline of the “Danwei” system has led to the separation of workplace and living place and the increased functional zoning of city space. At the same time, large expanses of the socialist and pre-socialist city have been demolished and replaced by new high-rise apartment blocks, multi-level shopping malls and modern office towers (Friedmann, 2005).

The new residential unit were introduced to facing the challenges. Named as “Xiaoqu”, which means “small residential districts”, these estates are planned neighbourhoods where residential buildings are integrated with communal facilities like kindergartens, clinics, restaurants, clubs, convenience shops, sports facilities and

Figure 5: A typical “Xiaoqu” compound, residential buildings are integrated with basic facilities (by author)
communications infrastructure (Figure 5), all under the control of a professional property management company. Spatially, they are enclosed compounds with clear boundaries. Most compounds have security guards who are in charge of the entry and patrol. These features illustrate that the residential urban space has not only been changed into a production of commodity, but has also “come under the control of private ‘management’ firms who ‘relieve’ the state of responsibility for security, policing and other service provision within the residential environment” (Xu and Yang, 2009).

Most “Xiaoqu” compounds are initially located in newly developing urban areas or urban peripheries, but as a result of the fast urban expansion, many have been rapidly integrated into a local central area. Meanwhile, there are still a few new compounds being built in central urban areas as redevelopment project. Not like the standardized “Danwei”, the “Xiaoqu” compound system show a high level of diversities:

1. The territorial and social scales of compounds have varied project by project. It can be as small as a group of one or two high rise buildings aiming at specialized end-users; it can also be developed as a large district of over 100 ha, comprising different residential typologies and targeting clients from rich, middle and low-income class. As a result, the communal amenities, facilities and services which are relevant to urban life vary from compounds to compounds.

2. The materialization of borders has more functional consideration. It is no longer confined to natural or artificial fences. In many dense areas with vitalities of street life, mixed-use buildings with public function at the ground floors facing outside are the favourable alternative for developers. Unlike walls, which only as a symbol of separation, those buildings ensure the activities and communication of streets. (Huang, 2006) (Xu and Yang, 2009).

The forms of compounds are changed from one to another. However, they also show some common characteristics:

1. Every compound keeps very high quality of the internal open space, collectively owned by dwellers. The shared space, facilities and landscape within the gated environments are the indispensable part of dwellers’ daily life, which is seen as an important criterion of the housing value and living quality. Because most “Xiaoqu” are high dense with middle and high-rise buildings, there is no possibilities to establishing private open spaces for every house owner;

2. The majority of dwellers in “Xiaoqu” rely on public transportation system in the spaces outside their enclosures, it is not necessary to establish the private outdoor space for external public functions (Miao, 2003).

The management for gated realm has become much flexible in response to the increasingly colourful urban life and urban motilities. More gates have been set up in the walls or other forms of boundaries to improve access for the sake of residents’ convenience. Previous methods of governing urban population, which centred on the workplace, are no longer effective. To response to an increasing urban motilities and diversification of population, the Chinese government developed a policy named as “community building” since the mid 1990s, which has aimed to re-organize the urban population through “community” units based on their place of residence (Bray, 2006). The term “community” has been redefined according to the policy, to emphasize territorial and organizational elements. It is larger in scale compared with the old community. The professional staff and engages are in charge of the new community in a much wider range of activities including welfare, education, sanitation, public health, family planning, public order and so on (Ma and Zhang, 2001). As a result, all cities have been restructured into a matrix of contiguous communities, each run by a Community Residential Committee (C.R.C.). This political re-territorialisation of urban space tends to follow the spatial markers created by developers: the walls enclosing new “Xiaoqu” estates thus simultaneously become the boundaries defining the jurisdiction of the Committee. In this way the spatial unit and the political unit are merged together and new relationships of space and power are formed. The C.R.C. has numerous responsibilities in organizing urban life. Basically, they focus on the providing and organizing social services, but also cooperated with the local police for local social security. (Huang, 2006)

4 Conclusions
To conclude, the Chinese introressive neighbourhood system has a long history with several transformations. Through this literature review from the ancient Chinese fortress-like ward system to the contemporary gated residential block, coherences between the physical form and the social-economical orders behind could be found in every period.

The transformations, driven by the evolution of society dramatically changed the spatial outcome, the programmes, as well as the way of making spaces. However, the historical evidences demonstrate the continuity of several characteristics: Firstly, Chinese residential pattern always keeps the introverted sense by creating the enclosed open space (Xu & Yang, 2009). The wall, or other
replacing architectural components, is always the elementary tool to define the inner realm shared by residential members. The inner open space, from the traditional courtyard house to the contemporary “Xiaoqu” compound, actually acts as a core organizing both spatial and non-physical orders; Secondly, the collectivism living culture keeps on renewing itself in the changing space (Huang, 2006). The ancient collective living was basically established on the relation of family and kinship at relatively small scale. The “Danwei” compound extended the lifestyle to a large scale territory based on the working relation. In “Xiaoqu”, the shared culture has been kept at the large scale compound, which is determined by the economic relation. Consequently, the coherence of space and power is reflected in the continuity of universal similarities in historical development. They are deeply embedded in Chinese residential culture; At the same time, the coherence is revealed in the variations of both characteristics in different periods. They show the strong power of adaptability and renewing in order to achieve advanced continuity. Both sides prove that the unique rules will long exist in Chinese urban living space, and will strongly influence the future transformation.

The continuities are obvious when transformations are seen as several stable stages; but when transformations are interpreted as a continuous dynamic process, two new remarkable points must be acknowledged: Firstly, it is the rising integration of public sphere into the private residential realm. Except the mono-functional residential zone in Lifang system, the following transformations have great consideration on the hierarchical spatial orders between the public and private. The Jiexiang system effectively used buildings on frontage to stimulate the public commercial street within the residential area. The “Danwei” intended to build an independent miniature city. Although “Xiaoqu” is no longer a centralized self-sufficient model, it still keeps many basic facilities. Meanwhile, the materialization of the boundaries into the public buildings adds new public layers, which could benefit both sides. Therefore, the integrations are actually strengthened compared with the independent workplace compound; Secondly, the economic order has increasing impacts to contemporary residential space. In market economy, the “Xiaoqu” project becomes a package of private investment. The location, spatial quality and facilities are largely decided by people’s ability of payment. Those two aspects actually determine the relationships between the neighbourhoods and their urban surroundings, which directly link with the value of living.

5 Recommendations

According the literature review, following suggestions can be speculated on the way of analysing and transforming the problematic neighbourhoods; First, the universal rules could be used as guideline to break into the problematic neighbourhoods. But it is important to realize that the local forces may diversify the layout of spaces. The walled introverted space may be ubiquitously found in all neighbourhoods as a universal similarity, but the detailed physical elements may present unexpected differences; Second, the collectivism living culture is the basic layer to organize the residential environment. The migrant worker is a new social class with similar social-economic background. There is no doubt that they are maintaining a collective lifestyle, but the scale of territory and the level of collective sharing need to be clarified for organizing the spatial order. Third, the integration of public sphere into the residential area by hierarchical spatial organization can generate the vitality to the introverted living environment, which can benefit the living quality within neighbourhood and the integration to urban surroundings. To sum-up, the spatial transformation must be carried out under the comprehensive perception of non-physical orders. It is a process of respecting the orders behind the physical outcome. Moreover, it is a progress toward the coherence of space and order.

Acknowledgements

Many thanks to my studio mentors Stephen Read and Henco Bekkering, for their valuable advices; also to Remon Rooij and Ana Maria Fernandez-Maldonado for their kind helps and revise suggestions.

Bibliography


CARTIE, C., 2005. City-space: Scale relations and China’s spatial administrative hierarchy. In: L.J.C. Ma
Coherence between Space and Power  
Tuofu Hu


FU, S., 2003. The formation and development of precincts and alleys in Linan during the Southern Song Period. HKU Theses Online (HKUTO).


马学理,张秀兰, 2001. 中国社区建设发展之路. 红旗出版社


7. BIBLIOGRAPHY

Journal:


BOOK:


Hartory, H.D., (2010), Searching for Community and Identity, Shanghai New Towns, 010, the Netherlands


REPORT:


glist#3


243