

# Dalang, Shenzhen

# Greenway



## **A LIVABLE HUMAN SETTLEMENT FOR MIGRANTS WORKERS IN RURAL-URBAN FRINGE AREA**

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## COLOPHON

**Greenway**--connecting a livable human settlement for migrant worker in rural-urban fringe area  
MSc Thesis

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### **Cover:**

Photograph of a Chinese migrant worker (from the internet)

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Delft, June 2013



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# PERFACE

China has taken an extensive path towards urbanization since its opening up and reform. On the one hand, China's urbanization focused on velocity instead of quality, the level of citizenship for those rural migrant workers is relatively low and the rapidity of urbanization is inconsistent with its quality. On the other hand, China's urbanization is characterized by high consumption, excessive emission, over-expansion, low efficiency of resource allocation and enormous resource and environmental costs. As a result, huge gaps are created between urban and rural areas, cities and towns become unnecessarily homogeneous with regard to urban form, the urban system is not scientifically structured, big cities grow rampantly, and cities are facing more and more social, resource and environmental problems. The consequential problems of inconsistency, unsustainability, disharmony and non-inclusiveness seriously hinder the progress of ecological civilization.

Rural industrialization and the development of non-agricultural industries are the engines of urbanization in rural-urban fringe area, accompanying with large scale of rural migrant workers entering into the cities. As now,

new generation rural migrant workers become to be the main labor force in China. The intention to stay in city from migrant workers is much stronger than before. However, integrated into urban society seems to be not so easy to them.

Lots of rural-urban fringe area like Dalang has experienced a huge wave by the rural industrialization during last 30years, and shaped countryside to be a peri-urban area. Without the top-down land plan from government, the urban construction was once in a state of disorder and confusion. Under the pressure of high population, the public space seems insufficient as well. These poor live environment and high cost severely hinders migrant workers' identification with the city.

We need to be people-centered. It is more about the urbanization of the people. We need to gradually motivate the migration of rural population and fair distribution of public resources, and let rural and urban residents equally benefit from our economic growth (Xie, 2013). Now, Chinese authorities have underlined the need to help rural

migrant workers become urban residents through the urban 'citizenization' process. It is an important step towards upholding equal rights for migrants, much more needs to be done to eliminate the continued gaps between migrant workers and registered urban residents. These will help the social stability, city livability and sustainable development.

In order to solve those problems and try to transfer the migrant workers to be the really citizens in the city, this thesis aims to find a method to improve the livability of a Rural Industrial Community for migrant workers in rural-urban fringe area. The approach is set up greenway system in this spontaneous rural industrial area, take advantage of the vacant spaces, and organize all kinds of open space into a system to distribute more public resource to rural migrant workers. During the urbanization process, the concept of Greenway System will be introduced to guarantee the benefit of public, promoting social equality in this potential area in problematic condition left by rural industrialization.

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**1. RESEARCH**

**2. ANALYSIS**

**3. STRATEGY & PLANNING**





## 1.1 RESEARCH | Introduction

### - Aim of project

**The ultimate purpose** of this project is to propose a greenway system which can improve the livability of a Rural Industrial Community for migrant workers in rural-urban fringe area. In order to achieve this goal, four detailed goals have been set up. Each detailed goal has become the aim of the chapter of theoretical framework, analysis and design proposal.

**Firstly**, the theoretical framework considers four main questions: why the improvement of human settlement is important in field of migrant workers' citizenization; what the really needs for migrant workers are, what greenway system design for the rural industrial area is; and what the criteria for the analysis of the project site and the design principles for the design proposal are.

**Secondly**, the analysis has a goal of evaluating the human settlement of the project area by several criteria from the theoretical framework.

**Lastly**, design proposal aims to introduce the greenway system design to rural industrial community in an peri-urban area, Dalang in the city of Shenzhen, China. The proposal aims to find a mode that it is able to apply the findings from the previous chapters, theoretical frame work, analysis and case study.

# 1.1 RESEARCH | Introduction

## - Overview on industrialization in Pearl River Delta

### Post-reform Industrialization in Pearl River Delta

The Pearl River Delta (PRD) has become known as the world's factory and its industrialization was part of a calculated experiment in economic policy. It contains Hong Kong, Macao and two SEZs (Shenzhen and Zhuhai), which were set up after the 'Open Door' economic reforms in 1979. As part of these new economic reforms, four SEZs (Shenzhen, Zhuhai, Shantou and Xiamen) was established to encourage foreign investment and foreign-funded industrialization in China, strategically placed away from the capital of Beijing and took location advantage as a neighbor to Hong Kong and Macao and by grasping opportunities arising from the industrial relocations around the world (Li, 2011). This provides these regions with a high degree of autonomy, a separate political system and a capitalist economy (Cartier, 2002). Since the reform began, there has been a huge movement to rapidly industrializing coastal regions and to the two SEZs.

### Shenzhen's tale

**As the China's first SEZ** after the open reform, Shenzhen started rapidly growing and expanding. In the 1970s, Shenzhen was a small fishing village, population 30,000. This population was spread over a total area of approximately 10 square kilometers. In roughly thirty years, it has expanded and grown to become an urban metropolis with a population of approximately 10,5 million. The area this new metropolis covers reaches up to 2000 square kilometers (Shenzhen Government Online, 2012).

**The economic success** of the Shenzhen SEZ has to do with a number of different factors. By exempting regional and national tax for 10 years of operation and other preferential trade agreements (PTA), Shenzhen attracted huge numbers of both businesses and migrant workers. In addition, the location as a neighbor to Hong Kong makes Shenzhen a relatively easy place to invest. The relation between the two cities is often described as 'front dock, back factory'.

**As the China's largest migrant city** with youngest population, Shenzhen's growth was not without its pains as the province stretched to accommodate the influx of migrant workers. As a result, the region forged new policy including home purchase schemes for workers, a new tender system, and wage reform that shaped a "free" labor market emerging by the early 1990s. Shenzhen additionally hosted the first stock exchange in China in 1990 (Yeung et al., 2009). The Chinese oligarchy responded swiftly to the needs of rural industrialization. Since then, the landscape of Shenzhen became an industrial manufacturing area, predominated by widespread large-scale infrastructure constructions for industrial development (Cartier, 2002).

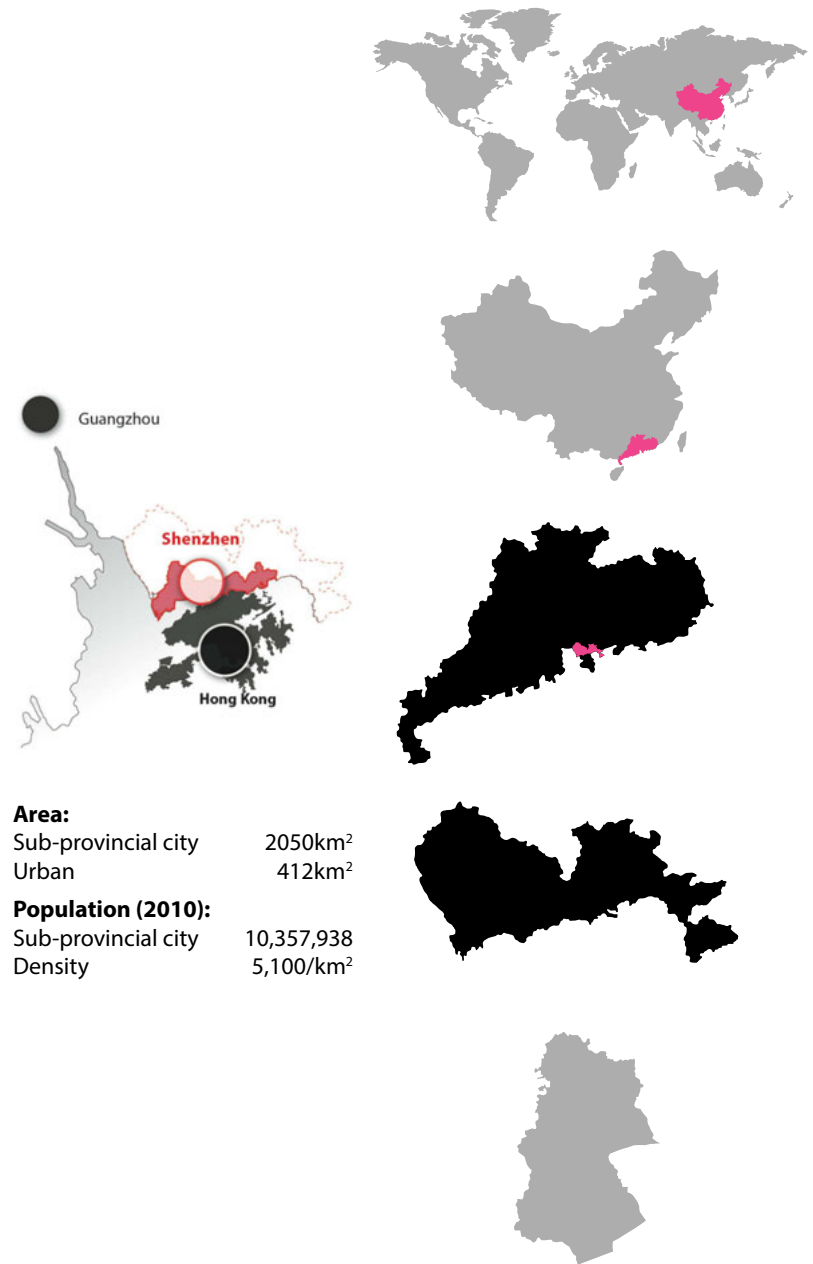




Fig 1.1.1 The huge development of Shenzhen in last 30 years



## 1.1 RESEARCH | Introduction

### - Overview on industrialization in Pearl River Delta

#### Rural industrialization in Pearl River Delta

In the late 1990s, local governments eager to share the economic growth, had been promoting new industrial and technology parks on the fringe of urban area, thus decentralizing the industrial and manufacturing activities and pushing industrial/urban development further into sub-urban/rural areas.

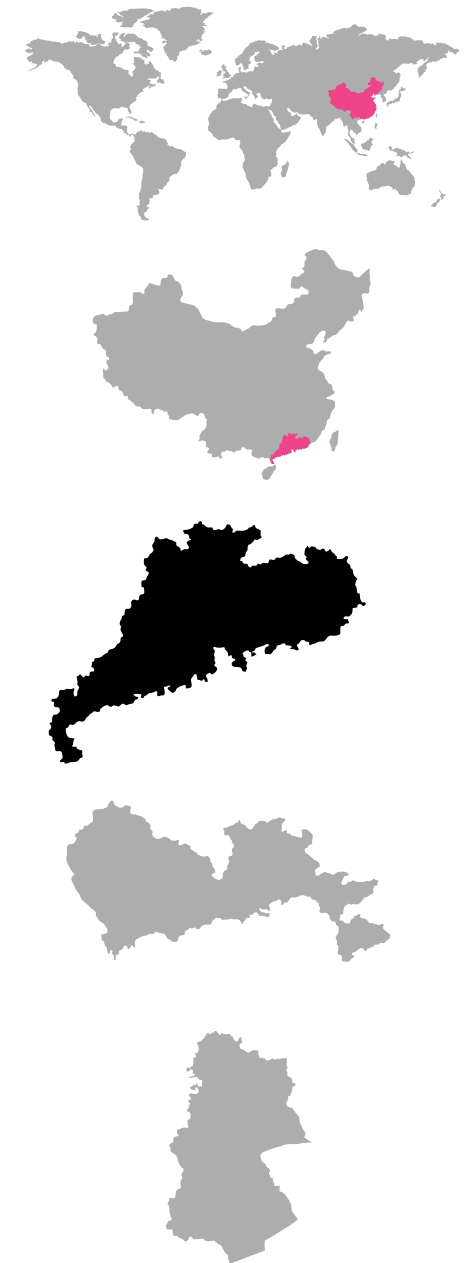
Rural industrialization of PRD since the economic reforms has been a direct outcome of state's reorganization of its central-local relation, which gave rise to the flourishing of the township and village enterprises (TVEs) in the vast countryside. The driving forces for the growth of TVEs that are owned by township and village communities included: the initiative of the local government for promoting tax revenue; the central government's aspiration to modernize national agriculture; the absorption of surplus labour; the alleviation of rural poverty by improving the living standards of the peasants; and the desire of those without adequate agricultural work to seek new opportunities for moving out of poverty and underemployment in the countryside (Liang, 2006).

#### Effect on urban form

For a long time, land use had been virtually free of charge. Local governments are very eager to attract investment by relaxing control on land use development. This has caused scattered development patterns in the towns, blurring the rural-urban distinction (Li and Yehc, 2004). But from 1987 the Chinese government started experimenting with the lease of state-owned land. Land ownership remains in the purview of the state, but land use rights are available by negotiation, bid, or auction. The lease of land increased the income of local governments that used this money to improve the infrastructure, thereby increasing the value of the rest of the land and facilitating further economic growth.

#### Effect on social structure

The rapid increase in non-agricultural population through state sponsored urbanization, a substantial number of agricultural labors have transferred to non-agricultural sectors especially the township industry. Many temporary residents have also moved into cities and towns for employment (Woon, 1999, Liang, 1999). As a result, the total population in PRD grew rapidly, 4.7% annually in the period 1980–2000 (Shen et al., 2006).



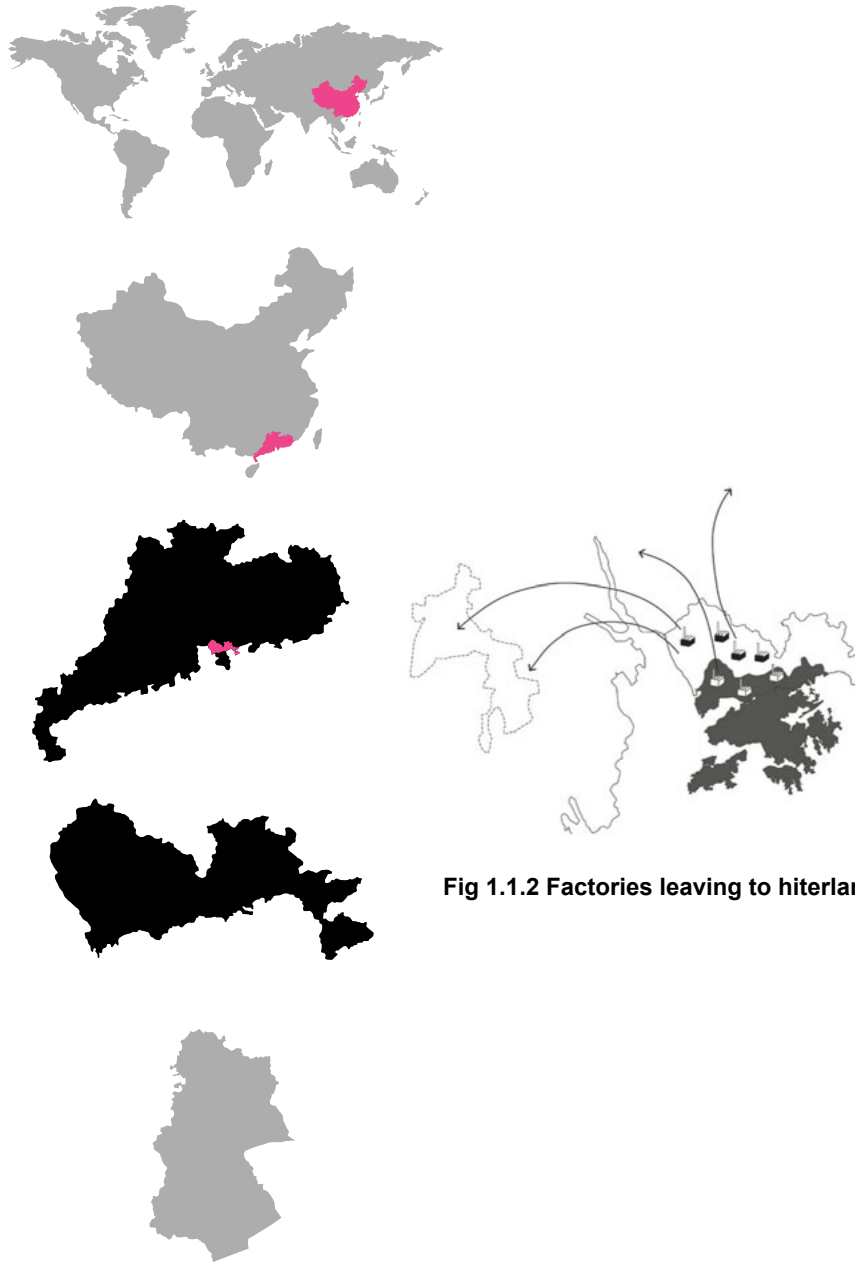


Fig 1.1.2 Factories leaving to hinterland

## International industrial shifting

But, the industrial development in the PRD has more or less followed a laissez-faire path. Foreign direct investment (FDI) into the Delta is mainly characterized by small and medium-scale, labour-intensive, processing-types of manufacturing and trade-creative investment coming from Hong Kong and Macao. Local private enterprises play the leading role in industrialization. The lack of strategic plan looms large as the export-oriented small and medium enterprises (SMEs), mostly situated in the lower-end of the value chain, begin to falter. (Huang and Chen, 2009). After that, those turn to be a hidden trouble when facing the global financial crisis and international industrial shifting.

## Effect on factory

Facing the global economic crisis, China has shifted its focus from export to domestic market. Lots of factories moved to Yangtze River Delta and China's hinterland. Meanwhile, The Municipality has shifted its focus from low-end manufacturing to "finance, information, trade, commerce, transportation, and tourism, as well as a high-tech development and R&D" (Ng and Tang, 2004: 206) and since 2008 the global financial crisis also hit Shenzhen (Chan, 2010, Worldbank, 2009). These changes have as an effect that the low-end factories are leaving (The Economist, 2012, Ai, 2012, Friedmann, 2005, Ng and Tang, 2004), leaving behind empty low quality factory buildings (Susan858, 2012, The Economic Observer, 2012) and unemployed people (Flynn, 2009, Yeung et al., 2009, Chan, 2010, Solinger, 2006).

## Effect on migrant

The people working and living in these factories are mostly migrants. They sometimes have the choice to move with the factory, but mostly go home to their village (The Guardian, 2009, Worldbank, 2009) or stay in the city (Chan, 2010). When the migrants go back to their village, many of them decide after a year to return to the city (Pai, 2012, Want China Times, 2012) coming there without home or work. When the people decide to stay in the city after their factory left, some of them get a new job arranged by the leaving factory or by themselves, but many of them stay unemployed (Yeung et al., 2009, Colquhoun, 2012).

In this thesis it will be shown that many of the migrants prefer to stay in the city when their factory leaves. This is because they have more job opportunities in Shenzhen than in their village, because family is still living and working in Shenzhen or just because they like Shenzhen and would like to built up a life.

## 1.1 RESEARCH | Introduction

### - Dalang as a test site

**The district of Dalang** represents perhaps an typical case of how rural industrialization after 1979's reform has shaped a countryside to be a peri-urban area. Dalang located on the outskirts of Shenzhen, is also a very good example of immigrant society. It is a spontaneous developed area with many typically village-run collective enterprises, which produce clothes, shoes and electronic goods. During the last thirty years, Baoan district, where Dalang is part of, were under the large impact of the FDI inflow, export-oriented industrialization and developed in a dramatic way (Sit and Yang, 1997). And Dalang also developed from a rural area to an industrial manufacturing area, and turned to be a part of Shenzhen now (fig 1.1.3). Currently this area exists of around 500.000 inhabitants of which 98% of them are immigrants from other regions around China and under 40 years old based (fig 1.1.4 & 1.1.5).

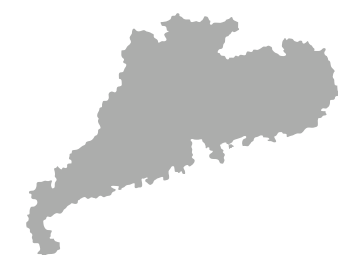
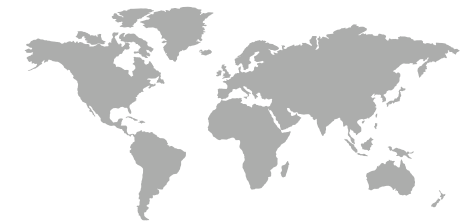


**Fig 1.1.3: 1990, it's still a rural area outside Shenzhen special economic zone.**

**By 2012, impacted by industrialization, turns to be a rural-urban fringe area of Shen**

**Without the top-down land plan** from government, the urban construction of Dalang was once in a state of disorder and confusion. Under the pressure of high population, the public space seems insufficient as well. Currently the morphology of this area is urban village based.

**Facing the international industrial shifting**, this area is rapidly changing from an area with only low-end manufacturing to a more diverse economy, which means that many small and medium factories have left or are leaving. In this project, Dalang will be used as a test site for the development proposal.





## 94% Young migrant workers

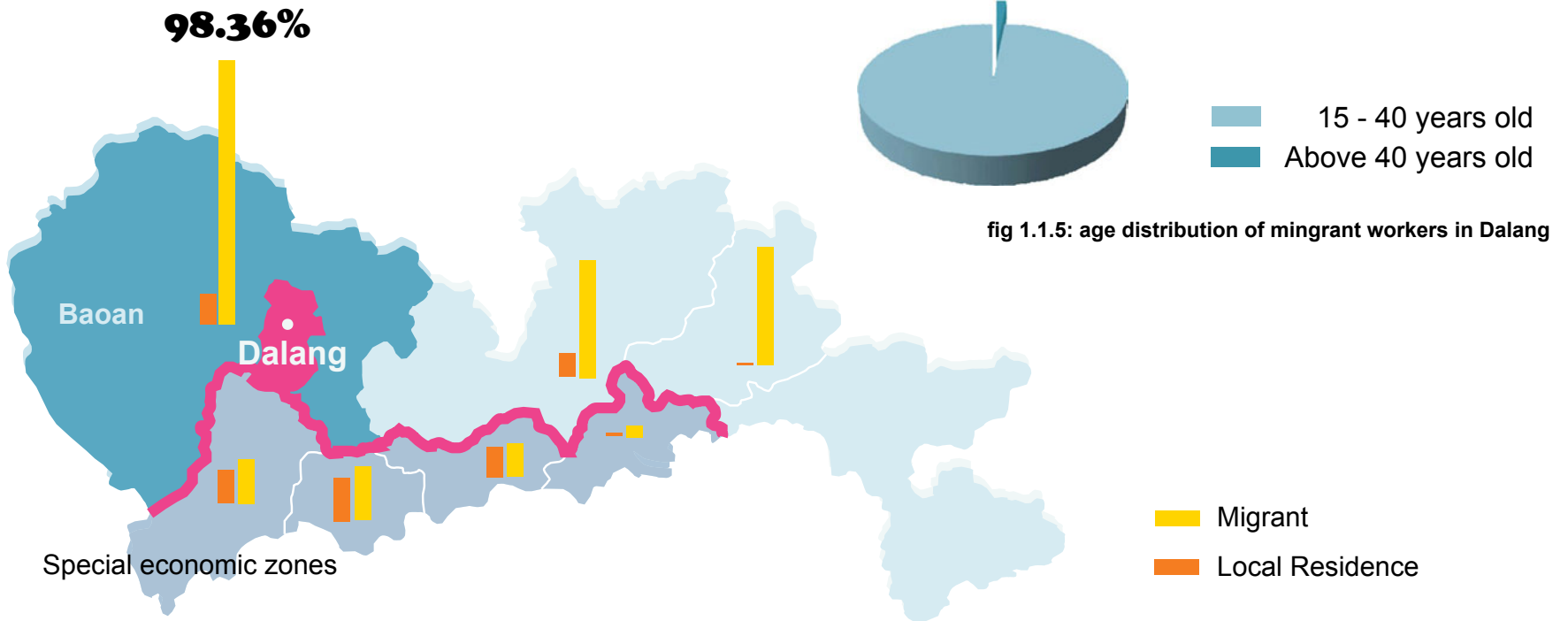


Fig 1.1.4: Population composition of migrant and local residence in different districts of Shenzhen

## 1.2 RESEARCH | Problem statement

Facing the second urbanization and international industrial shifting the mode of old industrial development at rural-urban fringe area is challenged gravely. Exiting labor-intensive industry need upgrading, As the peri-urban is a place of innovation and increasing employment in the service and IT sectors: 25% of peri-urban regions are classified as 'highly innovative' (Piore et al., 2011). But exiting low-skill workers couldn't be competent to the work and high-skill workers wouldn't come, for the absence of the social-cultural life and the lack of public facilities. At the same time, lots of migrant workers move to new modern industrial parks for a better living environment as well. It now appears that the importance of urban human settlement to new migrant workers becomes to be more and more significant.

However, the statue of peri-urban human settlement is alarming enough. Suffering from inner cities' pressures, 'urban diseases' are sprawling to rural-urban fringe area. Social segregation, local identity and culture lost, decline of landscape quality, environmental degradation, poor infrastructure, irrational living space structure, chaotic land development and management, local identity and culture lost, the bigger city size is, the more outstanding its symptoms become. The problems of peri-urban human settlement are formed by many reasons. Beside urban expansion, inadequate attention paid to peri-urban human settlement and lack of effective plan leading and control is two other important reasons. Unfortunately, this urban fringe territory is too frequently forgotten. Being neither urban nor rural, it tends to often fall into a vacuum left between urban and rural policy and analysis (SURF, 2012).

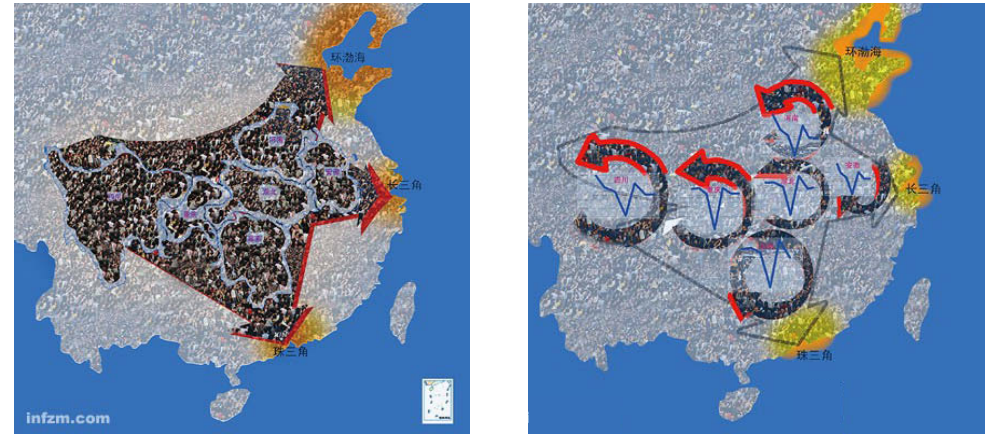


Fig. 1.2.1: Migrant workers flow back from Pearl Delta these years source:infzm.com



Fig. 1.2.2: Facing workers shortage, factories battle for migrant workers source:Guangzhou Daliy News Paper

### 1.3 RESEARCH | Context

#### - 'Hukou' residence registration

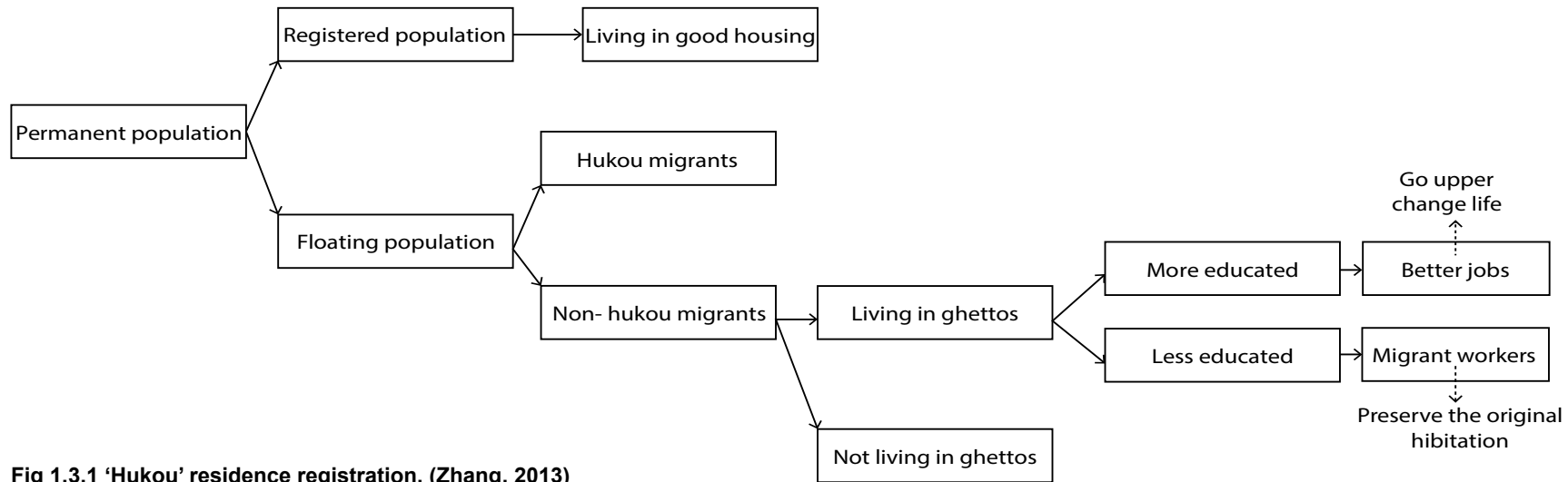


Fig 1.3.1 'Hukou' residence registration, (Zhang, 2013)

The household registration (Hukou) system was formally introduced nationwide in 1958 to control rural to urban migration (Chan and Zhang, 1999, Cheng and Selden, 1994). It divided people into two distinct groups—the agricultural population and the non-agricultural population. As a social management system, it ties benefits like health care, education and pensions to a person's place of birth (Friedmann, 2005). This means that migrants, coming from the countryside but living in the city, "don't have the same benefits as the urban residents" (The Wall Street Journal, 2013).

As there are two kinds of migrants in China. Hukou migrants who transfer their Hukou registration along with their movement and non-Hukou migrants who only register as temporary population at their destinations but leave their Hukou registration at their origins. Since 1984, people have been allowed to move to other areas and to register temporary with the government at their place of residence and employment. To 1997, most holders of quasi-non-agricultural population status have acquired a formal status of non-agricultural population. However, it is still extremely hard for the ordinary rural residents to transfer their Hukou status from agricultural into non-agricultural and hence to move from rural to urban (Ma, 2006), especially in large cities.

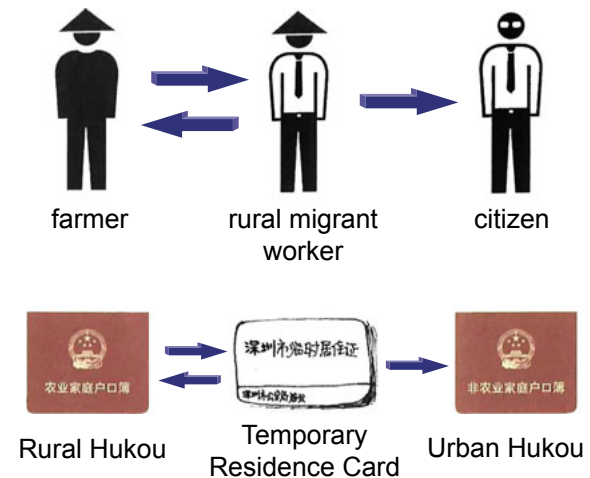


Fig 1.3.2 The transform process of rural migrant worker's Hukou state (made by author)

## 1.3 RESEARCH | Context

### - Rural Migrant workers

With the rapid industrialization and urbanization, rural-urban migrant workers have become one of the most important labour groups in urban China, contributing greatly to economic growth in urban areas. Especially after the 'Open Door' economic reforms in 1979, the number of migrants kept increasing. More and more farmers leave their hometowns, try to find non-agricultural job in urban areas. Till 2006, there were 132 million rural migrant workers working in urban areas, which is more than 8 times of that of 1990 (Cai et al., 2007). Compared with cultivating in hometown, rural migrant workers can earn higher income by doing non-agricultural work. Moreover, rural economy developed by their remittance.

However, as temporary population status, this group has not been adequately integrated into the urban mainstream due to the rural-urban dualistic system indicated by Hukou system. They have less right of access to employment, housing, medical service and social welfare in Chinese cities. These migrant workers are called floating people as well, because they just come to the city to find a job without their families, earn money and then go back to their hometowns. This floating population is considered to be 84% of the total population in Shenzhen (Hao, 2012, Li, 2006)

In contradiction Wang (2012) made a distinction between these migrant workers. She found that former migrant generations indeed mainly worked to survive economically. They sent money back to their homelands and work for their families. A phenomenon Wang calls "leaving, remitting, returning". This pattern is also described by Meng, Wang & Li (2000). They argue that the labour circle exists of people who move to the city to earn some money, they work for a couple of years and then return to their hometowns to get married, while new migrants come to the city, which starts this circle again.

### Comperation with Hukou and Non-Hukou Rural-urban migrants

<u>Characteristics</u>	<u>Hukou Migrants</u>	<u>Non-Hukou Migrants</u>
Household registration status	Non-agricultural and local	Agricultural and non-local
Entitlement to state-supplied social benefits and opportunities	Full	From nil to temporary entitlements
Legal urban resident status	Full status	Illegal or temporary
The socio-economic sector the migrants move to	State sector and non-state sector	Mostly to non-state sector also as temporary workers in state enterprises
Mechanism of effecting migration	Transfers determined by bureaucratic decisions within plan limits	"Spontaneous" based on personal contacts and market information
Stability of moves	Permanent	Seasonal or semi-permanent
Labor characteristics of principal migrants		
Skill level	Skilled and low-skilled workers	Mostly unskilled or low-skilled labor
Employment type	Mostly permanent jobs	Temporary or semi-permanent jobs in non-state enterprises; or self-

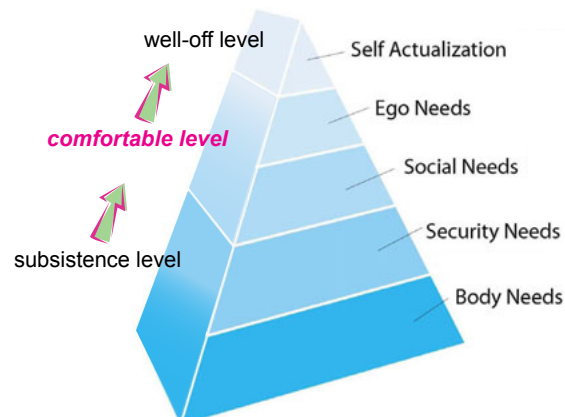
fig 1.3.3: Source: Chan, K.W., "Post-Mao China: a two-class society in the making

The migrants with temporary population status are not treated as ordinary urban residents in Chinese cities. These migrants have formed a special group of non-local residents. They have less right of access to employment, housing, medical service and social welfare in Chinese cities although urban governments have been requested by the central government to provide public education to the children of rural migrants since the early 2000s.

## 1.3 RESEARCH | Context

### - New generation Migrant workers

#### MASLOW'S HIERARCHY OF NEEDS



There's a new generation of migrants in China, who are defined as the migrants that were born after 1980. Compare with former generation migrant workers, they have a more individualistic approach, typified as "leaving, searching, becoming" (Wang, 2012).

They migrate because they want to learn specific skills, get experiences and see more of the world. If they got a chance to spend money on iPhones, computers and other personal devices they will do so. Although their future is unpredictable, their attitude towards changes and personal development is completely different than the previous generations of migrant workers (Wang, 2012). The new generation migrant workers are not particularly former peasants and might not face the same 'knowledge gap' as the previous generation. They probably already know how to adapt to 'city life' whether they experienced it themselves or others told them. Even more important is that the new generation migrant workers grew up in the middle of these rapid developments, so in fact they are more used to it. In contradiction, the previous generations had to adapt to these rapid developments, while

#### NEW GENERATION MIGRANT WORKERS' CHARACTERISTIC

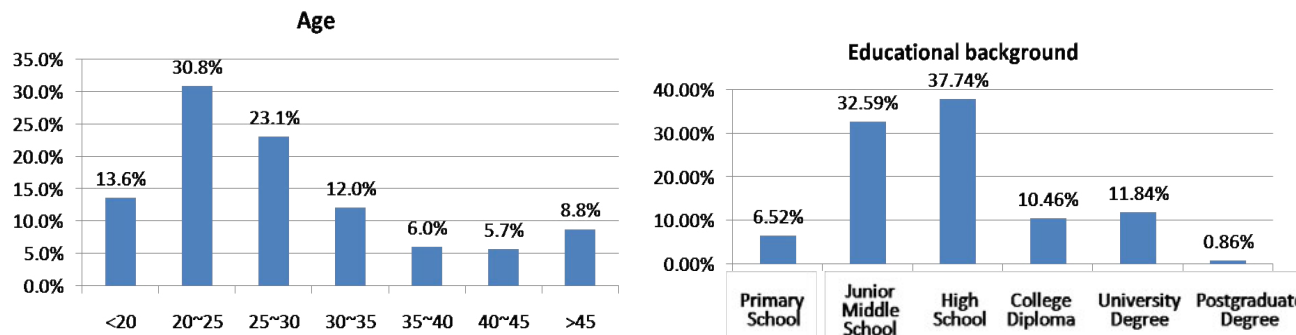


Fig 1.3.4 Source: *The Investigation of Migrant Workers' Housing Problem*, (Lu 2010)

they were used to their former standards of living they already had faced for ages. This thought is supported by Wang (2012) who argues that the new generation migrant workers is positioned somewhere between the old traditional generation of peasants and the urban residents.

The rural migrant workers have several sources to get job-information. The most important sources are relatives and friends. They can tell about their own experiences and what is going on in the city. The second source is government agents and the last source is the media of the labour market; newspapers, bulletins provided at public spaces (Meng et al., 2000). This change in behaviour is also related in the idea of consumerism, facilitated by the government. An example of this governmental idea is the Hukou system. Several decades ago, the Hukou system seemed to be stricter and based on the control of the huge migrant population. Nowadays it is still a system of controlling flows of people, but over the years the system became more flexible. Some migrant workers now have access to rules of minimum wage, pensions and health insurance (Li, 2006).

According to Wang (2012) the new generation migrant workers is quite decent. They play it safe and are looking for career opportunities.

A more individualistic approach combined with a more flexible Hukou system, a government that stimulates consumption and the knowledge provided by the previous generation might lead to the idea that the new generation migrant workers have more (decent based) opportunities and make different choices compared to the previous generations. These differences between generations are also described by Hu (2012). Within the new generation migrants Hu makes a distinction between four prototypes based on behaviour that migrant workers show when they move to a city like Shenzhen. He distinguishes behaviour and choices towards work, career, family, money and city life what results in the four prototypes as shown below. Hu doesn't argue that people can be characterized as just one prototype. He argues someone can move from one prototype to another or even face all types over time, since people and their environment can change over time (Hu, 2012).

## 1.3 RESEARCH | Context

### - Urban villages

#### Emergence of urban villages in China

Since 1978, dynamic urbanization in China has led to the emergence and proliferation of so-called 'urban villages' (chengzhongcun in Chinese) in many cities. Urban villages are created when agricultural land is acquired for urban expansion while the built-up component of the rural village remains untouched to avoid costly compensation and relocation programs. These urban villages are enclaves within formally planned and developed urban areas, designed for urban functions and lifestyles (Hao et al., 2012).

Although villagers lose their farmland during the land requisition by government, they maintain property rights over their own houses and their housing plots (zhaijidi) within the village settlement. But their rights are not alienable, they cannot capitalize their assets through land or housing sale, so normally, they redevelop their housing at high densities (Liu et al., 2010).

#### Characteristic

For indigenous villagers, exploitation of their housing is subsequently their most available means of income generation. In the absence of formal regulations and planning, the construction and maintenance of urban villages are on the basis of self-help. In order to maximize income, indigenous villagers have built high-density housing as packed apartment blocks of 2–8 floors. The urban village is characterized overall by narrow roads, face-to-face buildings, a thin strip of sky, and inner streets packed with shops, grocery stores and service outlets (Liu et al., 2010).

However, due to insecure property rights of land and housing in urban villages, indigenous villagers tend to avoid long-term investments (Tian, 2008). They lack the motivation to improve the environment, maintain

buildings, or upgrade the infrastructure. Moreover, urban villages are often associated with squalor, overcrowding and social problems such as crimes, fire hazards, public health, and conflicts.

#### Effects on society

1. On government: An approach without costly and time-consuming for indigenous villagers' relocation while land requisition.
2. On migrants: A settlement provides low-rent housing while moving to city.
3. On villagers: A way increases their income after losing their farmland.

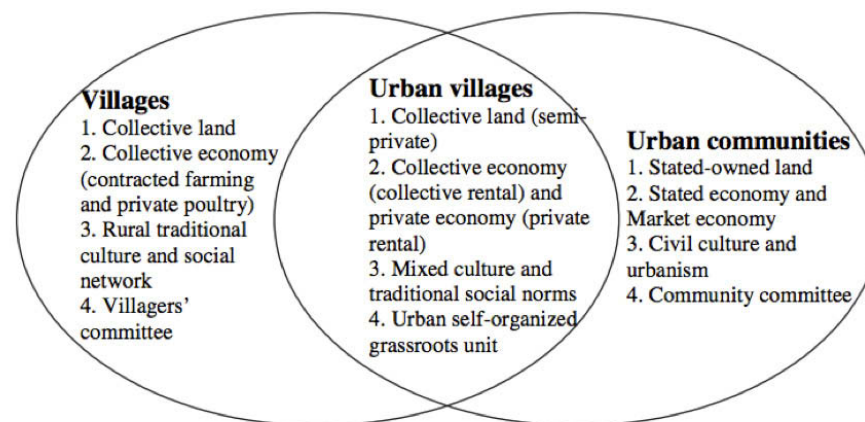


Fig 1.3.5 The plural characteristics of urban village, (Liu et al., 2010)



## 1.4 RESEARCH | Problem definition

As new generation migrant workers become to be the main labor force in China, the human settlement has been referred to an unprecedented level. Comparing with the first generation migrant workers, their needs are quite different. According to Maslow's Hierarchy of Needs(fig.1.5), subsistence level cannot satisfy them anymore. With higher education, different motives and recreation habits, the quality of living environment like convenient transportation, better social connection and more recreational spaces are required after work.

However, because of the urbanization level and less attention, the peri-urban infrastructure is normally poor and inadequate. The existing living environment in peri-urban area cannot satisfy young migrant worker's demands anymore. Considering their young age and low income, problems like social public space and public transportation need urgent attention.

## 1.5 RESEARCH | Motivation

To avoid losing migrant workers and attractive the high-skill workers, a better balance and sustainable development requires more policy attention at the regional level and on the urban-rural interface (Piorr et al., 2011). The human settlement in fringe area need been improved to remain the exiting migrant workers and attractive more high-skill workers to meet the needs of industry upgrading.

In the Dalang case, 94% population is young migrant workers. Compared with the first generation migrant workers, they need more social connection and recreational space after work. Considering their young age and low income problems like social public space and public transportation need urgent attention.

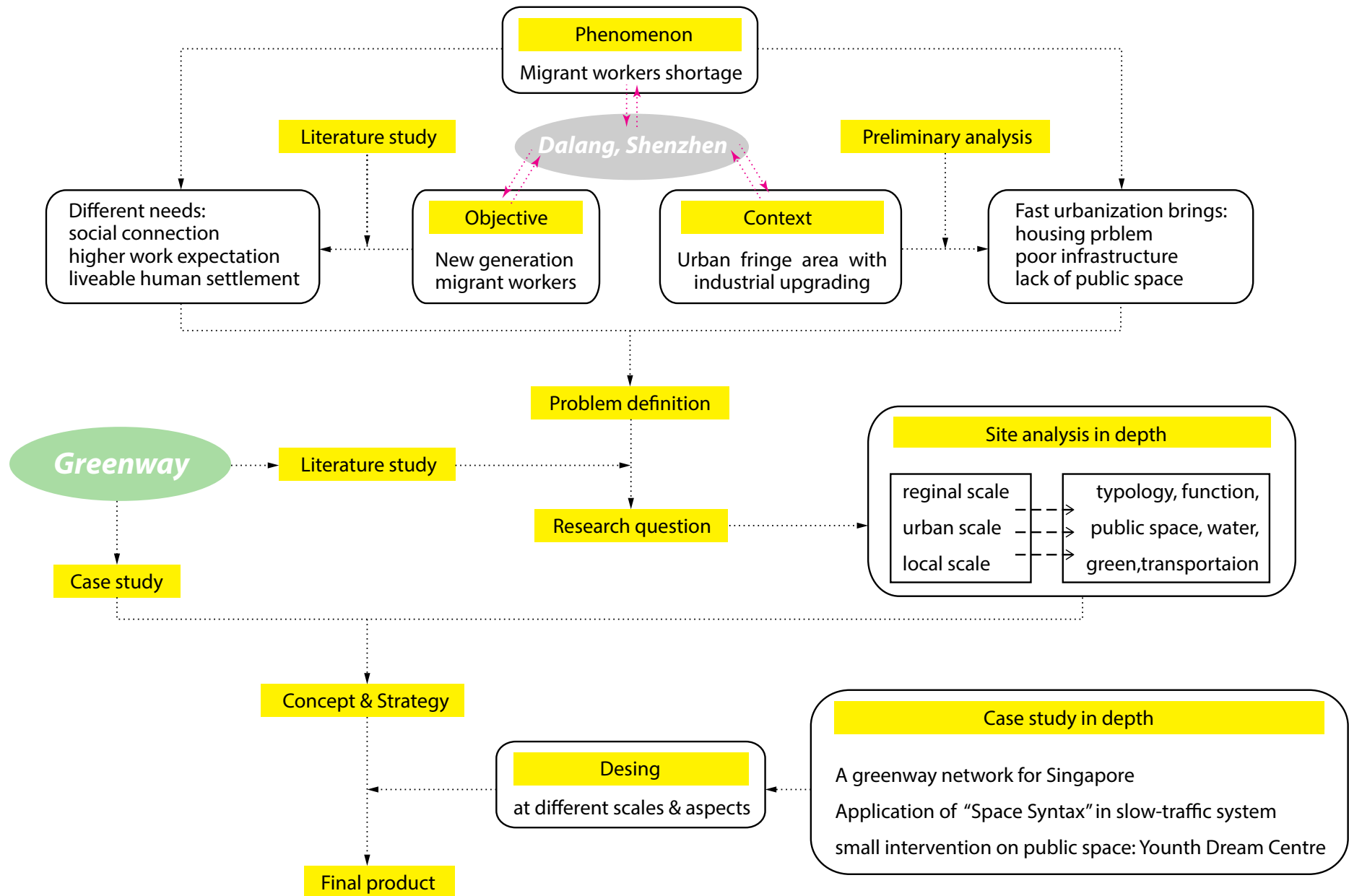
In order to improve the sustainable livability of Dalang, based on the existing situation, the focus need to be on the greenway system.

## 1.6 RESEARCH | Methodology

### - Literature review

In my following review, I will draw attention to this balance between the industry upgrading and liveable human settlement in rural-urban fringe area. After understanding the definition of rural-urban fringe area and sustainable human settlement, I'll move on to the interaction of urbanization and human settlement. Then turn to the specific problems of rural-urban fringe area under Chinese background. The last part would be the conclusion of possible methods to dealing with the livable human settlement in rural-urban fringe area. Highlight the impact of the greenway effect on the human settlement in rural-urban fringe area.

# 1.5 RESEARCH | Methodology



(made by author)

## 1.7 RESEARCH | Theoretical framework

### - The concept of livable human settlement

The purpose of this project is to improve the livability for migrant workers, which aim at promoting a livable human settlement for them.

*When **livability** became the key word for our regional planning, we knew we would have to find effective ways to deal with many problems...*

—Harry Lash, Director of Planning,  
Greater Vancouver Regional District 1969-1975,  
*Planning in a Human Way*. 1976, 481(Lash, 1976)

#### **Livability was defined as 'quality of life' in UN-Habitat**

UN-Habitat is The United Nations Human Settlements Program, which was established in 1978. In the The Habitat Agenda on the Conference Habitat I, livability was defined as **'quality of life'** as experienced by the residents of a city, settlement, or region. Their quality of life depends on economic, social, environmental, and cultural factors, as well as on the physical conditions and spatial characteristics of villages, towns, and cities (UNCHS, 1997). City layout and aesthetics, land-use patterns, population and building densities, transportation, and ease of access for all to basic goods, services, and public amenities have a crucial bearing on the livability of settlements.

**The improvement of the quality of life** of human beings is the first and most important objective of every human settlement policy. The condition of human settlements largely determines the quality of life, the improvement of which is a prerequisite for the full satisfaction of basic needs, such as employment, housing, health services, education and recreation (UN-HABITAT, 1976).

**Human settlements is diverse in character**, depending on the specific community and its lifestyles, the surrounding natural environment, and the built environment it (the community) creates. Thus, the development of livable human settlement is very much dependent on the specific local context in which the settlement exist (UNCHS, 2001). Thus, the planners and designers should understand the local communal life to propose suitable visions and strategies (Fig xxxx).

#### **New urbanism 10<sup>th</sup> principle: Quality of Life**

Taken together these add up to a high quality of life well worth living, and create places that enrich, uplift, and inspire the human spirit.

#### **The 10 principles of New Urbanism**

1. Walkability
2. Connectivity
3. Mixed use and diversity
4. Mixed housing
5. Quality architecture and urban design
6. Traditional neighbourhood structure
7. Increased density
8. Smart transportation
9. Sustainability
10. **Quality of life**

EXTENDED URBAN METABOLISM MODEL FOR SOE REPORTING ON HUMAN SETTLEMENTS

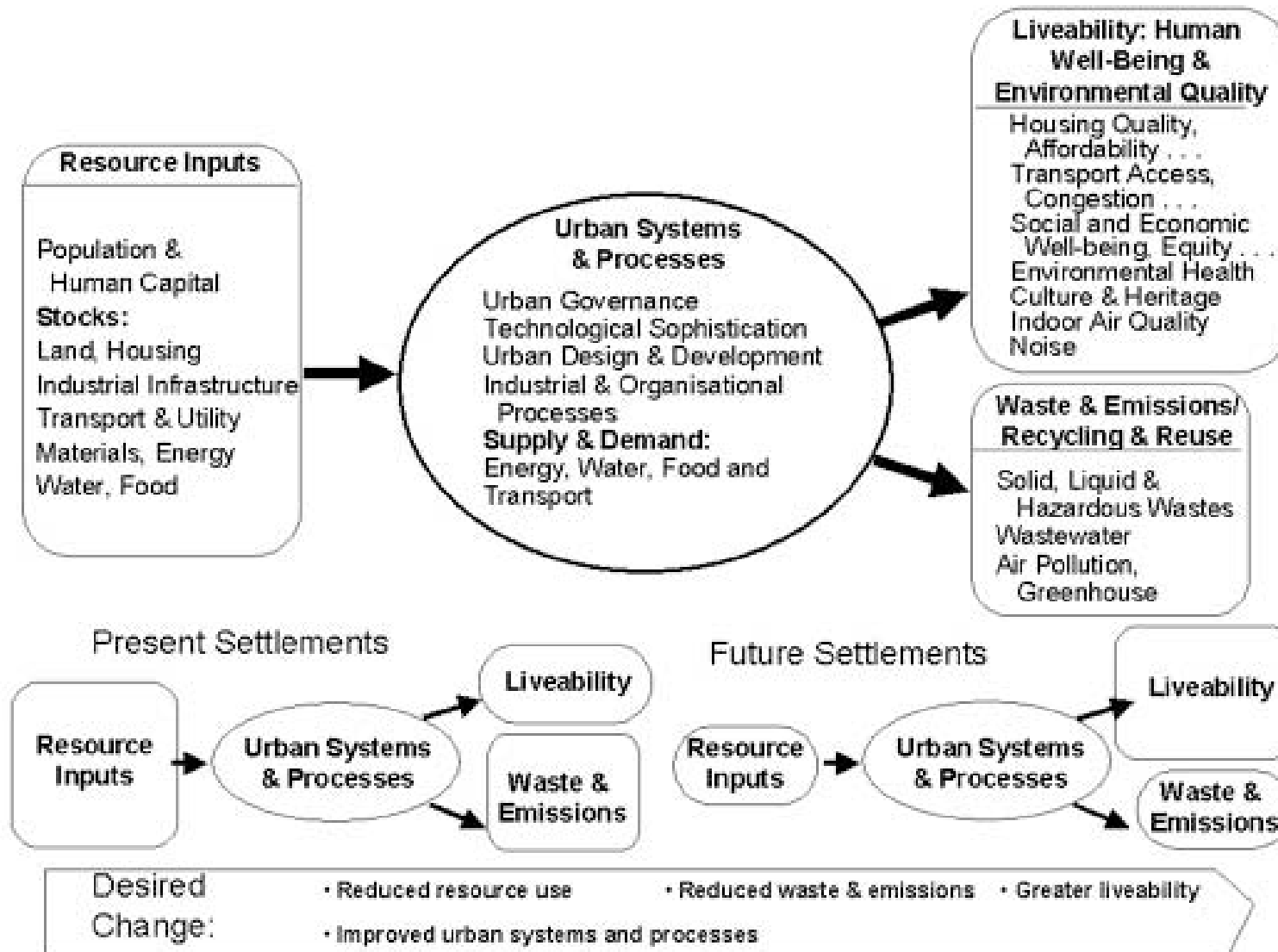


Fig 1.7.1 Source: Adapted from State of the Environment Advisory Council (1996) and Alberti (1996)



## 1.7 RESEARCH | Theoretical framework

### - The concept of livable human settlement

#### Ekistics argues:

#### Quality for all, equality for individual

The concept of 'ekistics' has been defined by C.A. Doxiadis as "the science of human settlements". In the theory of Ekistics, human settlement was identified to contain five elements: man, society, networks, nature & shell (Doxiadis, 1972). When evaluating the livability of human settlement, Doxiadis believes **quality is the value for all, while equality is the value for the individual** (Doxiadis, 1976a).

Since the automobile and personal machine were introduced, people are no longer equal in the streets and the squares of the cities, although industrial progress improves the quality of the life for whole human. Through this we can understand collectively, the averages are high for the maximization of potential contacts, for many individuals they are very low. If the people prefer the big city, in spite of all its faults, we cannot reverse this process. Instead, we must strive to make cities satisfactory (Doxiadis, 1976a).

#### The same Concept in *Arrival City*

Doug Saunders (2010), a Canadian journalist, coins the term "arrival city" to call the places which settled by rural migrant workers and propel migrants into the core life of the city. In China, "arrival city" is known as urban village or rural-urban integration. For generally, these places are in less than salubrious conditions, can be defined as low quality of the life, many governments take them as cancerous growth on an otherwise healthy city and hope to eliminate all of them. But, he argues that cheap residential area for low-income migrants should be permit in the city, although the quality is very low, but it is equal to migrants to stay and have a place to live in the city. What the planners and governments need to do with these places, is just improving the quality according migrant's needs, don't simply demolish them and replace with high quality communities.

Principles	Quality (values for all)	Equality (values for the individual)	Equality (values for the individual)
maximization of potential contacts			
minimization of effort			
optimization of protective space			
optimizaiton of relations			
optimizaiton in the synthesis of all princioles			



Fig 1.7.2 Human settlemts of present and future and the fulfimt of Man's desires, (Doxiadis, 1976a)

## Conclusion

Based on Ekistics principle and current situation of the rural-urban fringe area where the most rural migrant workers gathered, we can design a satisfactory human settlement on the thought of livability for them. Then, we can get the rehabilitation principles after combine with the former disciplines of livable human settlement.

## 1.7 RESEARCH | Theoretical framework

### - Mixed-used and diversity

Actually, the improvement of the livability of human settlement related to the intervention on community livability, thus, the theory of community will also be studied. Mix-used and diversity as one of the principle of livable community will be introduced.

### **Jane Jacobs: Final aim of Mix-used is livable for everybody**

Jacobs (1961), a New York City community activist was among the first critics of modernist architecture and planning. She notes that strong and healthy neighborhood bonds are essential to creating reliable social networks, and that “many streets in . . . old ethnic communities have assimilated into their neighborhoods a fantastic ethnic variety”.

Also, Her study renews people’s love of the diversity life of urban streets.” Intricate mingling of different uses in cities are not a form of chaos,” she wrote. “On the contrary, they represent a complex and highly developed form of order.” She believes the mix-use can help the street thrive and retain the city’s diversity. The final aim is to make it livable for everybody.

### **New Urbanism: Diversity is the fundament**

New Urbanists suggest that diversity is fundamental to creating healthy, vibrant communities. They take several approaches to facilitate diversity in their communities. These steps focus on alterations to the physical space designed to attract diverse populations. Some of the design choices include accessory apartments, mixed housing, and mixed-use zoning (Duany and Plater- Zyberk 1994, xix).

### **As one of the principles of new urbanism, Mix-used and Diversity means:**

- A mix of shops, offices, apartments, and homes on site. Mixed-use within neighborhoods, within blocks, and within buildings
- Diversity of people of ages, classes, cultures, and races

### **The 10 principles of New Urbanism**

1. Walkability
2. Connectivity
3. **Mixed use and diversity**
4. Mixed housing
5. Quality architecture and urban design
6. Traditional neighbourhood structure
7. Increased density
8. Smart transportation
9. Sustainability
10. Quality of life

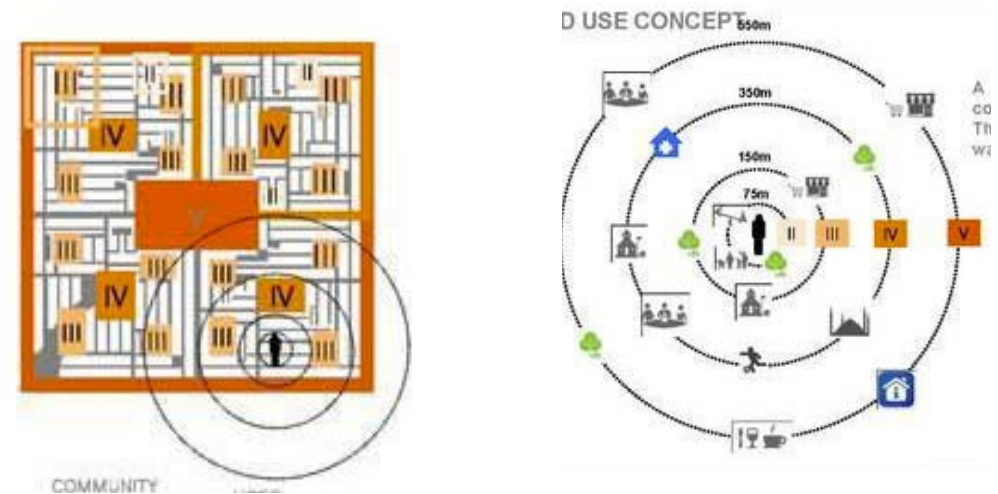
## 1.7 RESEARCH | Theoretical framework

### - The concept of mixed-used and diversity

#### The multi-center system of the Ekistics

DHA project in Islamabad followed the planning principles of Ekistics: hierarchical scale of the Ekistic units, the classification of the residential areas in communities of classes, public facilities in walking distance from the residences, etc. In each Ekistics unit, a variety of facilities and uses is concentrated. This way all the main facilities are in walking distance from the residence.

This theory promotes the concept of mixed-use residential sectors by creating multiple centers within them spreading facilities such as commerce, amenities and parks throughout these areas. The principle behind the master plan is a group of self-sustaining cities within a city, with community amenities accessible to all residents within a 10 minute walk."



#### Conclusion

Base on mixed-used and diversity principle, the urban villages where the main community for migrant workers can be classified in different walk distance scales and consist by multiple centers within diverse related facilities. Those facilities will be selected to meet migrant worker's needs. In order to enhance the accessibility to each public spaces and facilities, the main facilities area should be design within a 10 minute walking distance.

Meanwhile, mix-used facilities also attractive diverse people to gather together, promote social integration, enhance the social network for migrant workers. It serve to transfer migrant workers to be really citizens in the future.

II	Industrial	Work/leisure	Public green space					
III	Office	Shop	Public green space					
IV	Office	Shop	Public green space	Home	Public green space	Work/leisure	Office	Public green space
V	Shop	Work/leisure	Home	Public green space	Work/leisure	Office	Public green space	

Fig 1.7.3 Human settlements of present and future and the fulfillment of Man's desires, (Doxiadis, 1976a)

## 1.7 RESEARCH | Theoretical framework

### - Human centered design

*Producing a plan and regulations would not be enough. We had to deal with long-term future livability, but also with **people's ongoing satisfaction**, their day-to-day experience of living in the region. Tomorrow's livability needed as much attention as the attainment of a better future. "The proof of the planning would be in the living.*

—Harry Lash, Director of Planning,  
Greater Vancouver Regional District 1969-1975,  
*Planning in a Human Way*. 1976, 481(Lash, 1976)

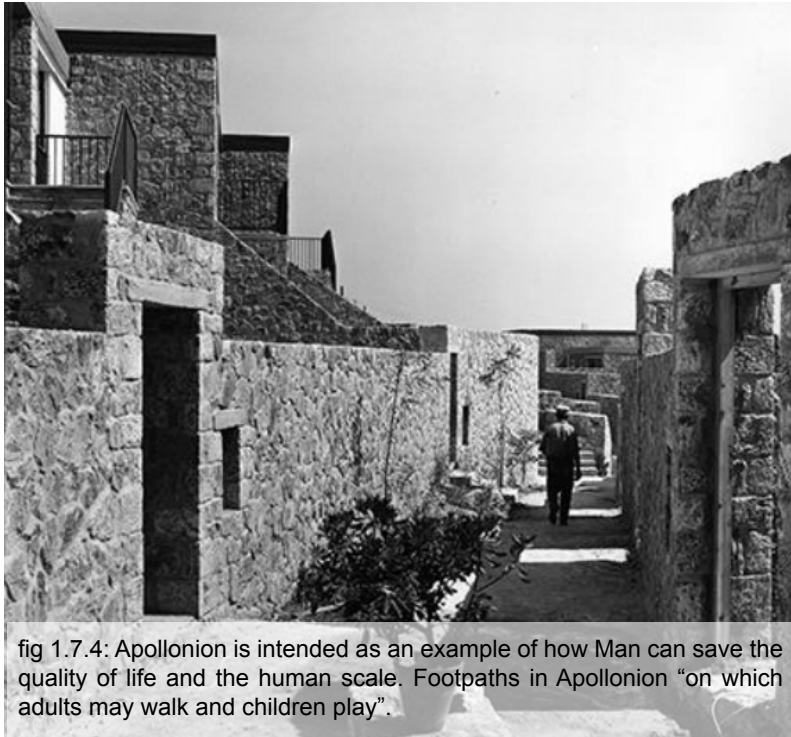


fig 1.7.4: Apollonion is intended as an example of how Man can save the quality of life and the human scale. Footpaths in Apollonion "on which adults may walk and children play".

The reason of this project related to "human-centered" is because it starts with people I design for. In Ekistics, Doxiadis takes it as a way of analysis to know the degree of man's satisfaction; In New Urbanism, it means the renaissance of human scale.

#### **The goal of Ekistics: the satisfaction of man**

Doxiadis brought the concept of identity into the grid by using the term 'anthropos (human)' for considering each individual's needs - biological, sensation and perception, emotional and moral values. He does not only write of the importance of mankind in theories but he actually **used mankind in his analysis** (Doxiadis, 1976b).

In addition Doxiadis showed his conscious effort of executing his ideas of identity and sense of belonging with his **human centered design** (HCD) of Apollonion Porto Rafti where he created places for people with good accessibility, visual variety and a pedestrian traffic flow that encouraged livable community life and sustain values.

#### **New Urbanism: human scale**

**The importance of human scale** is continuously emphasized by New Urbanism designers in successful human environments, in the building of healthy human community. It can be summarized as "Giving more people more choices about where and how they want to live".

"The New Urbanism has aimed at inspiring a **human-scale urban renaissance** to counteract a century of sprawling development geared to the needs of motor vehicles." Chris Turner said on The Congress for the New Urbanism in 2012. And creating human-scale, walkable communities that are both functional and sustainable is a goal of New Urbanists .

## 1.7 RESEARCH | Theoretical framework - Human Centered Design

### IDEO: The toolkit of Human Centered Design

The Human-Centered Design Toolkit was designed specifically for people, nonprofits, and social enterprises that work with low-income communities throughout the world. Human Centered Design (HCD) is a process and a set of techniques used to create new solutions for the world. It begins by examining the needs, dreams, and behaviors of the people we want to affect with our solutions. To understand what the people really want by listening their words, which can be called as the Desirability lens. Thus, the world can be view through this lens throughout the design process. After identified a range of what is Desirable, the solutions cab be viewed through the lenses of Feasibility and Viability. These lenses will be brought during the later phases of the process.

The solutions that emerge at the end of the human Centered Design should hit the overlap of these three lenses; they need to be Desirable, Feasible, and viable.

### The process of HCD

**The hear section** will guide designers through the process of preparing for research with constituents using HCD methodology.

**The Create section** will help designers translate the informations from people into frameworks, opportunities, solutions, and prototypes. During this phase, designers will move from concrete to more abstract thinking in identifying themes and opportunities, and then back to the concrete with solutions and prototypes.

**The Deliver phase** will begin to realize solutions through rapid revenue and cost modeling, capability assessment, and implementation planning. This will help to launch new solutions into the world.

### THREE PHASES OF HUMAN CENTERED DESIGN

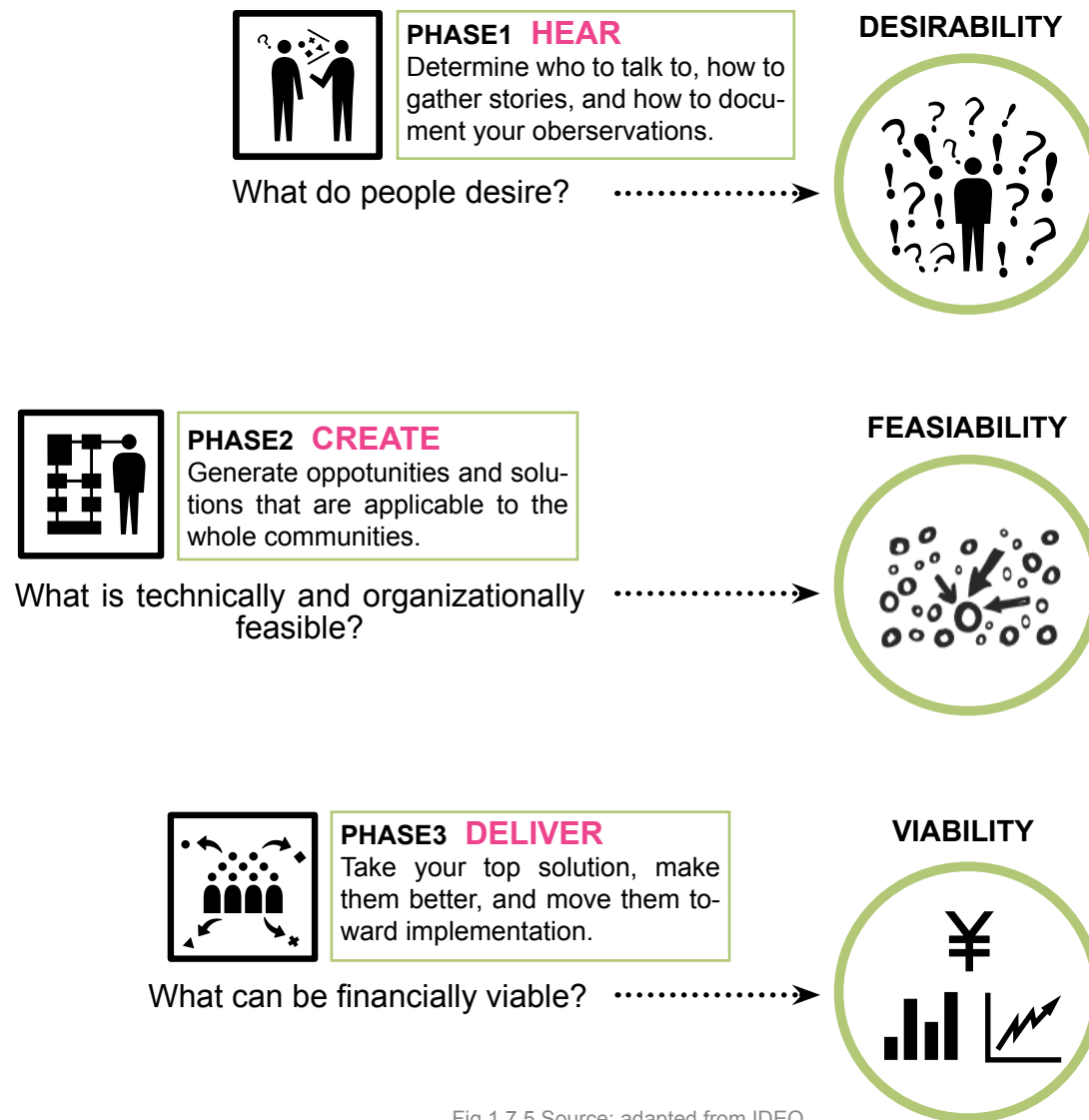


Fig 1.7.5 Source: adapted from IDEO

## 1.7 RESEARCH | Theoretical framework

### - Human centered design

#### Conclusion

For the project's object is migrant worker, thus, the design will be related to "human-centered". In order to applying the concept of HCD on this project, the study of the migrant workers' needs is needed. Firstly, try to understand who they are, what are the characteristics of them by the previous researches. Secondly, through interviews and surveys, try to know what are the really needs of them. Then, after the system analysis combine with the situation of Dalang, create a feasible solution and strategy to meet their needs, consequently improve the livability of their human settlement. Lastly, implement the planning by consider how the project works, how to involve all kinds of stakeholders into this project.

#### HUMAN CENTERED DESIGN IN THE WHOLE PROCESS OF THIS PROJECT

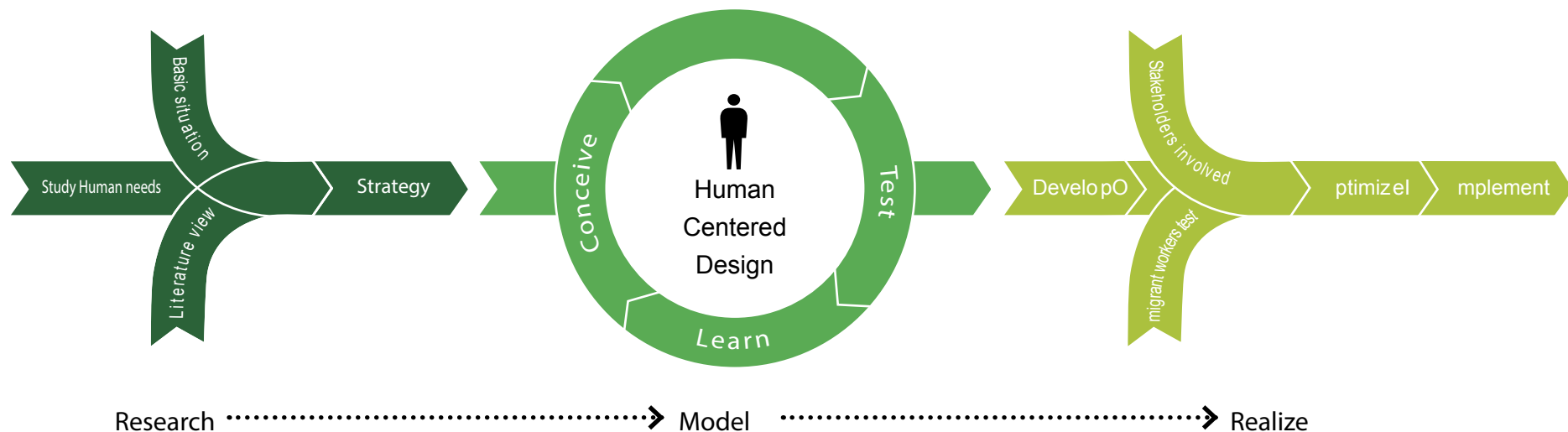


Fig 1.7.6 Source: made by author



## **1.8 RESEARCH | Research question**

### 1.2.1 THE MAIN RESEARCH QUESTION

***How can the greenway system be an effective instrument to enhance the livable human settlement for migrant workers in rural-urban fringe area?***

### 1.2.2 SUB-RESEARCH QUESTION

1. What does the concept of 'livable human settlement' mean for migrant workers?
2. How can we define the greenway system on the different scales (e.g. block, neighborhood, district) in Dalang context?
3. To what extent does the greenway system meet the requirements of the sustainable human settlement from migrant workers in rural-urban area?
4. What are useful design principles and how can they contribute to the design of a sustainable greenway system?
5. How to involve the small interventions to enhance the quality of greenway system to achieve the short-term goals?
6. How to involve the government's investment to the big projects to achieve a long-term goal?

## 1.9 RESEARCH | Relevance

### - Social relevance

#### 1.4.1 SOCIAL RELEVANCE

As new generation migrant workers become to be the main labor force in China, the human settlement has been referred to an unprecedented level. However, because of the urbanization level and less attention, the peri-urban infrastructure is normally poor and inadequate. Considering their young age and low income problems like social public space and public transportation need urgent attention.

With today's continuous urban expansion, many landscape are changing a lot, especially at peri-urban area. It forces people to be isolate from the nature. To the peri-urban residents, the wish of being closer to the nature needs more time and money to be realized. Now, greenway as a possible alternative comes to people's vision.

Greenway, a green, linear, open space, has the ability to meet the public's need of the healthy human settlement. This kind of advantages are not only stay at individual level, but face to a the broader society. Through 'reducing the traffic flow, improving the quality of view, protecting the nature resource and so on', lots of social value have been shown by it. Meanwhile, as a strategic weapon, greenway is an important approach in attempting to improve the sense of urban identity and regional competitiveness as well.

To some extent, the extend of high quality public space can offer strong points to consist a greenway system. So the greenway here we are talking about is not a simple green line but a spatial mesh system. It is a route system addresses to creating a non-automobile traffic environment, making people closer to the nature landscape (nature, history, culture) and daily life center (work, sport, leisure facility), no matter it is in city, sub-urban or country.

In addition, due to the urban fringe territory is too frequently forgotten, some small interventions like 'greenway' with low investment, fast return are easier to

be initiated by civil society and supported by government.

By creating Greenways as routes connecting people to facilities and open spaces in and around towns, cities and the countryside, councils can help contribute to improvements in health, road safety, the environment and the local economy.

*Greenways provide alternative, easier, safer, more attractive access to work, shops, schools, leisure and recreational facilities. They are an excellent solution, encouraging people towards a healthier life style, making them think about using sustainable forms of transport as a way to reduce traffic congestion and pollution and improve people's quality of life.*

— The Countryside Agency, *Greenways Technical Guidance*

## 1.9 RESEARCH | Relevance

### - Academic relevance

#### 1.4.2 ACADEMIC RELEVANCE

This project is indebted to a large amount of studies about rural-urban fringe area, migrant workers, greenway that has been done in the past.

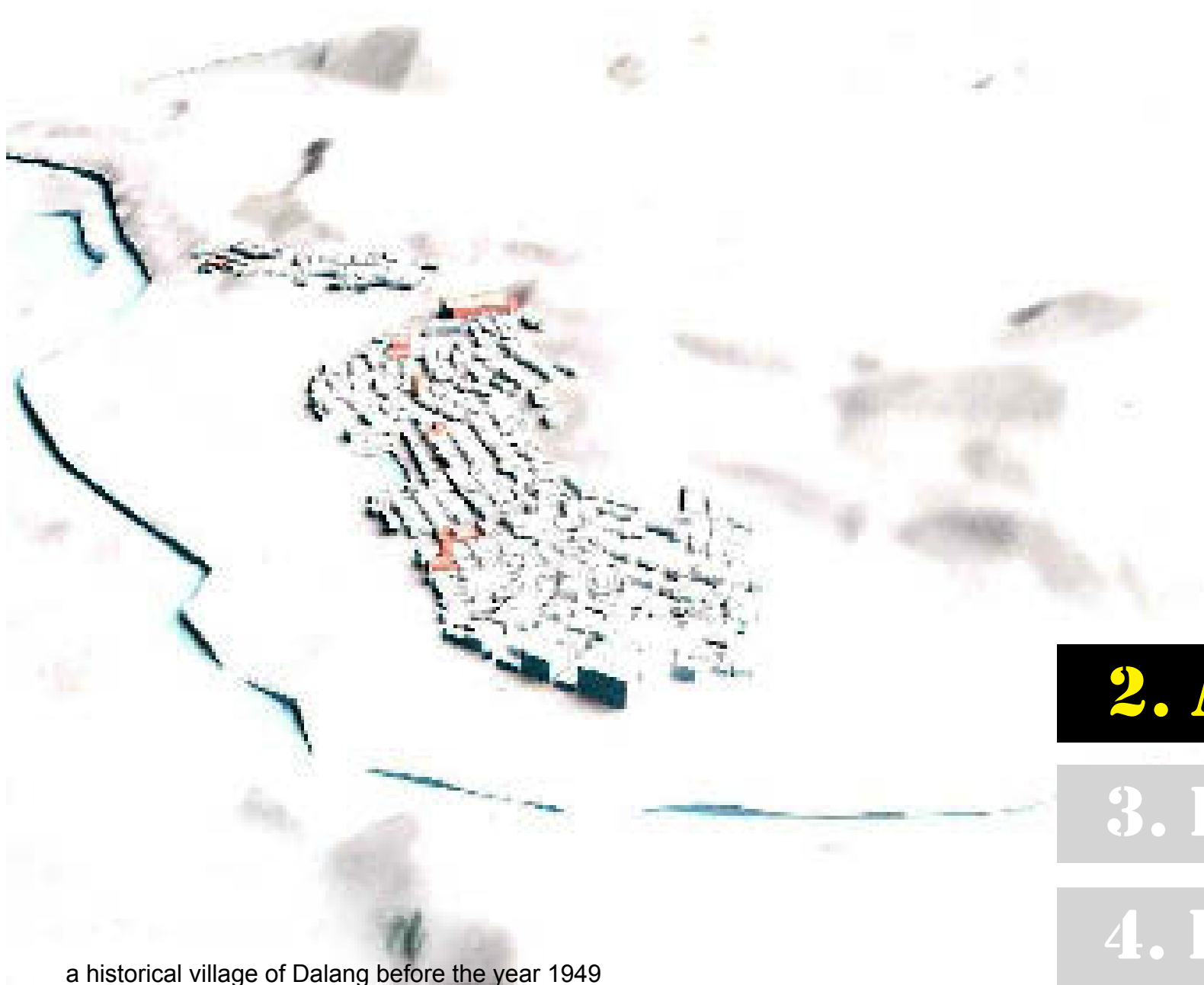
In the last decades, cities in China have been expanding rapidly, urban fringe areas have become urbanized and the inner cities are deified with less green and heavy traffic. Due to the successful cases of Boston, London, Ljubljana and Singapore, in China, the adaptation strategies of many big cities are already taken into account in greenway. Many researches have already pay attention on the application of greenway in the inner cities.

However, greenway in urban fringe area is normally considered as a means to attractive visitors from inner city, satisfy their needs of nature landscape, and make a good connection between city and countryside. Today, as the human settlement also become to be significant to the peri-urban residents, more studies begin to pay attention on the sustainable development in urban fringe area. Thus, it might be time to do a specific research on greenway in rural-urban fringe area, and have a fresh look on the current situation.

In a previous study, greenway in urban fringe area is normally considered as a tool to attractive the visitors for inner cities, stimulate the local economy, and meet the demand of landscape from citizens. Lacking of attention to local residents' daily travel and recreation, it might be time to do a specific research on greenway system for peri-urban residents, and have a fresh look on the current situation.

The addition that this project will bring to the body of knowledge is a research on case studies on different scales of greenway.





a historical village of Dalang before the year 1949

## 2. ANALYSIS

## 3. PLANNING

## 4. DESIGN





## 2.1 ANALYSIS | Basic site introduction

### - Introduction

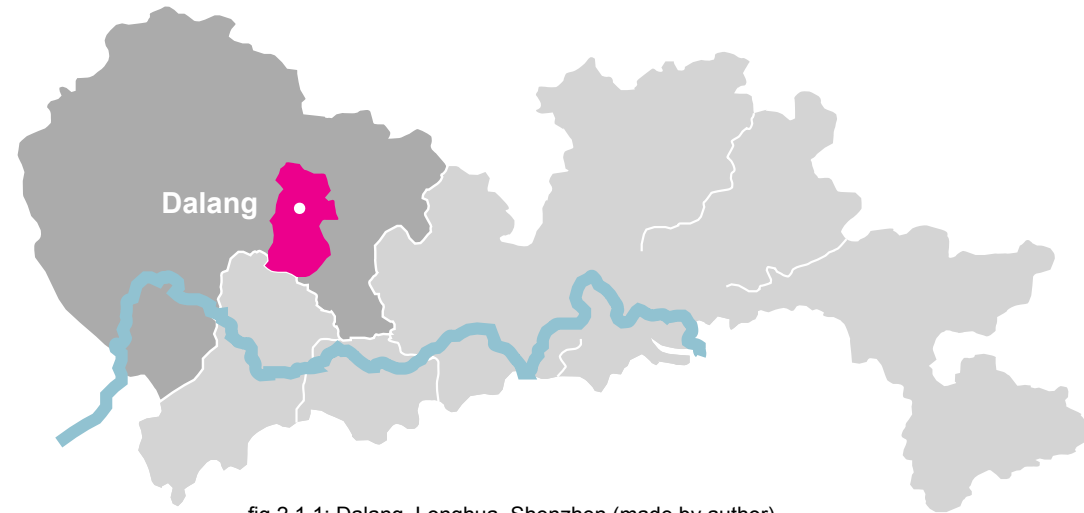


fig 2.1.1: Dalang, Longhua, Shenzhen (made by author)

<b>Permanent Resident:</b>	<b>500,000 people</b>
<b>Register Population:</b>	<b>8200 people</b>
<b>Migrant Population:</b>	<b>491,000 people</b>
<b>Area:</b>	<b>37.84 km<sup>2</sup></b>
<b>Construction area:</b>	<b>17.8 km<sup>2</sup></b>
<b>Population density:</b>	<b>28,000/km<sup>2</sup></b>

Source: Shenzhen Baoan Statistic Yearbook 2010

The strategy and design in this master thesis is focusing on Dalang subdistrict, part of Longhua New district in Shenzhen. Dalang has been chosen as a test site to intervene in Shenzhen. It is a good example with all the typical features of on facing the problem of migrant workers' shortage while new round industrial upgrading in Pearl River Delta.

This area mainly consists of factories and urban villages, 98% of the inhabitants are migrants (YAN, 2013) and currently the area is rapidly changing from an area with only low end manufacturing to a more diverse economy, which means that factories have left and are leaving. The biggest change in the industries of Dalang is the fashion base industry ——"Fashion Valley" located in the North Part.

In 2006 Dalang was created as a district within Longhua New District and in 2011 officially recognized. Dalang has a population of 500.000 people, of which only 8640 have the urban Hukou. The population of Dalang has been growing rapidly since 2000 and is still growing. Dalang consists of many hills, two great natural protection zones and there are six reservoirs. While the density in Longhua New District is quite high compared to standards in Shenzhen,

the density in Dalang is low in average. This is something the planning bureau of Shenzhen wants to keep that way and use for the future image of Dalang.

## 2.1 ANALYSIS | Basic site introduction

### - History evolution

In far history Dalang is of relative importance because originally there where only small villages located at the area. There were two important moments worth mentioning. In 1966 the Hakka people, a culture originally from the center of China, moved to Longsheng, the area that is currently Dalang. Second, between 1937 and 1945 this area played an important role in the anti Japanese war. The mountains around Dalang were sufficient defence spots.

In 1981, Bao'an district is created under rural law, one year before the Shenzhen Special Economic zone was officially recognized by the State Council. Bao'an, and thus Dalang, were at that time not part of the SSEZ, but were located just outside the borders of this special zone. This had a lot of consequences for its development. For example, where the center of Shenzhen always had an urban development plan, this was not the case for the areas outside the SSEZ (Wu, 2012).

In 1993 Bao'an and Longgang are converted into districts and together with the four original districts in the SSEZ, formed the Shenzhen municipality. At that time, the planning office started to formulate an urban development plan for the whole municipality (Ng and Tang, 2004). For Dalang this had consequences. Almost half of Dalang was developed during time from rural area into a factory area.

Next to this, Since 1993, rules from the municipality also changed the look of traditional and urban villages in Shenzhen (Wang et al., 2009), because they began to standardize land allocation for villages. Apart from land for family housing, each village was also allowed to maintain some land for collective purposes as industry, commercial activities and public facilities.



fig 2.1.2: Dalang in 1990, a rural area outside Shenzhen special economic zone



fig 2.1.3: Dalang in 2012, impacted by urbanization, turns to be a rural-urban fringe of Shenzhen

1. Historical villa
2. Chongzhen women's college
3. Turret after War II
4. Traditional village
5. Zhang's Ancestral hall
6. Peng's Ancestral hall

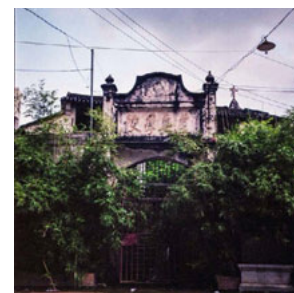
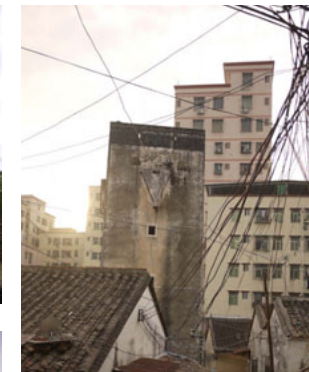
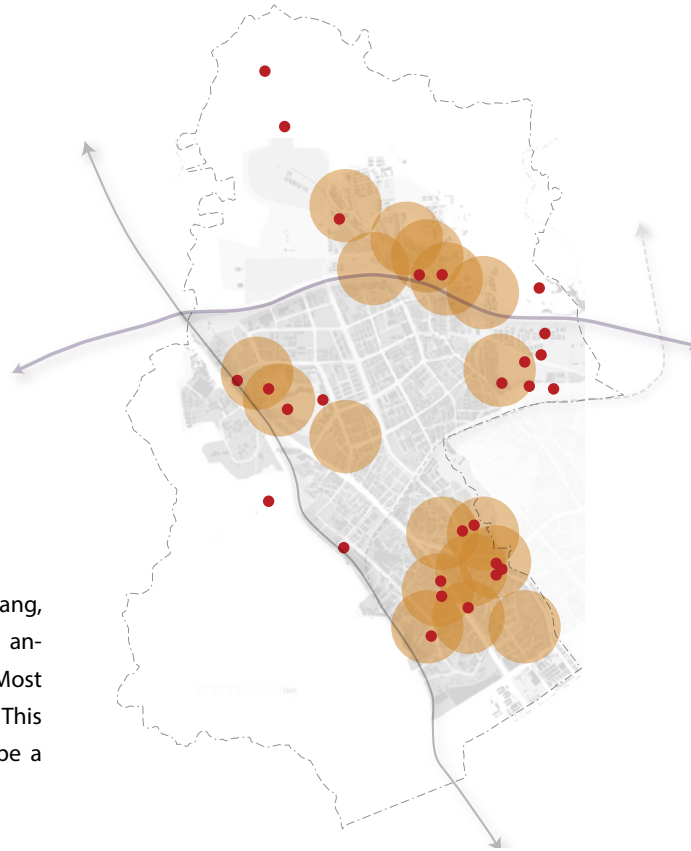




fig 2.1.4: Dalang in future, the Fation Valley Plan by government

There are several ancient villages in Dalang, which owns lots of heritage buildings like ancient temple, blockhouse, church, school. Most of them have a small public square in front. This kind of spaces have a potential turns to be a public space for the residents around.



Source: made by author based on *Dalang Cultural Relics Map* (Pan, 2009)

From 2005 many of the villages start investing in sport fields, new community housing and even a new church. Second, from this time road widening and restructuring projects start to happen. This has as a side effect that a new typology is emerging next to these new roads: urban villages in a line. These buildings have often very active facades and residential space above this. In 2006 the border between Bao'an, Longgang and the SSEZ officially stopped functioning, making Dalang really accessible. From this time on, the local government of also starts to attract new industries.

2011, Dalang is created as part of Longhua New District to "facilitate the further expansion [...], the creation of new economic growth poles of a high standard, the acceleration of the pace of building modern and advanced international cities, the further optimization [...] of urban development, the realization of more refined and balanced public services, and the elevation of the level of urban development" (HKTDC, 2011).

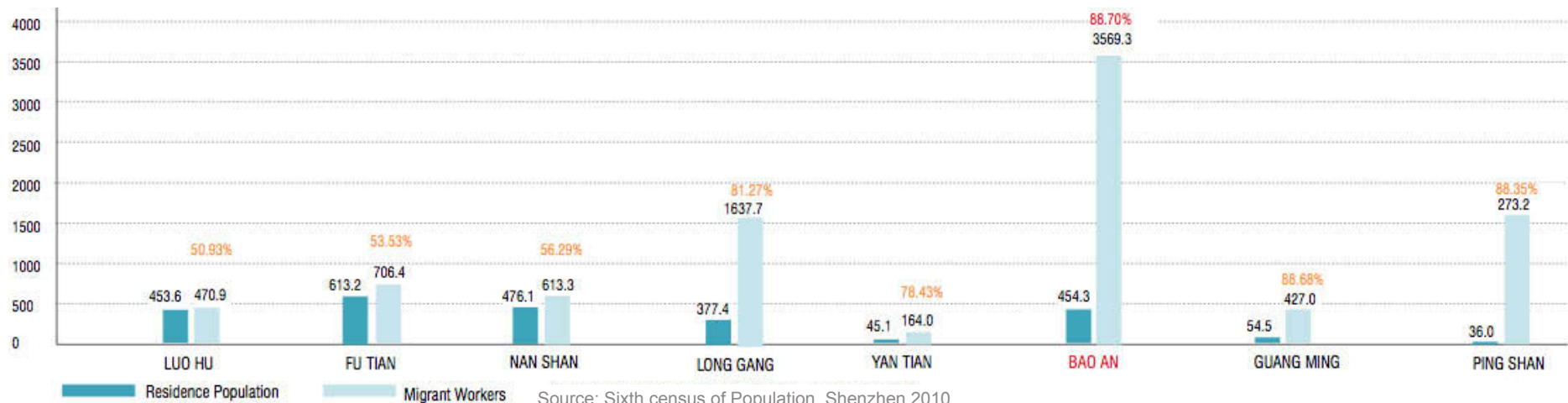
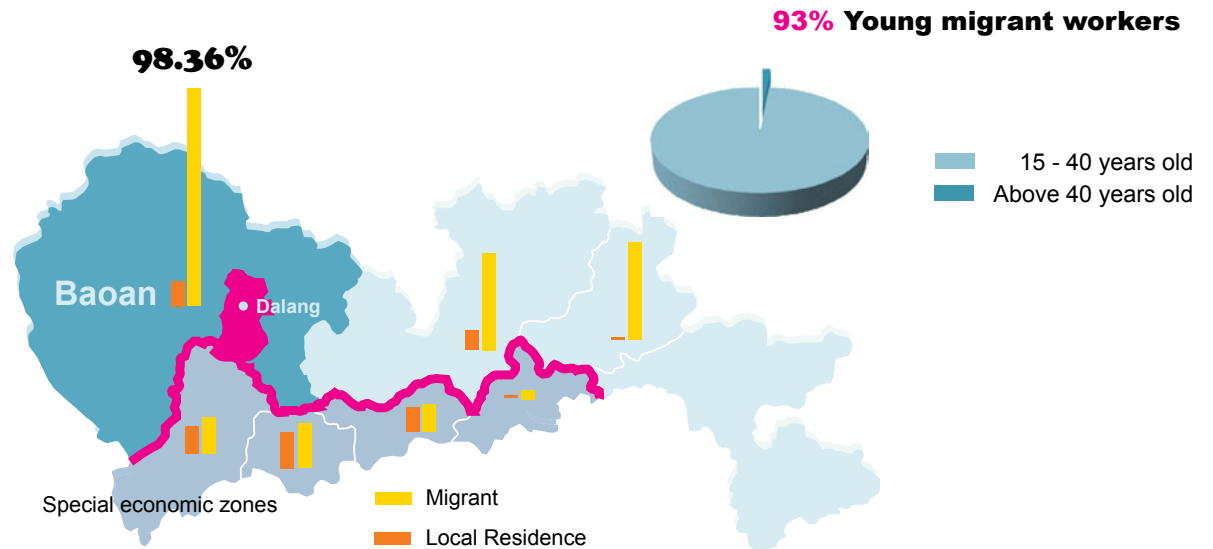
## 2.1 ANALYSIS | Basic site introduction

### - Population

#### POPULATION COMPERATION IN DIFFERENT DISTRICTS OF SHENZHEN

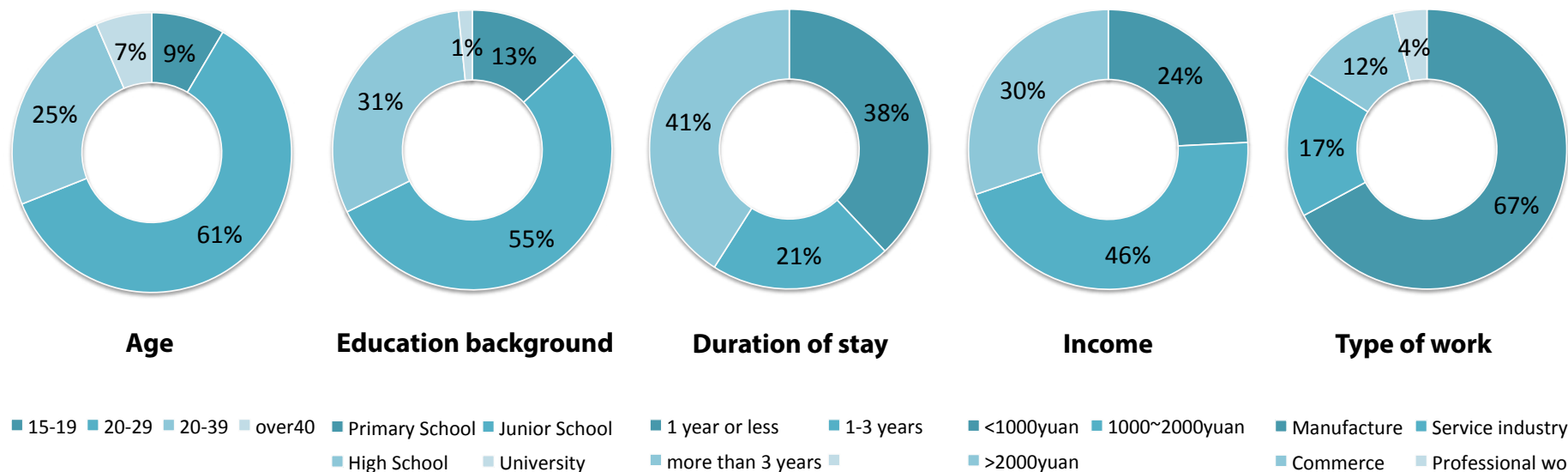
Total populaiton:	500,000 people
Permanent population:	300,000 people
Register residences:	8200 people
Migrant population:	491,000 people
Population density:	7300 people/ km <sup>2</sup>

Source: Shenzhen Baoan Statistic Yearbook 2010



## 2.2 ANALYSIS | Study of migrant workers in Dalang

### - Characteristic of migrant workers in Dalang



Source: *The Investigation of Migrant Workers' Housing Problem*, (Lu 2010)

### Characteristic of migrant workers — **Young , Low education, Low-skilled, Low income, High mobility**

Currently, the population of Dalang is around 500,000, only about 300,000 are permanent residences, which shows the high mobility of this area. The registered population is only 8200, that means 98% of existing inhabitants are immigrants from other regions around China.

Da Lang has a relatively young population caused by this floating population. Besides there are a lot of young people living in Da Lang in the age between 18 and 25 years old. Only around 7% of the population is older than forty,

probably a result of the origins of this place. Most of immigrants have a low educational level and are working in the manufacturing industry. Because of the strong economic growth of the region of Da Lang the economic situation as well as the job opportunities of the inhabitants will change. The wages were low and until 2004 wages hardly increased. This rapidly changed after companies felt a shortage of migrant workers, so the wages increased, but still low.

On the one hand, Da Lang must be seen as an enormous pull area for young migrant workers. They seek for job opportunities, the ability to make money and sometimes even for a career. On the other hand, this group has high mobility, doesn't tend to stay in Da Lang and for some reason it seems to be a push area. This contradiction did not accidentally happen, it can be found and explained by the historical perspective and the existing laws which have been mentioned in the context.



## 2.2 ANALYSIS | Study of migrant workers in Dalang

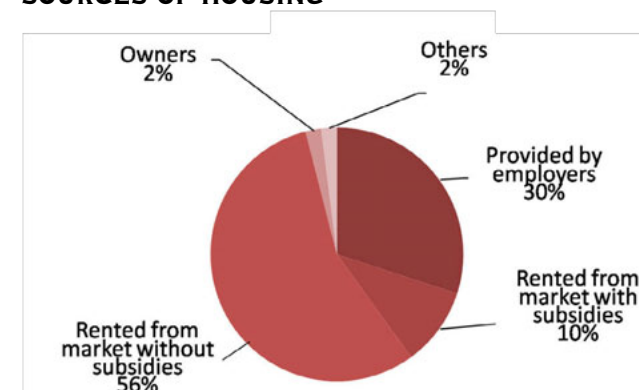
### - Living condition of migrant workers

In the survey of *Migrant Workers' Housing Problem* (Lu,2010), we can found that rental housing is a major source for migrant worker to live, most migrant workers live in either private rental (66%) or employer provided (30%) housing, and only 2% own a property. 40% of respondents get assistant from employers, either dormitories or housing subsidies. Actually, in 2005, central government published a policy to improve the working and living conditions of migrant workers. This policy asked all the employers should provide dormitories or housing subsidies. Now most large factories and companies will provide housing assistant, but many Small and medium enterprises can't offer this yet. In the survey,69% of respondents live in urban villages, because most of cheap private rental housing are there. Only 23% of respondents live in self-contained units, more than three-quarters share a room or a flat with others, and 40% share with 3 or more than 3 persons. It will be all right if they share with families, but actually only 38% share with spouse, children, parents or other relatives. many of them share with colleagues and fellow-villagers. This is very common in cities, especially in big cities for the high rent. Sometimes even more than 12 persons share a flat together.The floor space per person is only 24 square meters. In 2009, the per capita floor space in urban area is 22 square meters. It is easy to found that, overcrowded is still a serious problem for migrant workers, but the situation gradually improved.

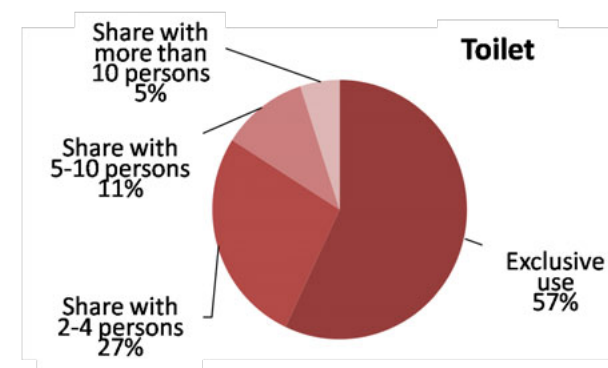
Facilities inside migrant workers housing are generally poor in comparison with the general standard in the city, 40% of migrant workers have no exclusive use of a toilet, bathroom or kitchen. 16% of respondents have to share toilet with more than 5 persons. 36% have no a bathroom in a flat at all. Moreover, even though a piped gas supply has become the norm in Shenzhen, many migrant workers still use bottled gas or coal as their main source of fuel. Some migrant workers put gas cookers or coal-fired stoves inside their bedroom, that could be a fire hazard and an uncomfortable source of heat in the very hot summer.

In the survey, migrant worker mainly live very near to their workplace. 75.3% of respondents go to work on foot, so and nearly 80% spend less than 20minutes on commuting. This is much lower than 46 minutes, the average commuting time in Shenzhen. Living near the workplace is very important for migrant workers, they can save money and time. Going to work on foot is almost no cost. And many of them work in restaurants, hotels or shops, and they often finish their work late in night and hope to come home quickly for a rest.

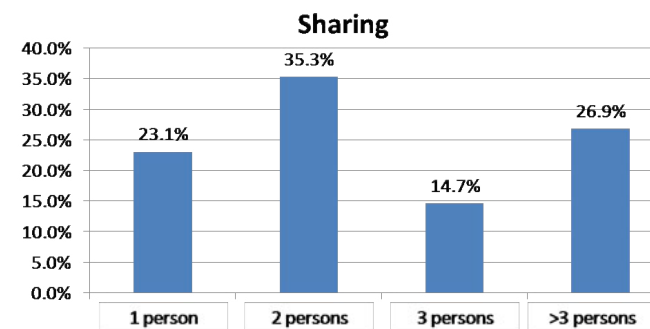
#### SOURCES OF HOUSING



#### INADEQUATE FACILITIES



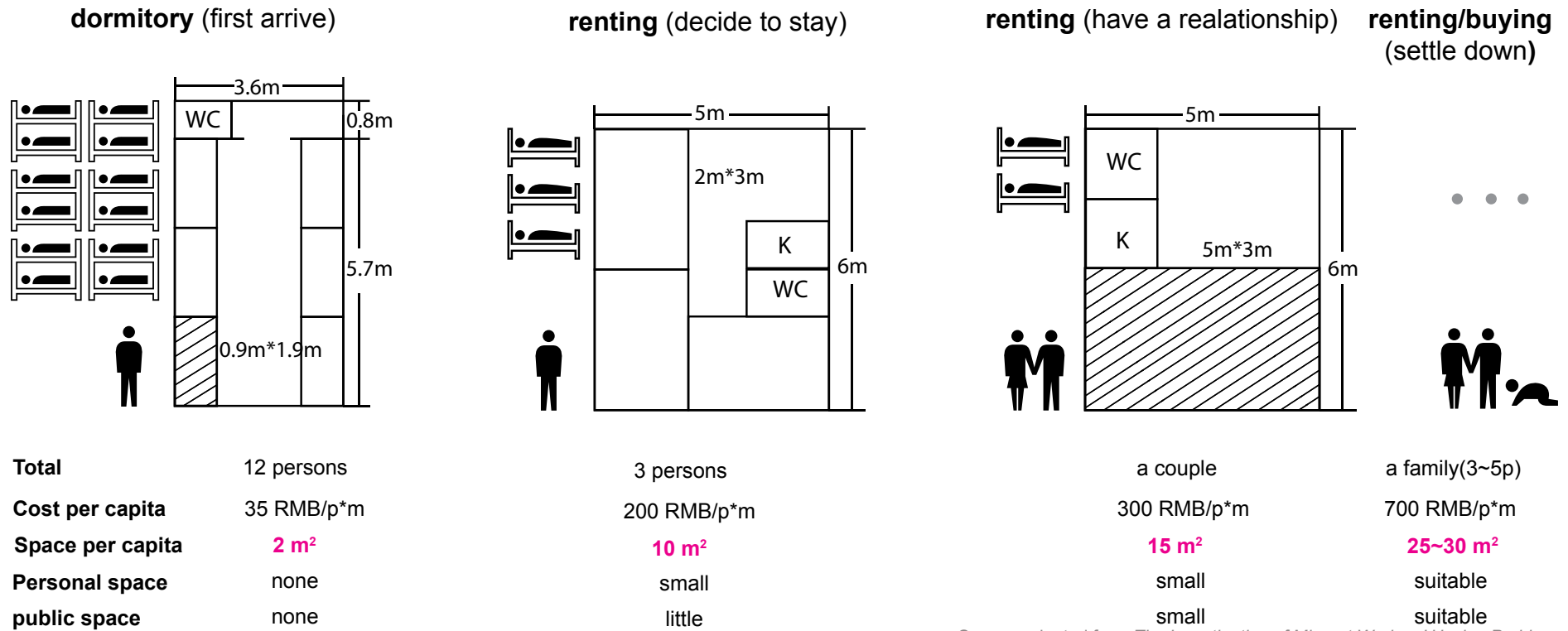
#### OVERCROWDED AND SHARING WITH OTHERS



Source: *The Investigation of Migrant Workers' Housing Problem*, (Lu 2010)

## 2.2 ANALYSIS | Study of migrant workers in Dalang

### - Living condition of migrant workers



Source: adapted from *The Investigation of Migrant Workers' Housing Problem*

Fig 2.2.1 Dormitory from factory



Fig 2.2.2 Flat-share room from urban village

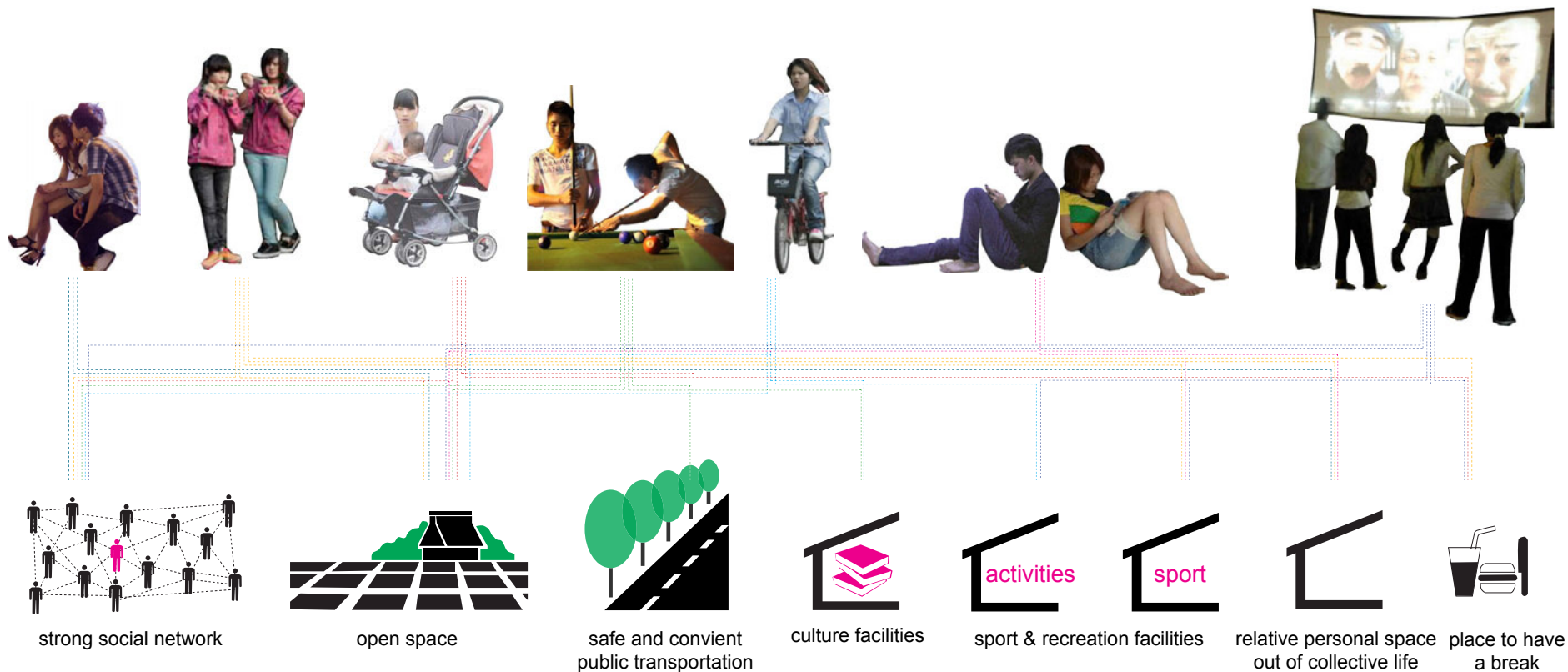


Fig 2.2.3 Studio from urban village



## 2.2 ANALYSIS | Study of migrant workers in Dalang

### - Conclutions on the needs of migrant workers



As new generation migrant workers with higher education background turn to be main labor force of China, the role of migrant workers in city has change a lot. These new generation migrant workers won't go back to rural home, but hope to live in cities in the future. Because not sure about the future in Shenzhen, migrant workers consider urban housing as a temporary place, and they don't want to spend much money on housing. The most important factors that influence their housing choice are close to workplace and low rent. So they usually choose to live in urban villages. The housing conditions are not very good, there are many problems, such as over crowded, sharing room with others, and inadequate facilities. But most of migrant workers are satisfied with their current house.

Meanwhile, the meaning of work seems to change for migrant workers as well. We may conclude from the literature on work that work itself determines peoples' daily life in one way or another. From the peoples perspective there is variety in the meaning of work,

which leads to differences in the impact of work on their daily life in terms of time and money. Time, because not everyone will spend the same amount of time on work and money because not everybody will receive the same wages. We may conclude that the living conditions migrant workers face sometimes can be related to someone's work, like the example of the dormitories, which are only provided by the bigger factories. This means that also in Shenzhen, work seems to be an important indicator in peoples' lives since it seems to organize and structures someone's daily life. It is obvious that people at work face the conditions of their work itself, but does work also influence peoples' daily life during their leisure time? In the existing literature on leisure several common constraints can be found: time, money and space. The latter can sometimes better be explained as facilities. Since work seems to structure a big part of someone's daily life and leisure is becoming of growing importance for both the Chinese people and the Chinese economy it might be useful to have a look at the impact of work on leisure.

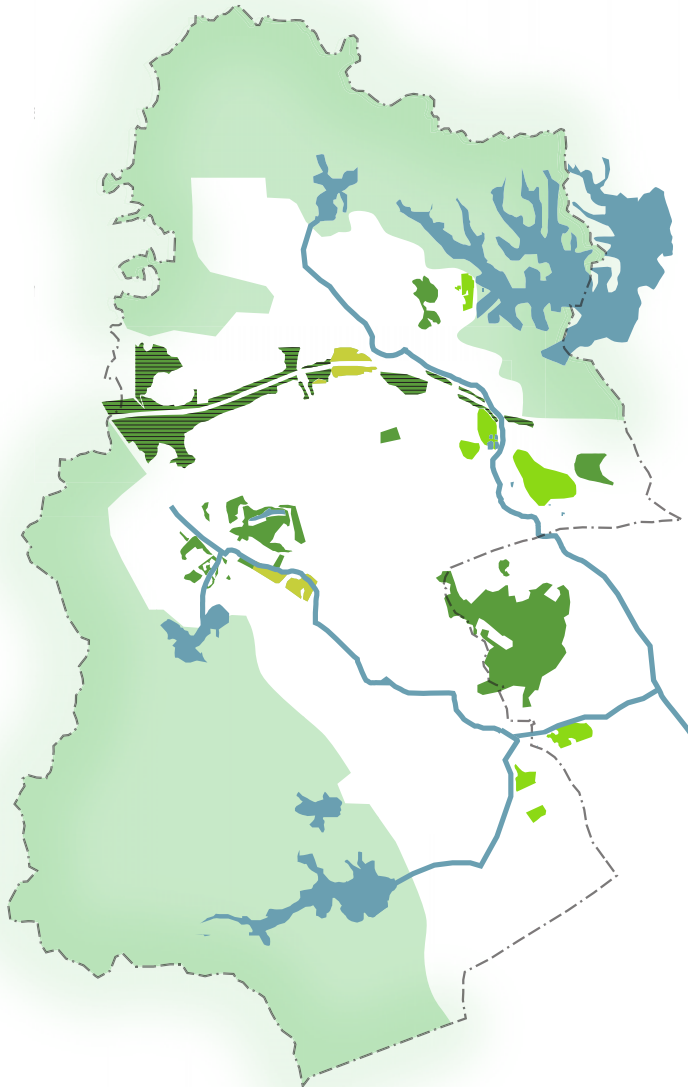


## 2.3 ANALYSIS | Layer approach analysis of Dalang - Landscape layer

### GREEN AND BLUE STRUCTURE IN DALANG

#### Legend

- cannel
- reservo
- natural
- agricult
- park
- froest
- green b



Dalang is situated in between two major national parks, of which one is Yantai Mountain, a major recreational spot for the area. There are still quite some agricultural areas in and around Dalang, but these areas are rapidly transforming into urban areas. There is a river going into Dalang, connecting the two national parks. The smaller green structures which are located in Dalang, are hardly accessible, there are just a few accessible parks. The national parks are accessible, but only through special entrances. Concluded, Dalang is situated in between green spaces, and is being crossed by a river, but Dalang is not using these qualities like it could.

Fig 2.3.1 Yangtai Mountain and reservoirs nearby



## 2.3 ANALYSIS | Layer approach analysis of Dalang

### - Urban occupation Layer

Urban villages industrial area and (emergent) commercial areas are the main components as urban occupation in Dalang. Industrial areas and urban villages are often close to each other and everywhere, where no emergent centers, hills or new housing projects are.

Patterns of the commercial and public functions are analyzed on the next page. Using Baidu maps, the Chinese version of Google maps, commercial, recreational and public functions are mapped. Examples of these functions are shopping malls, KTV's (karaoke bars), hotels and health facilities. Using these maps the existing concentrations of functions are mapped as a conclusion. Areas with a high concentration of different functions can also be named centers.

The main center of Dalang is situated around and north of the metro stop in Dalang. This area has a high diversity and concentration of functions and has the highest density of public functions. Also, this center has bigger functions, which attract people from all over Shenzhen. The second main concentration of functions is north of the Shenzhen north station. The density of public functions is a bit lower in this area, but this is probably because a large part close to this center is still under construction.

In the middle west, an emergent center can be seen in Dalang. This center also has factory areas and urban villages close and have a low density of public facilities. This center will in the future be connected to the subway system. Three smaller, emergent centers can be seen all over Dalang. These areas are mostly bad connected to the public transport and need investment to develop further. In the north, this will happen for sure, because a new fashion industrial park is being planned. For the other two emergent centers, this is not the case. These areas often lack public facilities.

### Lack of recreation facilities and public space

Concluded, there are some centralities of functions in Dalang with only two areas where also public functions are concentrated. Emergent centers often are still not, or very bad connected to the public transport system in Shenzhen which makes them hard to reach and which can be threat for them to develop in the future.

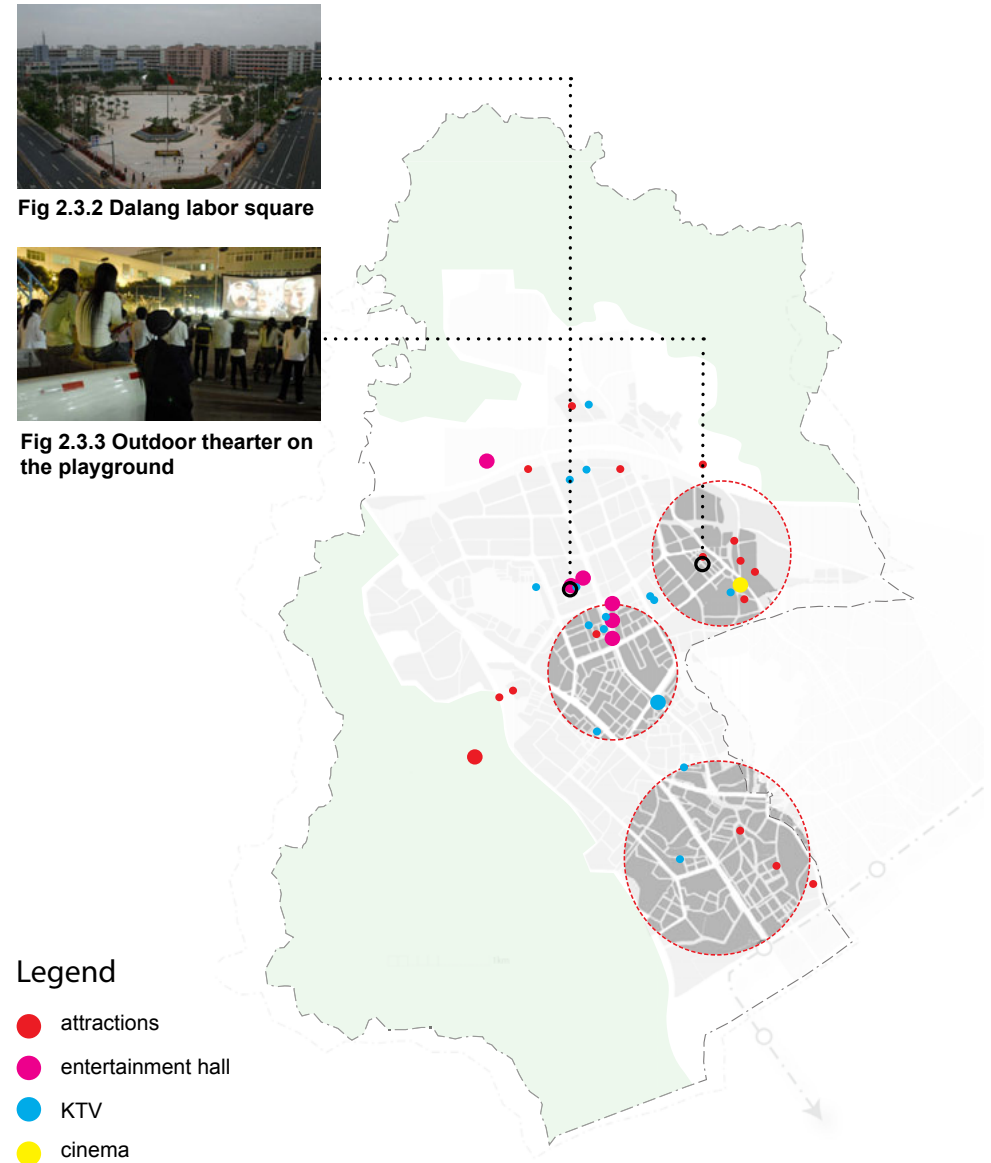
### RECREATION FACILITIES DISTRIBUTION MAP OF DALANG



Fig 2.3.2 Dalang labor square



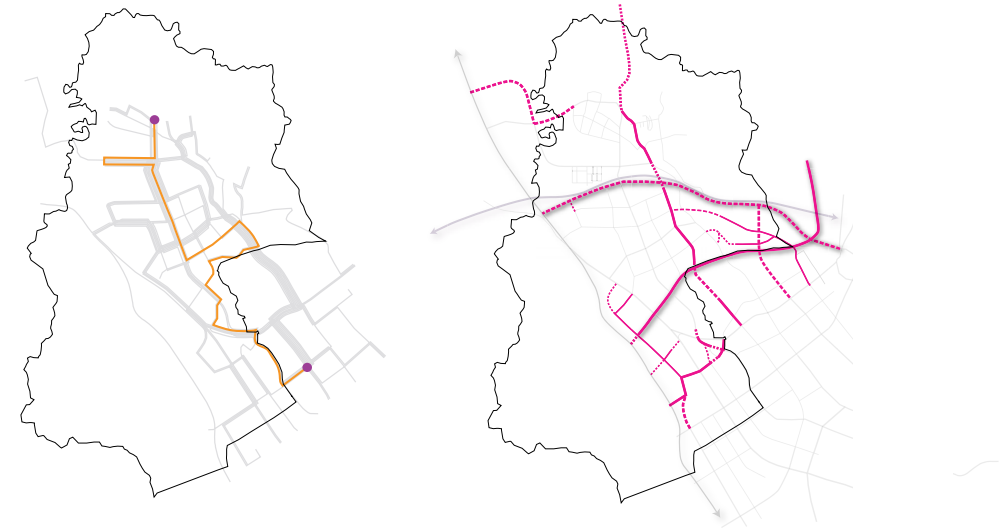
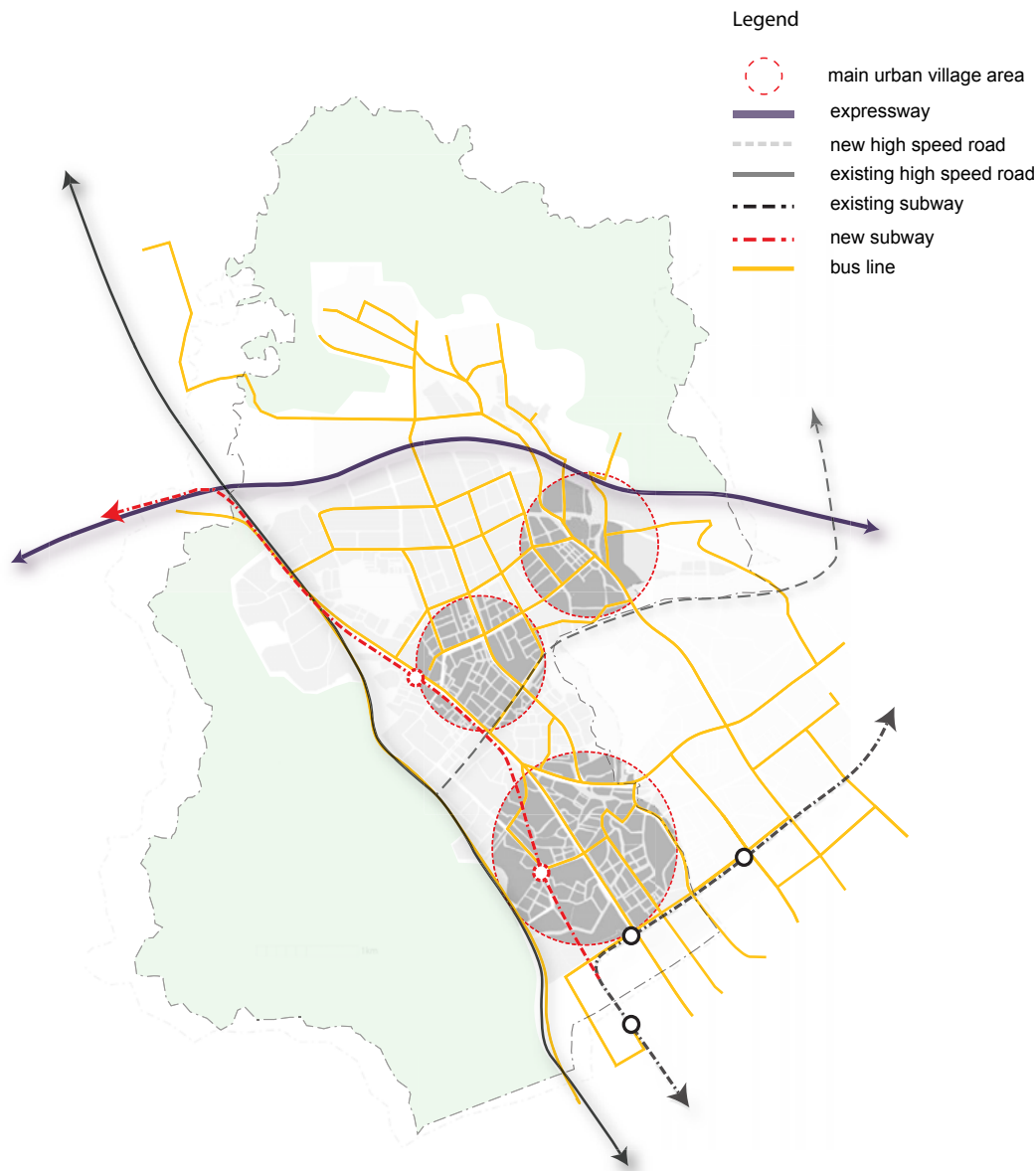
Fig 2.3.3 Outdoor theater on the playground



## 2.3 ANALYSIS | Layer approach analysis of Dalang

### - Infrastructure Layer

#### PUBLIC TRANSPORTATION SYSTEM MAP OF DALANG



UNCONVENIENT PUBLIC BUS SYSTEMS

ROAD EXPANDED & CONNECTED PLAN IN FUTURE

#### Poor connected by bus and subway

The infrastructure layer in Dalang mainly consists of the road network. The public transport system (fig 2.3.3) shows the existing bus line, subway line, the plans for further extension of this line, the high speed line to Guangzhou.

From experience though, it can be said that the bus trips take often a very long time, because of the traffic jams. It can be seen that a large part of Dalang is currently not connected to the subway system and public bus system, and that a large part also will not be connected in the future to this system. Combining the public transportation system with the main urban village scope, it is easy to find that, those urban villages cannot be fully covered by public transportation. Most of the area are out of the 10 min walk distance scope to the bus stations.

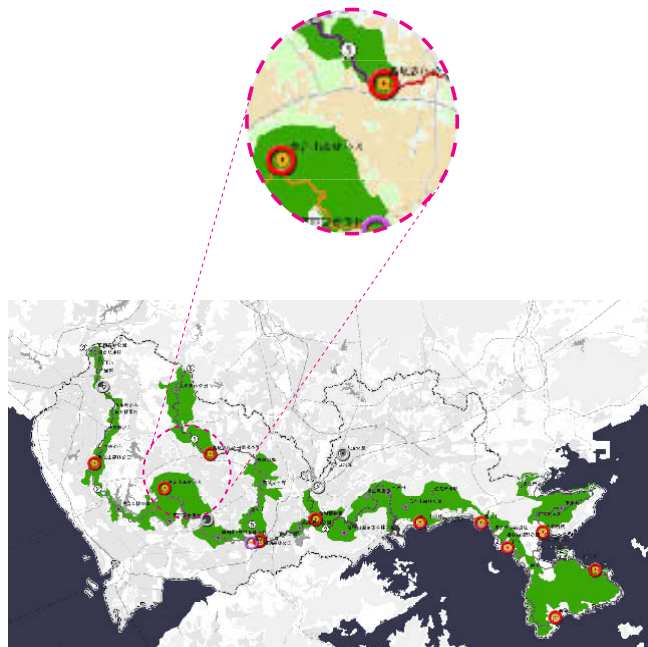
The road structure of Dalang shows is situated in between highways, which makes Dalang concerning roads, quite good connected to Shenzhen. On a smaller scale though, many blind roads can be seen, which makes some areas particularly disconnected to others.

## 2.3 ANALYSIS | Layer approach analysis of Dalang

### - Infrastructure Layer

#### Regional greenway of Shenzhen across Dalang

The main line of Shenzhen greenway is 285,000 meters, serves 5,450,000 people in Shenzhen. The entrance of No. 5 line is in the north of Dalang, and the No. 2 line just across the Yangtai Mountain nearby Dalang.



#### REGIONAL GREENWAY ENTRANCE IN DALANG



Fig 2.3.4 Shenzhen Regional Greenway



## 2.3 ANALYSIS | Zoning analysis of Dalang

### - Infrastructure Layer

#### CIRCAL ROUTE CREATED BY CYCLISTS BASED ON URBAN GREENWAY



Fig 2.3.5 Dalang Sport Park



Fig 2.3.6 Existing greenway in a good quality



Fig 2.3.7 Potential route lack of connection

#### urban Greenway network is needed

Cyclists create a circle route by themselves. They take advantage of the existing greenway and find some routes which have the potential to be greenway in the future (normally these routes have a good view beside green or water).

## 2.4 ANALYSIS | Zooming analysis

### - Greenway in Dalang

#### Good quality greenway vs unreasonable design

This section of greenway (fig 2.4.1) make a good connection with the community park. This route just beside a canal which owns a good view in the Dalang sport park and the quality of the pedestrian route is pretty good as well.

But this section of greenway is very short, and has a barrier in the middle of the sidewalk along the canal ( fig 2.4.2, 2.4.3). And the design of the entrance to this sidewalk is unreasonable(fig 2.4.4, 2.4.5). Some facilities just in the middle of the entrance, stop the pedestrian to go in. And specially design of the stairs need to be considerate for the bicycle.

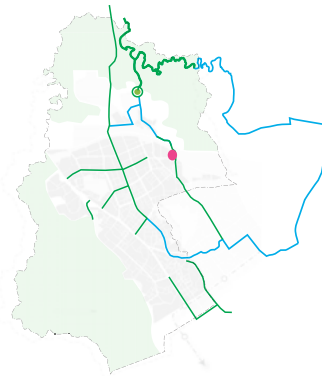


Fig 2.4.1 good quality section of urban greenway beside Dalang sport park

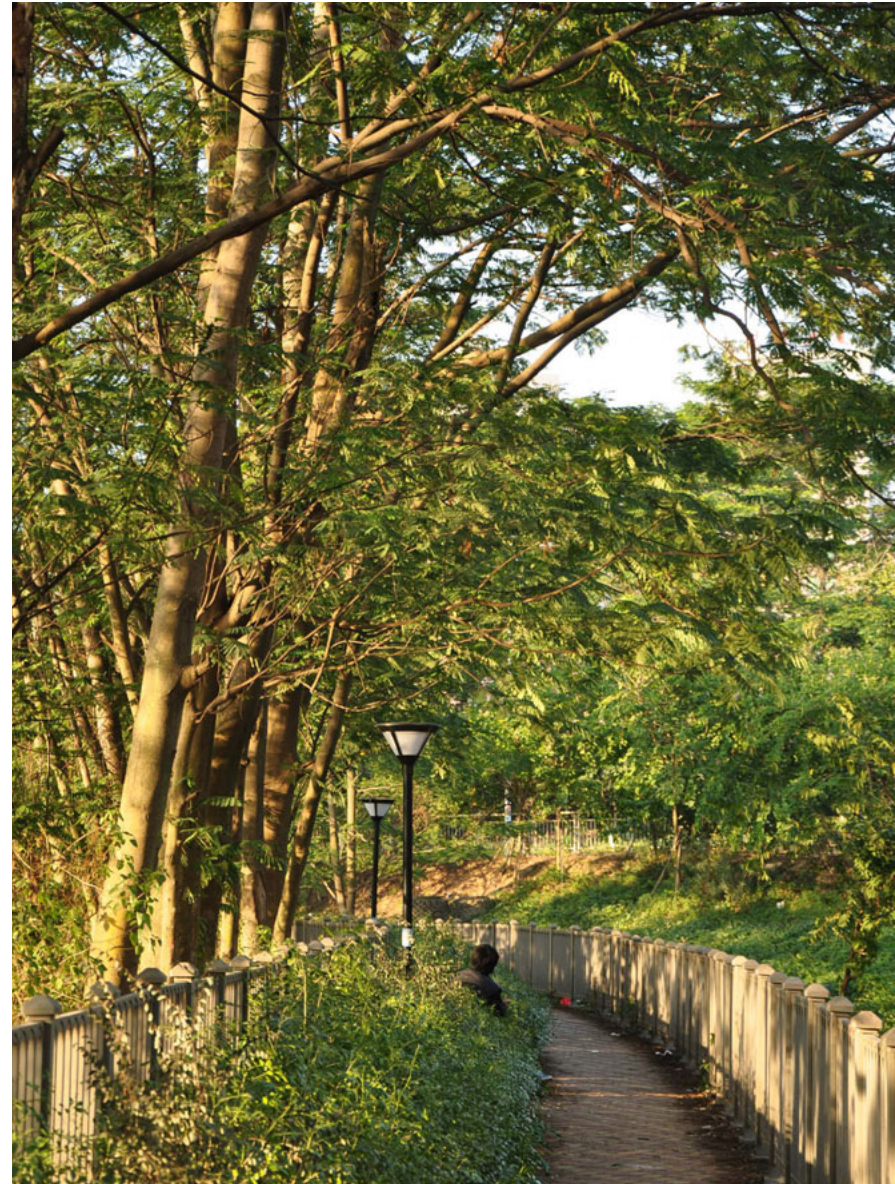






Fig 2.4.2 the cyclist couldn't continue their journey because of the fencing

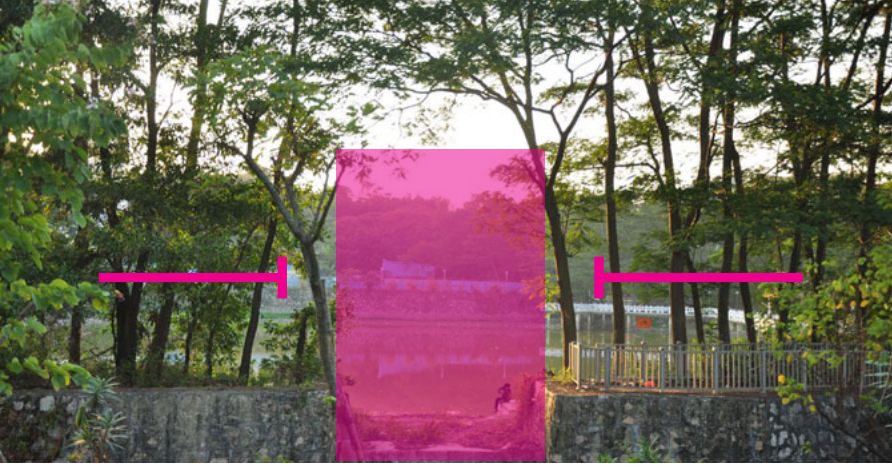


Fig 2.4.3 the gap in the sidewalk beside the canal



Fig 2.4.4 some barriers at the entrance of the sidewalk beside canal

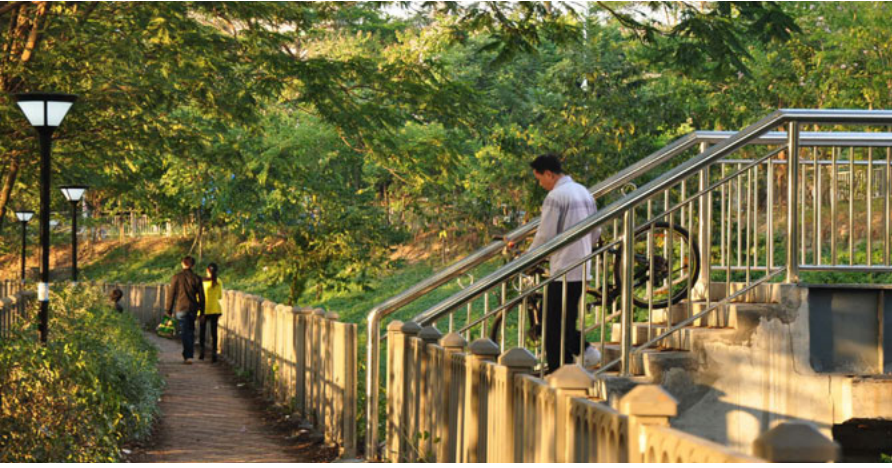


Fig 2.4.5 stairs are not welcome the bikes

## **2.4 ANALYSIS | Zooming analysis**

### **- Vacant lands in Dalang**

#### **Heritage building & Public space**

There are several ancient villages in Dalang, which owns lots of heritage buildings like ancient temple, blockhouse, church, school. Most of them have a small public square in front. This kind of spaces have a potential turns to be a public space for the residents around. Take one of the ancient temple as a example, the square in front of it is vacant, and occupied by truck and cars. And this ancient temple just beside a community park, has a good potential turns to be a dynamic space for the residents around it .

#### **Vacant lots inside of the urban villages**

The ownership of Some house-sites in urban villages is unclear, no one would come to construct buildings here, so this kind of land are always vacant. It is interesting that, in this block, there are three different ways to use the vacant lands by the residents around. The idea is great, but the quality of these kind of public space need to be improved as the nodes of the greenway system in neighborhood scale. It has a potential turns to be a dynamic public space for the migrant work living around.





Fig 2.4.6 Heritage building— Ancestral hall

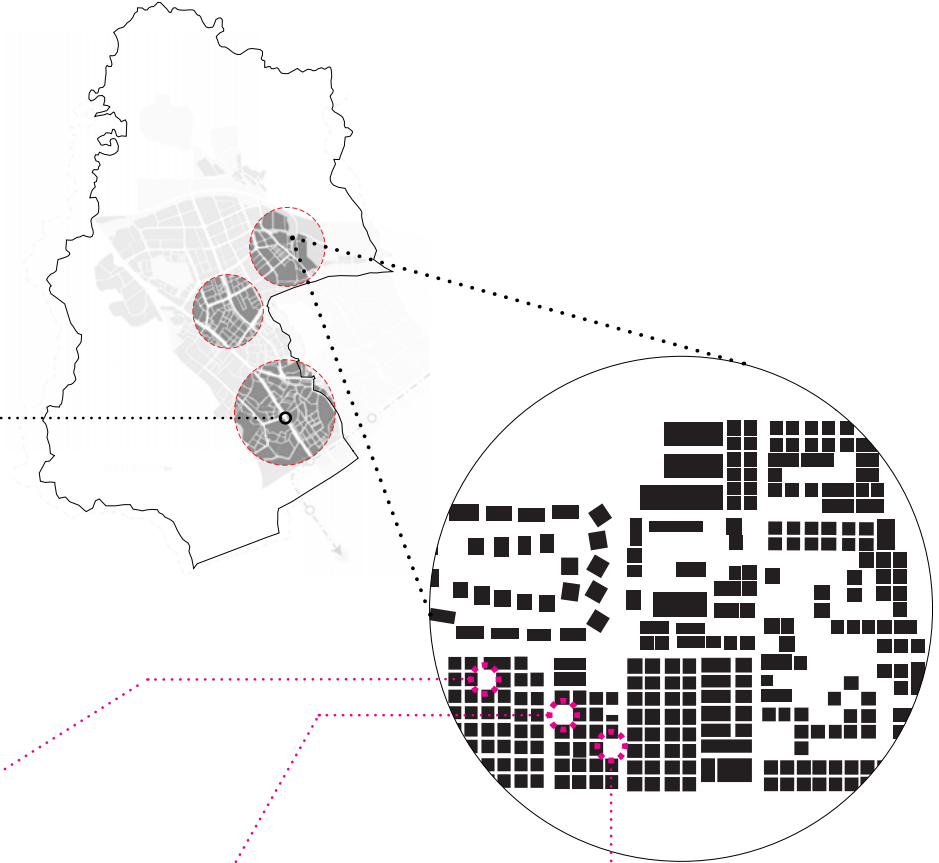


Fig 2.4.7 Vacant lots in urban village



## 2.5 ANALYSIS | Conclusion on the spatial conflicts of Dalang

### - SWOT analysis

#### STRENGTHS & OPPORTUNITIES:

1. natural green space nearby;
2. metropolis greenway entrances in Dalang;
3. the expanded and connected road plan proposed by municipality.

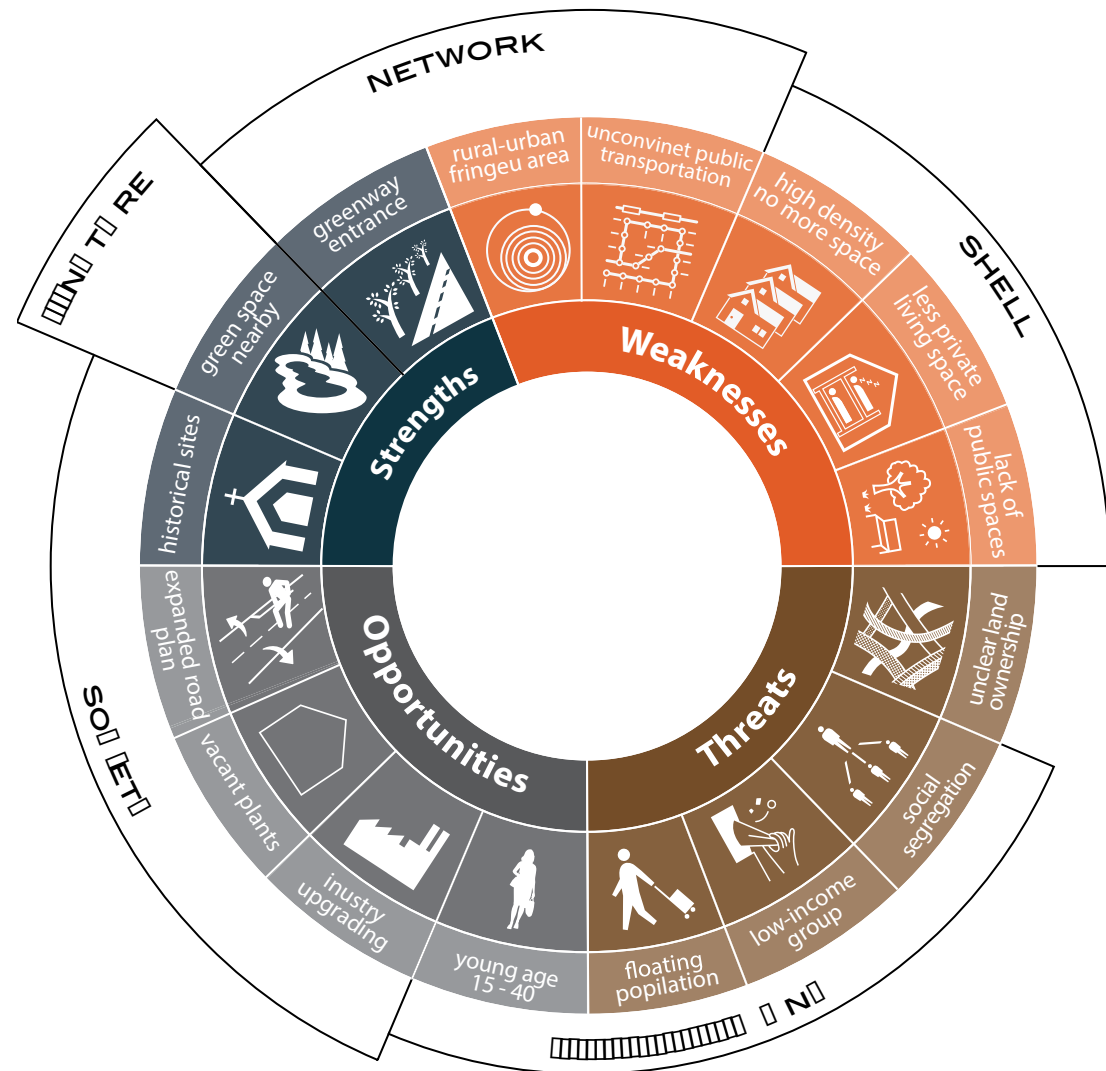
#### WEAKNESS & THREATS:

1. poor public transport system;
2. lack of public space and facilities ;
3. many vacant land are used in-efficiently.

#### CHALLENGES:

1. disorder land use due to spontaneous development, leaving little space to be planned;
2. unclear landship, hard to construct on the vacant lands;
3. transfer the migrant workers to be the really citizens

#### SWOT ANALYSIS OF DALANG





2. ANALYSIS

**3. STRATEGY & PLANNING**

4. DESIGN



### 3.1 STRATEGY & PLANNING | Planning principles

- Connection, Integrating, Diversity as general principles

**CONNECTION:** Build up a network to connect migrant workers and their daily lives, improving their current human settlement.

**INTEGRATING:** Based on the network, build up interactive connections between diverse local resources (park, square, historical place) and programs which migrants workers need.

**DIVERSITY:** Introduce multi-function on the only space, according to time subsection, age subsection, space subsection.

#### Connection

To start to create a better human settlement for migrant workers, the connections between migrant workers and their daily lives should be built up. This can be achieved by creating a safe, convenient and cost-efficient network for social interaction. Based on this network, the current bad accessible area can be connected. This needs to happen on different scales, from connecting Dalang as a whole on the public transport network of Dalang to create small connections between different centers and compounds. Last, larger green structures need to be connected to improve the visibility and accessibility of these spaces. Under such direction, the following planning strategies would focus on creating a greenway system.

#### Integrating

There is a great need for public facilities in Dalang as education, training and health facilities. These facilities need to be developed in Dalang in order to improve the area. Next to this, when people are connected, they can start, with help from other, to empower themselves and start projects. These projects can help empower places, because the place analysis suggested that the spatial quality of Dalang needs to be improved.

#### Diversity

Dalang has currently a very homogeneous economy and population. To be a resilient area, more diversity is needed in both. The economy and population of areas are linked to each other though, so both need to change at the same time: new facilities, new industries need to be attracted to and a bigger diversity in housing needs to be built in the area. This will also increase the diversity spatially in the area.



A photograph of a tree-lined park path. The path is a mix of grass and paved areas, with a prominent pink overlay that tapers from the bottom center towards the middle of the image. The trees are lush green and line both sides of the path. In the background, there are parked cars and buildings. A person is walking on the path in the distance.

## INTRODUCTION OF CONCEPT GREENWAY

As the world's population continues to grow and cities become increasingly urbanized, many have emphasized the importance of preserving green space within cities (Jim, 2004). The "greening of cities" can manifest itself in several forms but many cities have adopted the greenway concept as both a means of cultural and environmental well being (Tan, 2006). Greenway, a green, linear, open space, has the ability to meet the public's need of the healthy human settlement. This kind of advantages are not only stay at individual level, but face to a the broader society. Through 'reducing the traffic flow, improving the quality of view, protecting the nature resource and so on', lots of social value have been shown by it. Meanwhile, as a strategic weapon, greenway is an important approach in attempting to improve the sense of urban identity and regional competitiveness as well.



## 3.2 STRATEGY & PLANNING | Creating “Greenway System”—— a planning approach

### - The value of Greenway System

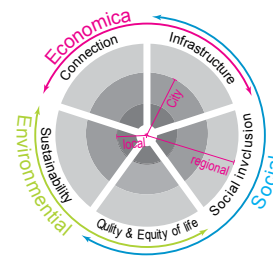
First of all, the rapid changing global and local urban issues require a framework with equally complexity and multi-scale approaches to deal with both current conditions and future possibilities (Mostafavi, 2011). As a respond, Greenways vary greatly in scale, from narrow ribbons of green that run through urban, sub-urban, and rural areas to wider corridors that incorporate diverse natural, cultural, and scenic features. They can incorporate both public and private property, and can be land or water-based. They may follow old railways, canals, or ridge tops, or they may follow stream corridors, shorelines, or wetlands, and include water trails for non-motorized craft.

Secondly, as urban and rural sprawl on global scale takes place, cities, transportation infrastructure, industrial and agricultural land uses further fragment natural undeveloped areas, placing at risk many species. Today, more than ever, it is internationally recognized, that biodiversity conservation cannot ignore evolving landscapes, posing the need for integrated and holistic approaches in physical land use and landscape planning (Kantartzis et al., 2012). To respond this, Greenway advocate a new vision based on its potential role in improving the negative effects of landscape fragmentation. The spatial concept of linking suitable patches of habitat into a network is a promising strategy to achieve a sustainable condition in terms of efficient land use (Ahern, 1995). By connecting and organizing fragmented open spaces, greenway facilitates people to move in and around communities under the safe and comfortable conditions in a natural setting.

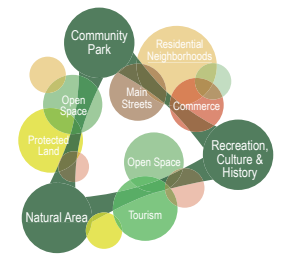
Meanwhile, greenways serve diverse functions, from recreational venues to economic linkages between neighborhoods. It may integrate diverse functions while employing a unified form, meet diverse people’s functional needs while providing aesthetic experiences, as well as being visually appealing.

Lynch (1972) has described the advantages of linking open spaces into a system: The open space system not only makes city visible, but also the larger natural universe. It can give the observer

#### SYSTEMATIC RESPONDING CHARACTERS



Source:  
made by author



#### Complex system relay on long-term progress

- a broad cross-disciplinary and multi-scale mode
- link to economic property value and social well-being
- correspond to the complexity of urban system

#### Diverse function & Mixed-use

- flexible condition for various programs
- serve multi-functions to meet diverse human needs, equal for individual

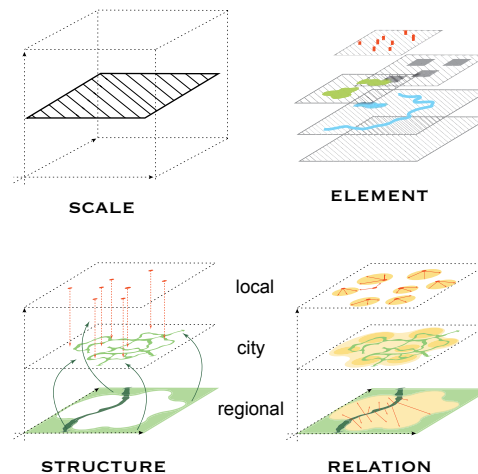
#### High efficient land use

- take advantage of deserted spaces for development
- intergrate the fragmented public space for high efficient use
- base on situation enhance and explore the local identity

#### Link diverse open spaces into a system

- A tool for bringing communities together
- the linkage between diverse green space, recreational venues and neighborhoods support urban resilience and sustainability

#### REFLECTION ON URBAN FORM



Source: made by author

-Expressin suitable scale to clarify greenway system character

-Select strategic elements as stimulating interventions with typical typology

-Explore a synergic structure with mutually reinforcing efforts from 3 scales

- The structure consist by piont, line, surface 3 factors. Each of them has different effects on urban form, and interplay during the forming

### 3.2 STRATEGY & PLANNING | Creating “Greenway System”—— a planning approach

#### - The value of Greenway System

a sense of the more permanent system of which he and the city. Meanwhile, as cultural landscape resources are increasingly recognized for their interpretive and recreational values. Linking these resources makes them accessible to a larger region of users, and, through multiple uses, may realize compatible uses within a single greenway. Greenways may connect cultural resources and other open space like parks, nature reserves, other protected lands, cultural areas, historic sites, and areas of interest into a type of network or system that may have greater value and higher use than the sum of the constituent parts as a kind of landscape synergy (Ahern, 1995).

#### Reflection on urban form

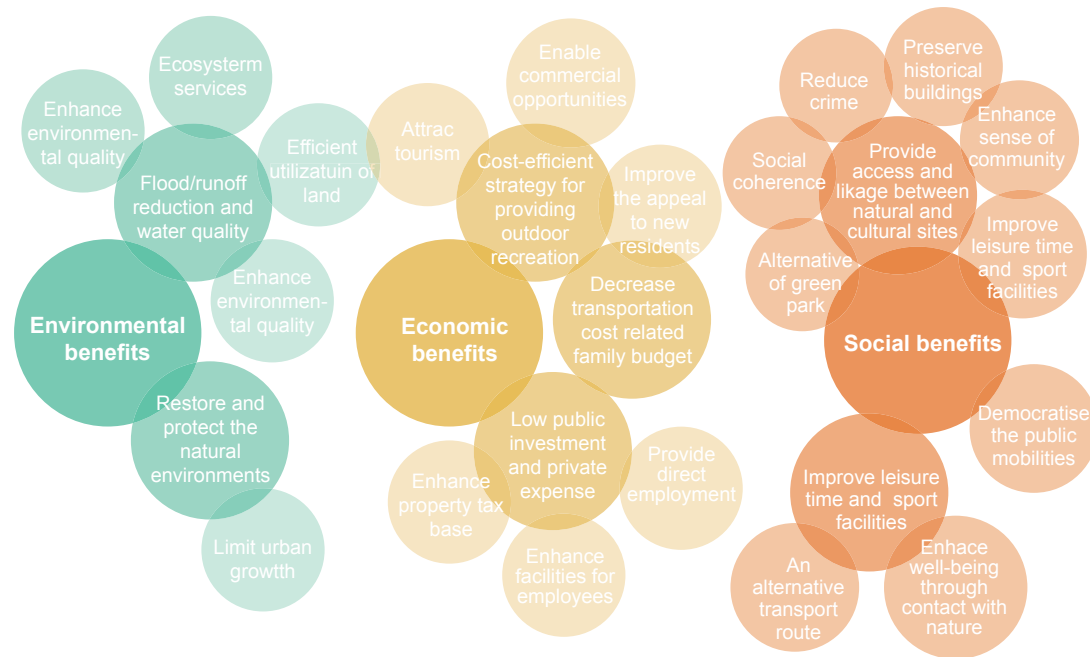
Greenways have the potential to provide a visible structure and legibility to the urban form and landscape. Greenway planning, as a form of regional scale design, may have a profound impact on the physical and spatial character of the urban form and landscape. When a greenway produces a strong pattern and form on the urban form and landscape, certain natural features and processes may become more visible and legible.

#### Greenways and liveability

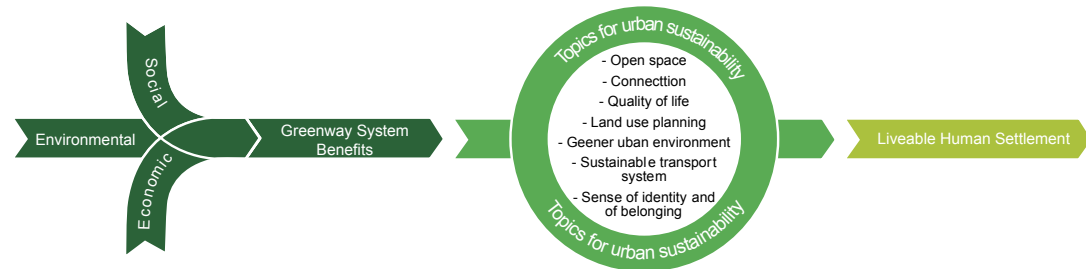
Greenways, because of their key characteristics such as spatial configuration and many aspects in use, bring to an urban area a wide range of benefits. Vasconcelos (2006), has analyzed and grouped these benefits by the three parts of (urban) livability: environmental, economic and social, and summarized it into seven topics (fig 3.1).

A green way has all the benefits that an urban open space would have but also adds to linkage between areas. This adds to a multi dimensional use on a day to day activity in life..

#### BENEFIT ON SOCIAL-ECONOMIC-ENVIRONMENT ASPECT



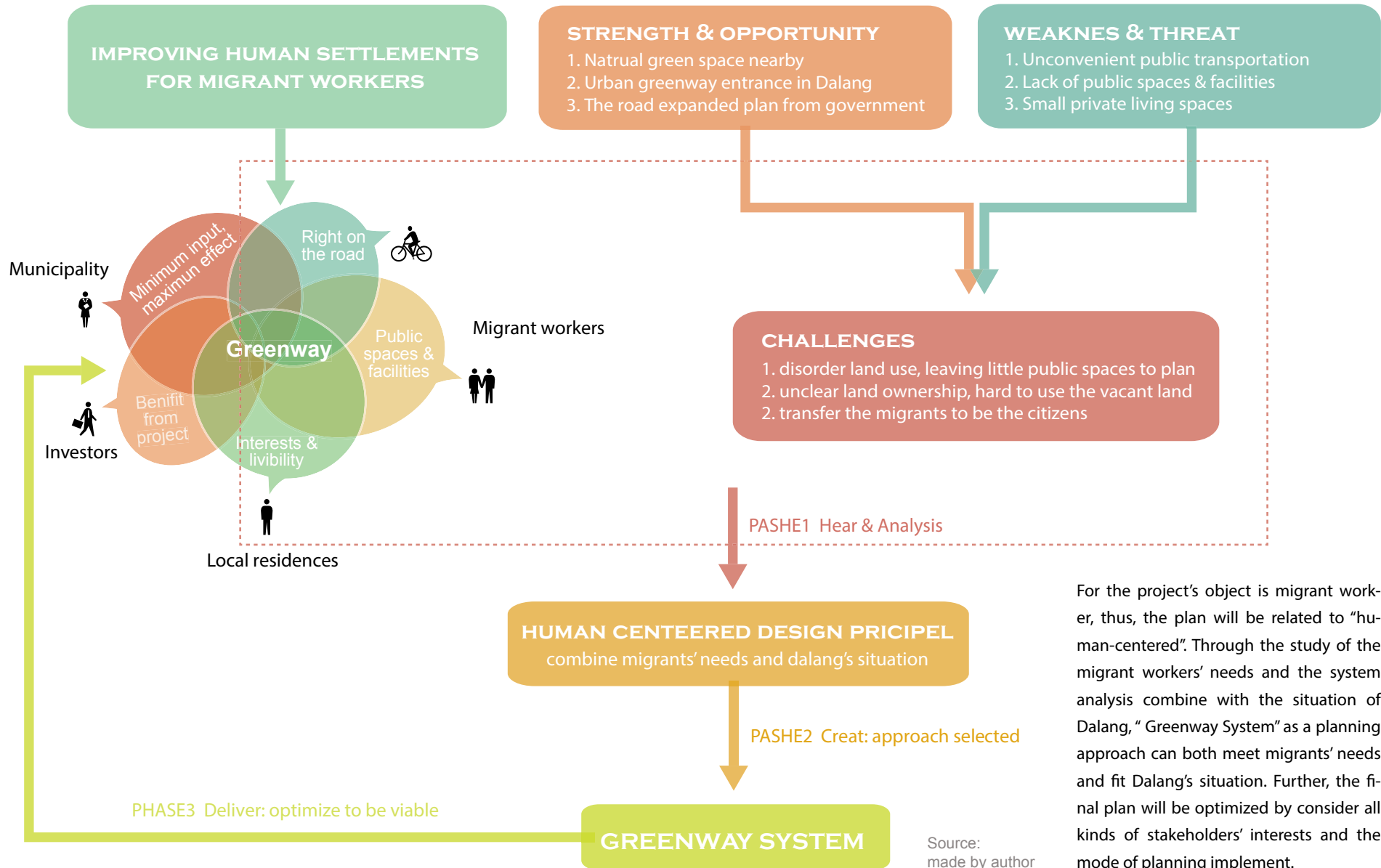
#### GREENWAY SYSTEM & LIVABLE HUMAN SETTLEMENT



Source: Adapted from Vasconcelos,2006



### 3.2 STRATEGY & PLANNING | Creating “Greenway System”—— a planning approach - Why “Greenway system” in Dalang

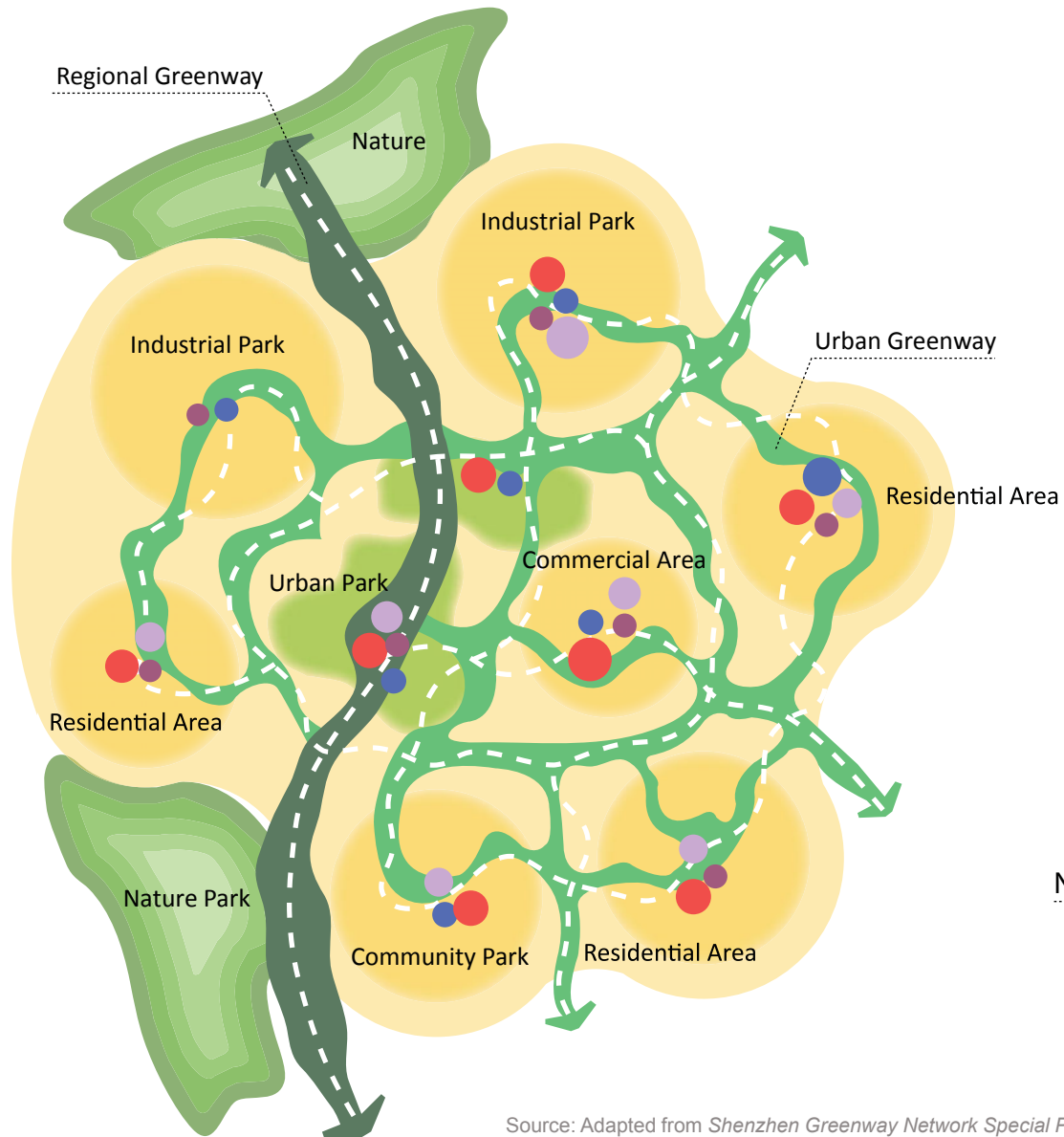


For the project’s object is migrant worker, thus, the plan will be related to “human-centered”. Through the study of the migrant workers’ needs and the system analysis combine with the situation of Dalang, “Greenway System” as a planning approach can both meet migrants’ needs and fit Dalang’s situation. Further, the final plan will be optimized by consider all kinds of stakeholders’ interests and the mode of planning implement.

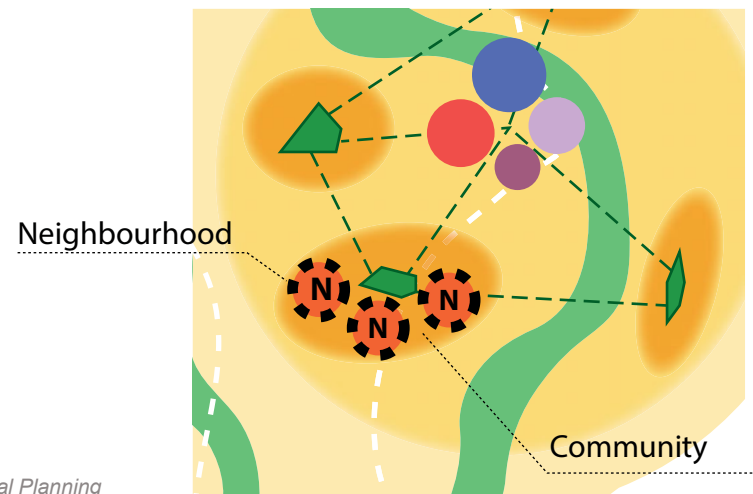
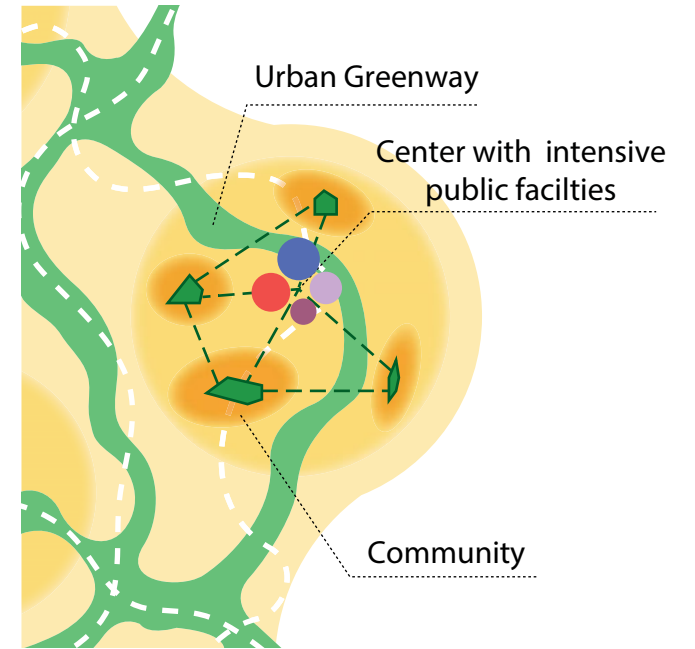
## **3.2 STRATEGY & PLANNING** | Creating “Greenway System”—— a planning approach **- WHAT “Greenway system” in Dalang**

A vision will be created which relates to how the greenway system connecting a better human settlement for migrant workers in rural-urban fringe area. This vision will be used for a proposal at the scale levels of the city, community and neighborhood scale within the context of Dalang. This greenway system is consist by two main elements: slow-traffic route as net, public space as node.

**MODLING DALANG'S GREENWAY SYSTEM AT REGIONAL SCALE**



Source: Adapted from *Shenzhen Greenway Network Special Planning*



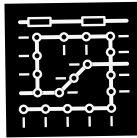
### 3.3 STRATEGY & PLANNING | Strategic planning

#### - HOW "Greenway system" in Dalang



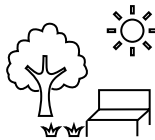
#### - Built up a greenway framework

Based on existing good condition routes, combining with Road Expanded Project by municipality, a preliminary greenway framework will be formed to connect regional greenway entrance.



#### - Upgrade public transit

Base on existing public transportation routes, develop the greenway network to cover the entire area and gathering all the communities together. Locate the transit hubs to connect all kinds of convenient public transportation.



#### - Link diverse open spaces into a system

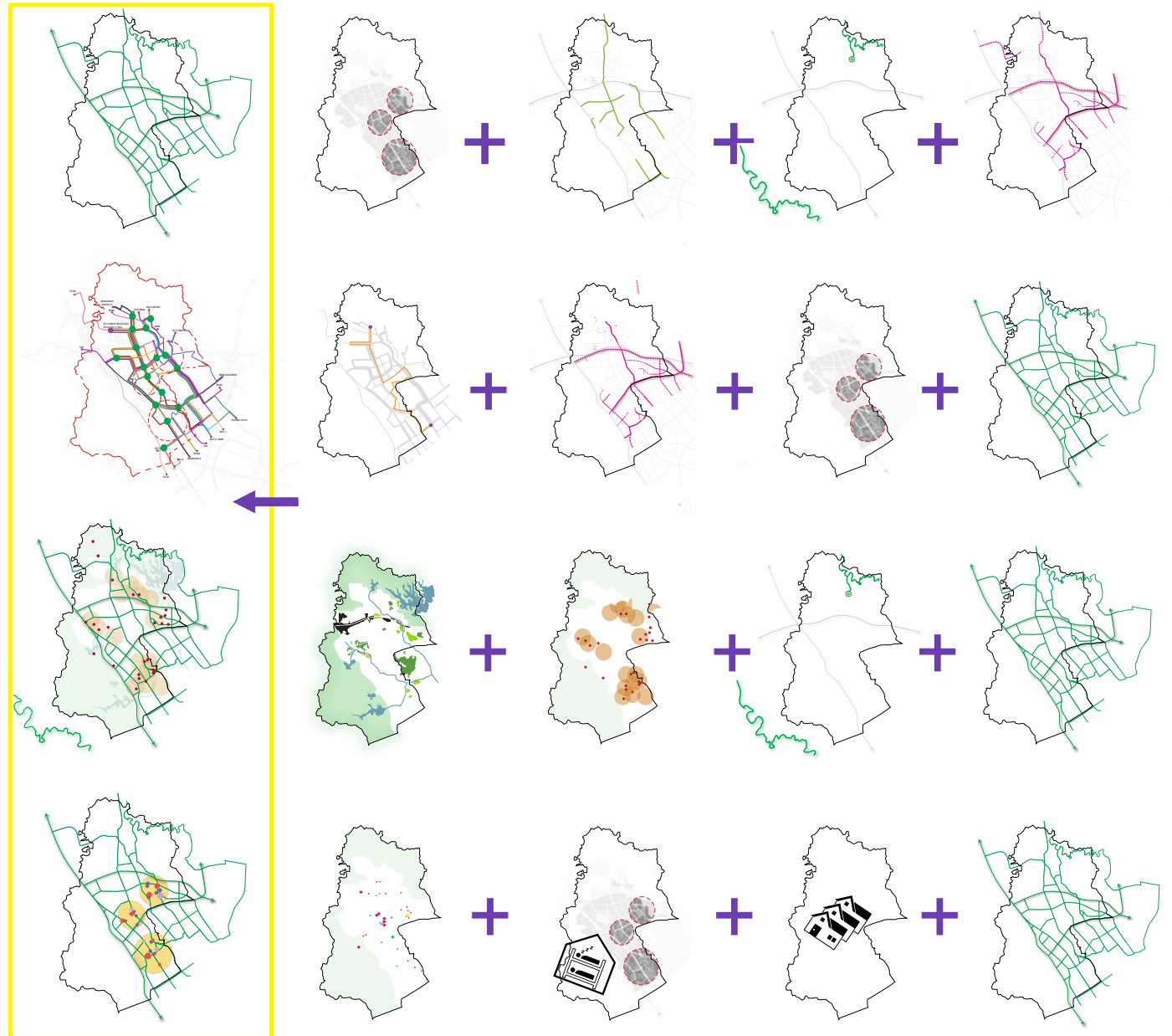
Develop the greenway network to connect all kinds of green spaces and culture & historical sites into a system, different routes can be created related to the themes.

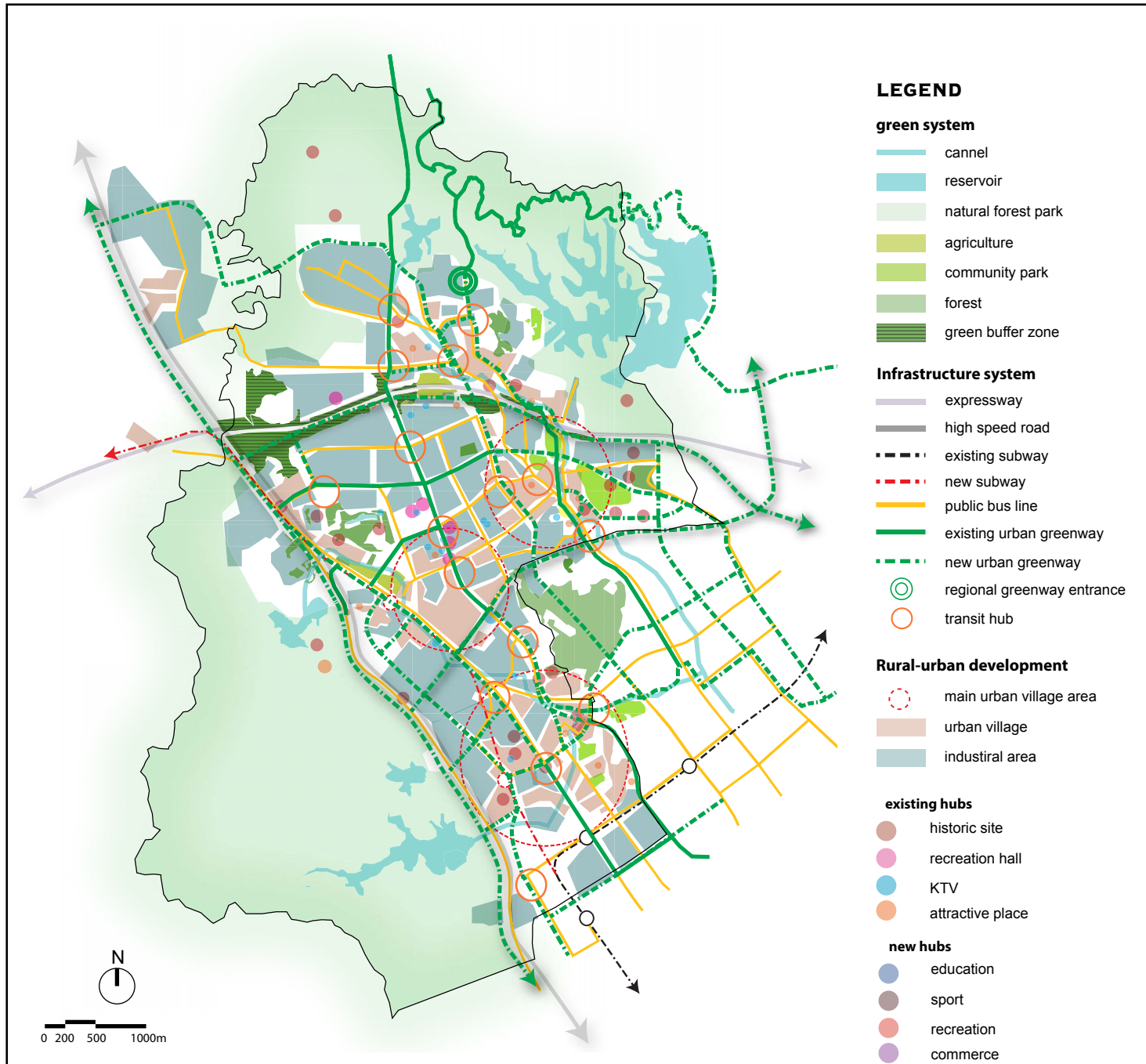


#### - Located public facilities and space

Base on the location of 3 main communities, combine with the vacant buildings and lands, related projects will be selected to meet migrants' needs. Adding excitement attachment to make the greenway network stronger.

#### STRATEGIC GOALS BASED ON ANALYTICAL FRAMEWORK





## Strategic Plan

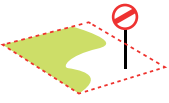
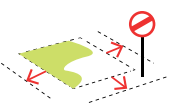

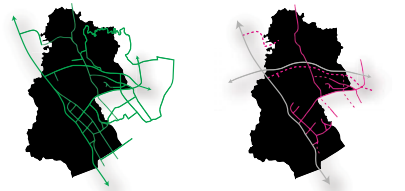
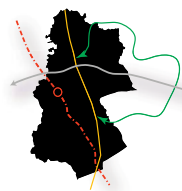

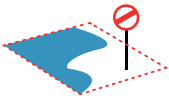
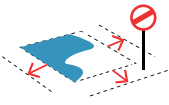
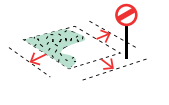
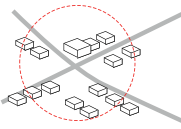
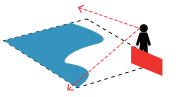
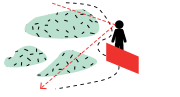
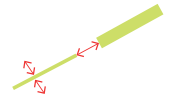
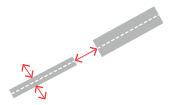

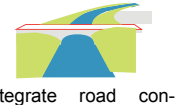
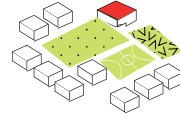
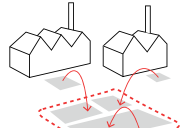
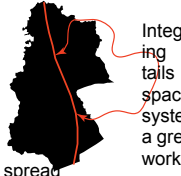
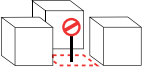
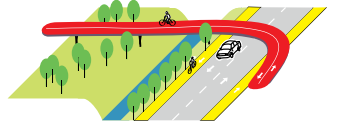
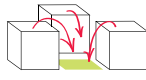

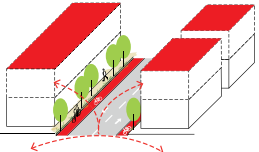

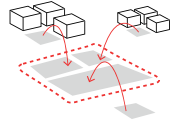
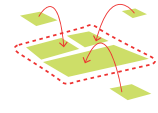

Unlike a rigid master plan which gives fixed regulations for spatial organization, the proposed planning framework is more like a strategic planning that express possible directions and guidelines. What it proposes is an greenway system framework which allows the flexible urban-rural developments to boarder diverse capacities in the long term. It consists of three levels: greenway framework as the backbone, ruaral-urban development as the flesh attached on that structure, and diverse programs serves for comprehensive urban- rural functions.

In addition to implement these 4 goals, several strategies with corresponding actions will be developed. These strategies and actions create a comprehensive greenways program for Dalang and establish an implementation framework for a strong commitment to planning, promoting and establishing greenways throughout Dalang.

The actions also address roles, responsibilities and initiatives for all greenways stakeholders, from local project sponsors to mulicpality.

### 3.3 STRATEGY & PLANNING | Strategic planning

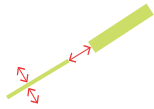
#### - Design guidelines based on strategic planning

Regional scale	 <p>Set up protection boundary around the natural space with limitation of construction.</p>  <p>Limite construction in natural space surrounding area to avoid negative influence.</p>	 <p>Set up transit hubs to connect all kinds of convenient public transportation.</p>	 <p>Combine with the Road Expanded Project, develop the potential greenway routes.</p>	  <p>Integrate metro line, bus line, water transport into a cooperative public transport system.</p>
Neighborhood scale	 <p>Set up protection boundary around water reservoir area.</p>   <p>Limite construction in water reservoir and wetland's surrounding area to avoid negative influences.</p>	 <p>Take advantage of improving accessibility to develop important transit hubs.</p>   <p>Implement related programs around water reservoir and wetland areas</p>	  <p>Connect/widen main greenway tails to form a comprehensive greenway network.</p>  <p>Arrange public transportation and slow traffic path in road network.</p>	 <p>Integrate road construction with water system and green</p>  <p>Transit the green fragments in urban area into public green space with alternative functions</p>   <p>Integrate existing greenway tails and open-space into a system to form a greenway network.</p> <p>Integrate industrial fragments spread around in a compact area for efficient management.</p>
Local scale	 <p>Limite construction on unclear ownership vacant lots in urban villages to protect villagers' interests.</p>	 <p>Integrate the component of water system with green space and urban facilities.</p>  <p>Take advantage of vacant lots, implement related programs to meet migrants' needs.</p>  <p>Develop water front as vital destination of greenway system.</p>	<p>Transfer building spaces to vertical side, leave space for implement road</p>   <p>Upgrade non-vehicle path beside canal to improve accessibility to water.</p>	 <p>Integrate urban villages' fragments spread around in a compact area for efficient management.</p>  <p>Integrate green fragments spread around in a compact area for efficient management.</p>  <p>Take advantage of green buffer zone around industry implement related programs with alternative functions.</p>
	protect / limite	add function	upgrade	intergrade

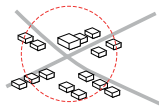


### 3.3 STRATEGY & PLANNING | Strategic planning

#### - Connect greenway network



Connect/widen main greenway tails to form a comprehensive greenway network.



Take advantage of improving accessibility to develop important transit hubs.



Integrate road construction with water system and green space.



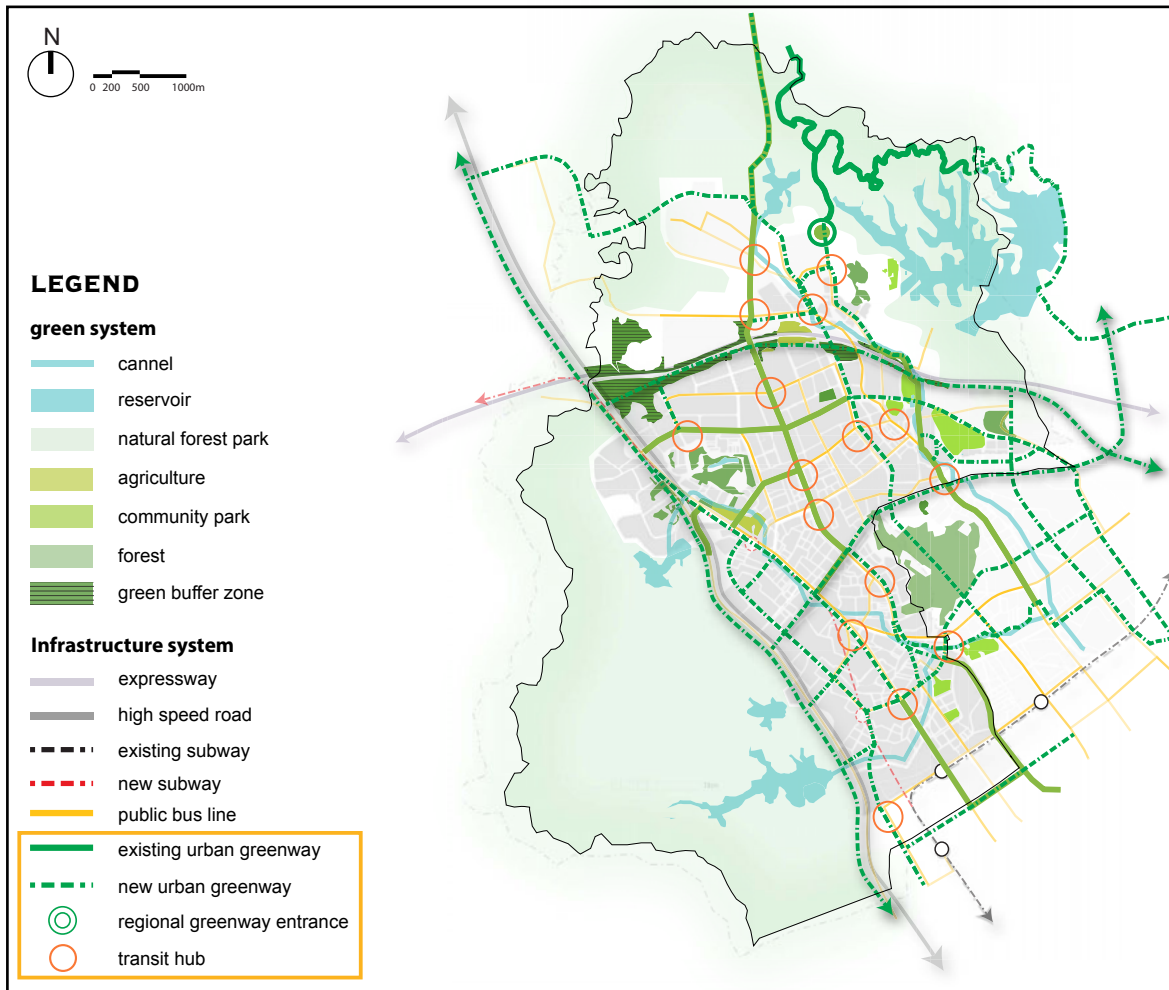
Upgrade non-vehicle path beside canal to improve accessibility to water.



Arrange public transportation and slow traffic path in road network.



Integrate the component of water system with green space and urban facilities.



A major goal of the Greenways Program will be to identify and encourage linkages between and among local and regional greenways, placing them in a wider context.

- Based on existing good condition routes (cycle tracks, water tail, green corridors), combining with Road Expanded Project by municipality, establish a preliminary greenway framework.

-Coordinate the planning metro line, bus line, transportation nodes with different road networks for efficient local and regional mobility.

-Make spatial adjustments between road network with local water systems, green spaces and urban-rural settlements to form a balance urban-landscape relationship: set up bridges, green buffer zone, transit area, transportation nodes etc.

-Develop local secondary roads to provide non-vehicle transportation routes, improved community access to schools, places of work, shops, town centre facilities & public transport interchanges.

-Take the advantage of improving road-accessibility to vitalize certain urban-rural area with related functions and transportation nodes which connect all kinds of convenient public transportation.

-Arrange transport service programs and facilities along different road for better functional-accessibility: gas station, super-market, hotel, restaurant etc.

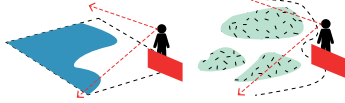
-Use regional highway and local road networks mainly for vehicle transportation with subsidiary bicycle and walking paths; urban village roads and paths mainly for non-vehicle transportation.

### 3.3 STRATEGY & PLANNING | Strategic planning

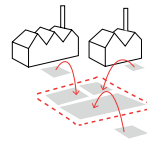
#### - Add excitement programs as hubs



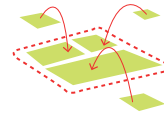
Set up protection boundary around the natural space with limitation of construction.



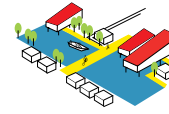
Implement related programs around water reservoir and wetland areas



Integrate industrial fragments spread around in a compact area for efficient management.



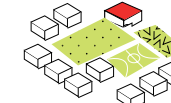
Integrate green fragments spread around in a compact area for efficient management.



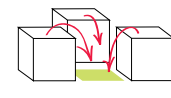
Develop water front as vital destination of greenway system.



Take advantage of green buffer zone around industry implement related programs with alternative functions.



Transit the green fragments in urban area into public green space with alternative functions.



Take advantage of vacant lots, implement related programs to meet migrants' needs.

Excitement programs as hubs will be Established related to the greenway network. The greenway network will link those hubs into a system. Those hubs also can be identified as all kinds of openspces, which includes urban, community parks, natrual area, forests, playground, historical, cultural and recreational sites, community facilities, etc.

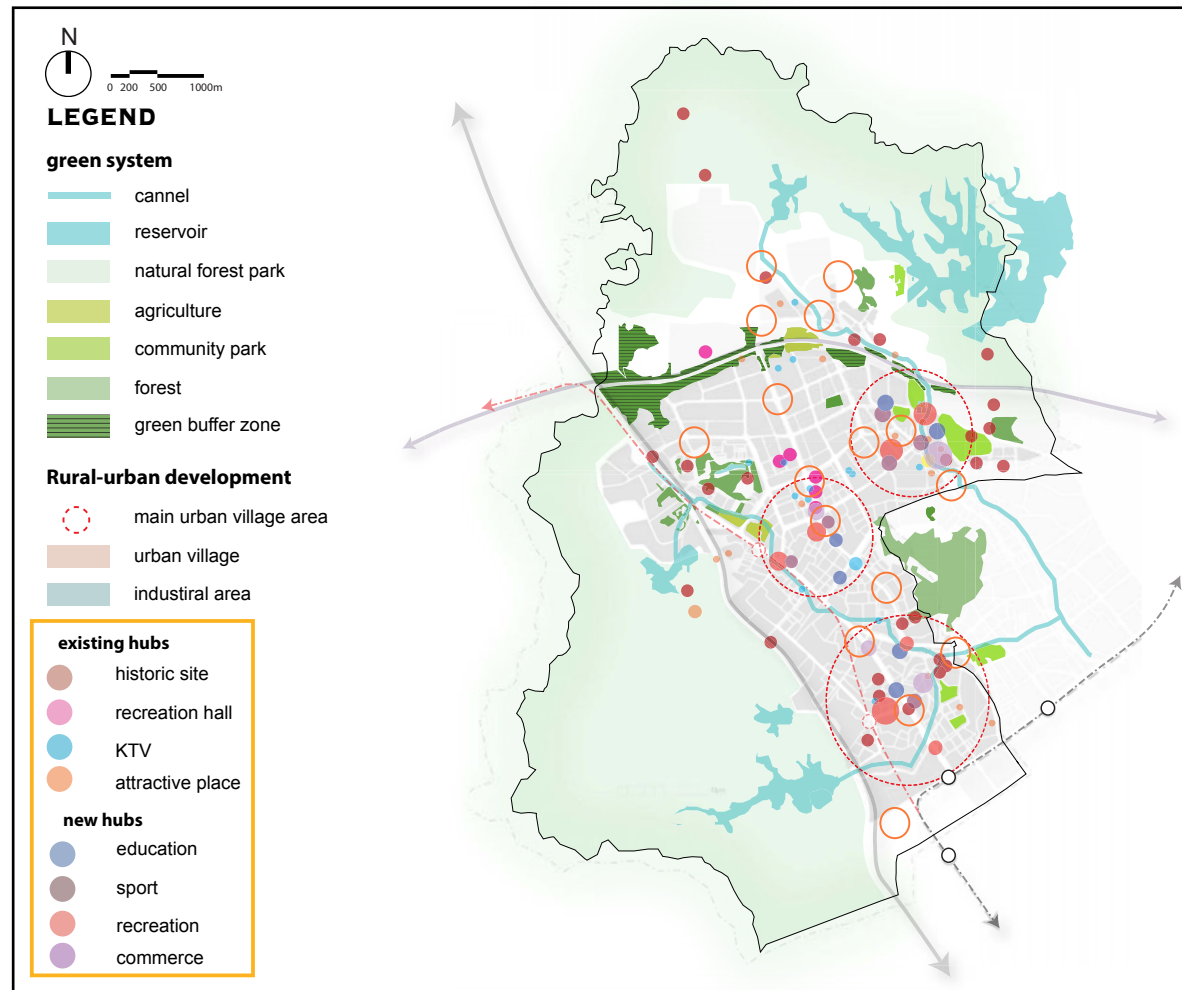
-Set up protection boundary around valuable natrual area, inside which large scale of urban construction projects and human activities are forbad for protecting the environmental quality and biodiversity of natural habitats.

-Integrate green fragments spread around in a compact area for efficient management.

-Take advantage of vacant lands in both urban villages and industrial areas, implement related programs to meet migrants' needs.

-Set up green buffer zone around industry zone, and take advantage of these zones to implement related programs with alternative functions (recreation, sport, parks).

-Organize certain amount of public green space as one of basic landscape facilities and public domain in urban area, with programs imbedded to provide spatial & functional services.

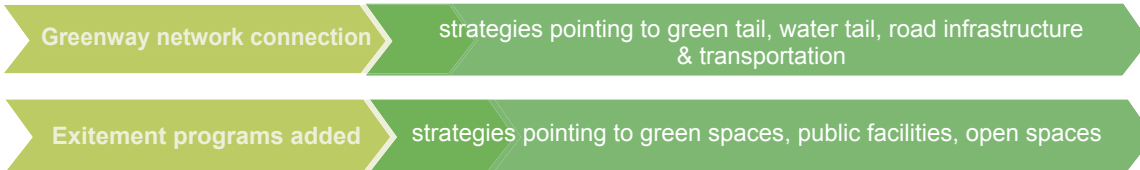




### 3.4 STRATEGY & PLANNING | Operation proposals

#### - Operation elements & basic modle

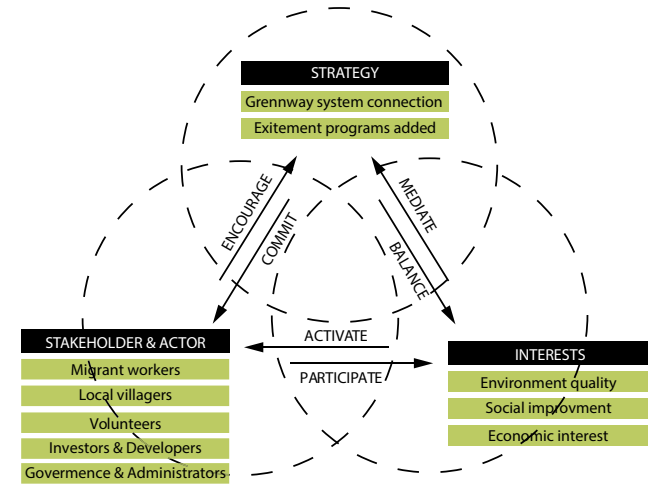
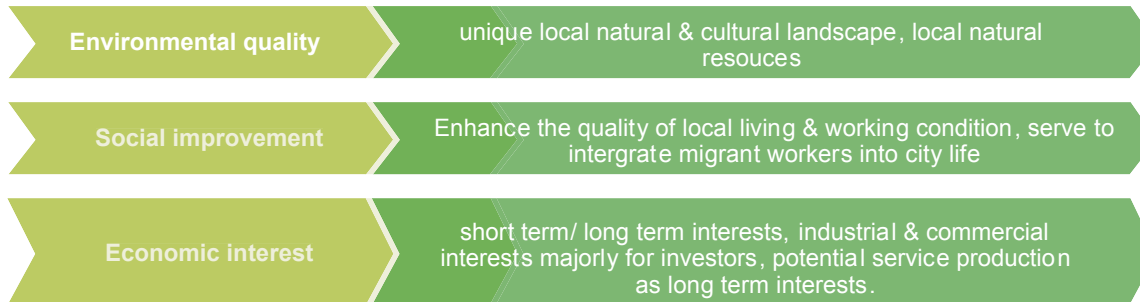
#### STRATEGY



#### STAKEHOLDER & ACTOR



#### INTEREST



The negotiation elements could be categorized in three main groups: Strategy, Actor & Stakeholder, Interests.

The Strategy part contains various strategies explained in the planning framework, and could be summarized as greenway networkt connection, exitement programs added.

And Actor & Stakeholder part takes migran workers, local villagers, volunteers, government & administrators, investors & developers as five main participatory groups in the decision-making and implementation process.

As a respond, the various interests reflecting to both proposed strategies and involved actors are also included into the consideration. The changing concentrations on economic/ societal/ environmental interests would compensate with each other in the dynamic urban-landscape transformation process.

### 3.4 STRATEGY & PLANNING | Operation proposals

#### - The stakeholders involved in operation

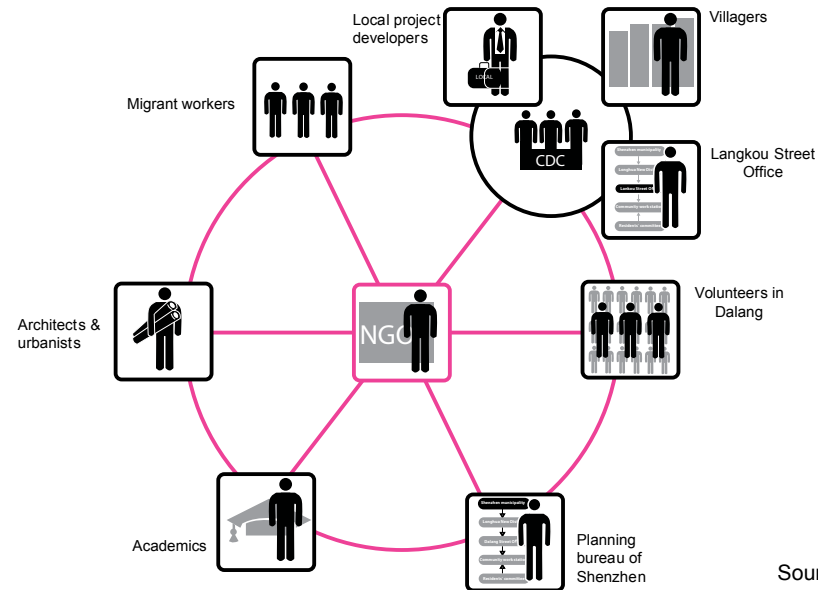
##### Introduce a Community Development Company

The Community Development Company (CDC) will be a collaboration between the villagers owning many of the buildings in Dalang, the Langkou Street office, owning much on the land, and a local project developer. These three parties will all be part of the CDC, who will own the land and will have the right to develop it. The profit the company makes will be shared. This makes the three parties from stakeholders, shareholders of the developments in Dalang.

##### NGO as a active initiator and organizer

The NGO was a very important party within the development process for it started the whole design process, leveraged the ideas between different stakeholders, made the development process inclusive and organized the development process.

Lately, more attention is paid in China to the need for NGO's (Yushan, 2012). Even the former Chinese President Hu Jintao publicly spoke about the need for stronger social services provided by social groups and civil service (Context China, 2012). Following these words, Shenzhen is chosen as an "experimental site" for "reforms in a wide range of civil affairs for assessment by the Ministry of Civil Affairs and other government agencies" (ICNL, 2013). This means practically in Shenzhen that it is becoming easier for (not political sensitive (Lau, 2009)) NGO's to register themselves, making them legal and allows them to get funding (People daily, 2008). This and other reasons cause the emergence of new forces in Shenzhen, in the form of, among others, NGO's that are willing to improve the urban planning process.



Source: Adapted from Zwart, 2013

##### Other stakeholders involved

**Volunteers in Dalang** - Volunteers in Dalang will be included in the process because they can play an important role in informing and involving residents with the development process. They can organize activities and events that are part of the development process. They can be financially supported by the CDC and private companies.

**Planning Bureau of Shenzhen** - The planning bureau of Shenzhen is important to involve in the process because they manage the master plan and design regulations, that need to be changed or wherein new zones need to be added.

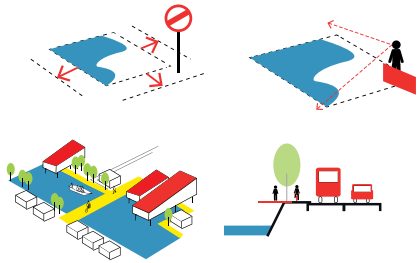
**Academics** - The role of academics is fourfold. First, academics can help with mapping the area. Second, they and their students can help with formulating new ideas for development of the area. Third, they will be involved in the evaluation process so that the process can be improved and last, experiences with this development process can be shared, published and be used in other areas as well.

**Architects and urbanists** - Architects and urbanists will be involved with mapping the area, showing possibilities for developments in the area and visualizing ideas. They need to work closely with all the other stakeholders.

**Residents' committees / workshops** - Through residents' committees and workshops the current residents of the area will be involved in the planning process. Because these residents currently need empowerment in the political process and they need to be organized better, representatives in residents' committees will be chosen to be the voice of the residents in meetings. Workshops will be organized by the SCD, or organizing party, to better understand the needs of this group.

### 3.4 STRATEGY & PLANNING | Operation proposals

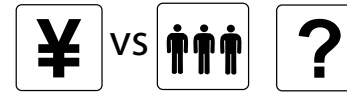
#### - Selected programmes as proposals example



Upgrade waterfront area with diverse function, upgrade non-vehicle path beside canal for further regional connection.



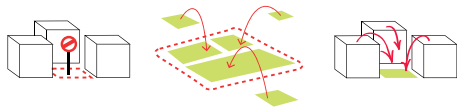
- as main manager to set up limitation boundary around conservation area, and manage financial investment for maintenance
- as operators and investors set up plans & interventions to facilitate these new integrating functions with financial support from public & private developers
- as designers and planners create possible plans & interventions
- as promoters organize related activities related to the program, help to promote and maintain the project



short-term economic cost against long-term social and economic profits

-Stakeholders sacrifice short-term economic interests from urban construction to long-term environmental property

-The preliminary investment and construction to improve open space and infrastructure contribute to broader potential on future diverse functions, which benefit both developers and migrant workers better investment environment, with upgrading living & working condition



Take advantage of vacant lots, integrate fragment green space in urban villages, implement related programs to meet migrants' needs.



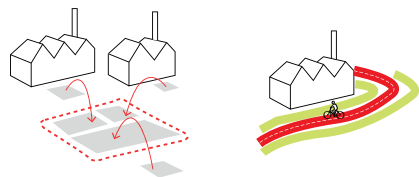
- as initiator and managers to organize related programs, get supports from both public & private developers to invest related facilities & programs
- as decision makers, who have the right to develop the lands, to decide concrete proposals
- as collaborator to encourage both public & private developers to invest for related facilities & programs
- as advisers and participants to help the programs implement



short-term economic interests and long-term economic, social, environmental interest

-Stakeholders sacrifice short-term economic interests from urban construction to long-term environmental property

-The preliminary investment and construction to improve open space and infrastructure contribute to broader potential on future diverse functions, which benefit both developers and migrant workers better investment environment, with upgrading living & working condition



Integrate vacant lands and buildings inside industrial area, combine with green buffer zone around industry implement related programs with alternative functions.



- as promoters and managers to organize related programs, get supports from both public & private developers to invest related facilities & programs
- as decision maker who has the right to develop the lands to decide concrete proposal
- as collaborator to encourage both public & private developers to invest for related facilities & programs
- as designers and planners create possible plans & interventions

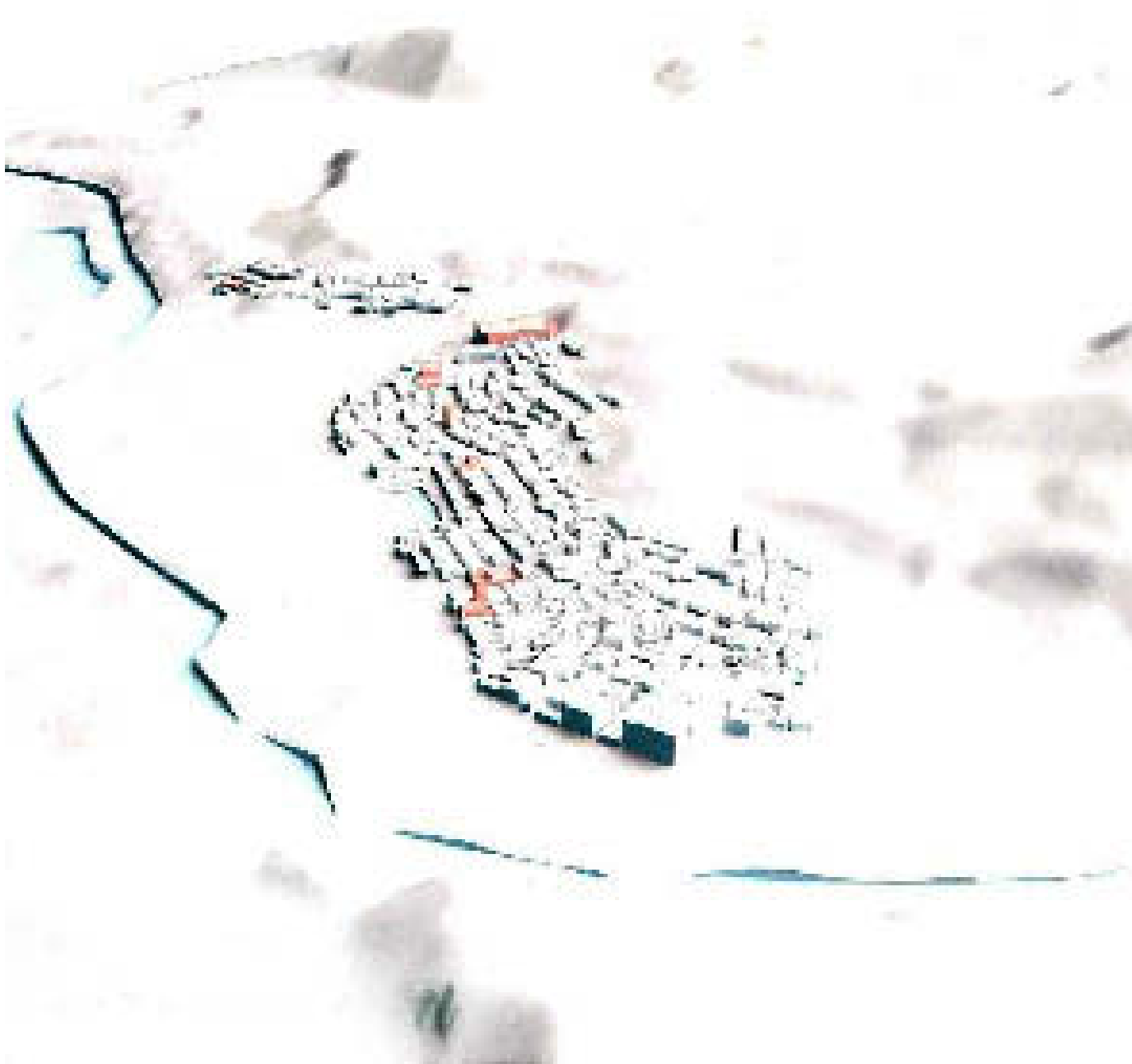


conflicts between short-term economic interests and long-term social, economic, environmental interest

- Local & regional government could organize certain investment for related industrial innovation programs by local inhabitants, and also encourage related recreational, educational programs

-Stakeholders sacrifice short-term economic interests from urban construction to long-term social and economic profits





**2. ANALYSIS**

**3. PLANNING**

**4. DESIGN**



## 4.1 DESIGN | Langkou village chosen as focus site

### - Choose of site

Langkou village is selected for it has both greenway and public space potential for generate the greenway system in neighborhood scale. Most of the north part is industrial area, and the south is covered by urban villages. Beside two different types of park in this site, there is a canal go across the site as well. The situation of this site is not so good, still need to be improved.

Langkou village is selected as an example for other emerging centers in outskirts areas like Dalang. The outcomes of the analysis suggested that this area could be built a system to connect the existing nature and culture resource. It can become a future new centre in Dalang, but is in need of future investments in especially connectivity. This is because currently this area is hard to reach.

Langkou village is situated in the east of Dalang. It is around 990.000 m2 and has around 28.000 inhabitants. This means that the density is 28.000 inhabitants per square kilometer, which is ten times the density as for example Delft. This means that also the building density in this area is very high. 98% of the inhabitants of this area are migrants and thus only two percent is part of the registered population. On the next pages an idea of living in this area is shown. There are urban villages, a traditional village, factory areas and some commercial housing blocks. More and more facilities are entering this area, as also shown in the analysis on a bigger scale, but still there is a great need for more public facilities. The live on the streets is very lively and a wide variety of activities can be seen.

#### The charactristic of focus area:

Green space, Historical site, Industrial area, Urban village, Vacant lots

#### Legend

	factory
	office
	water plant
	urban village
	modern residential area
	school
	culture & history site
	commerce
	sport field
	park & green
	lake & cannle
	vacant lots





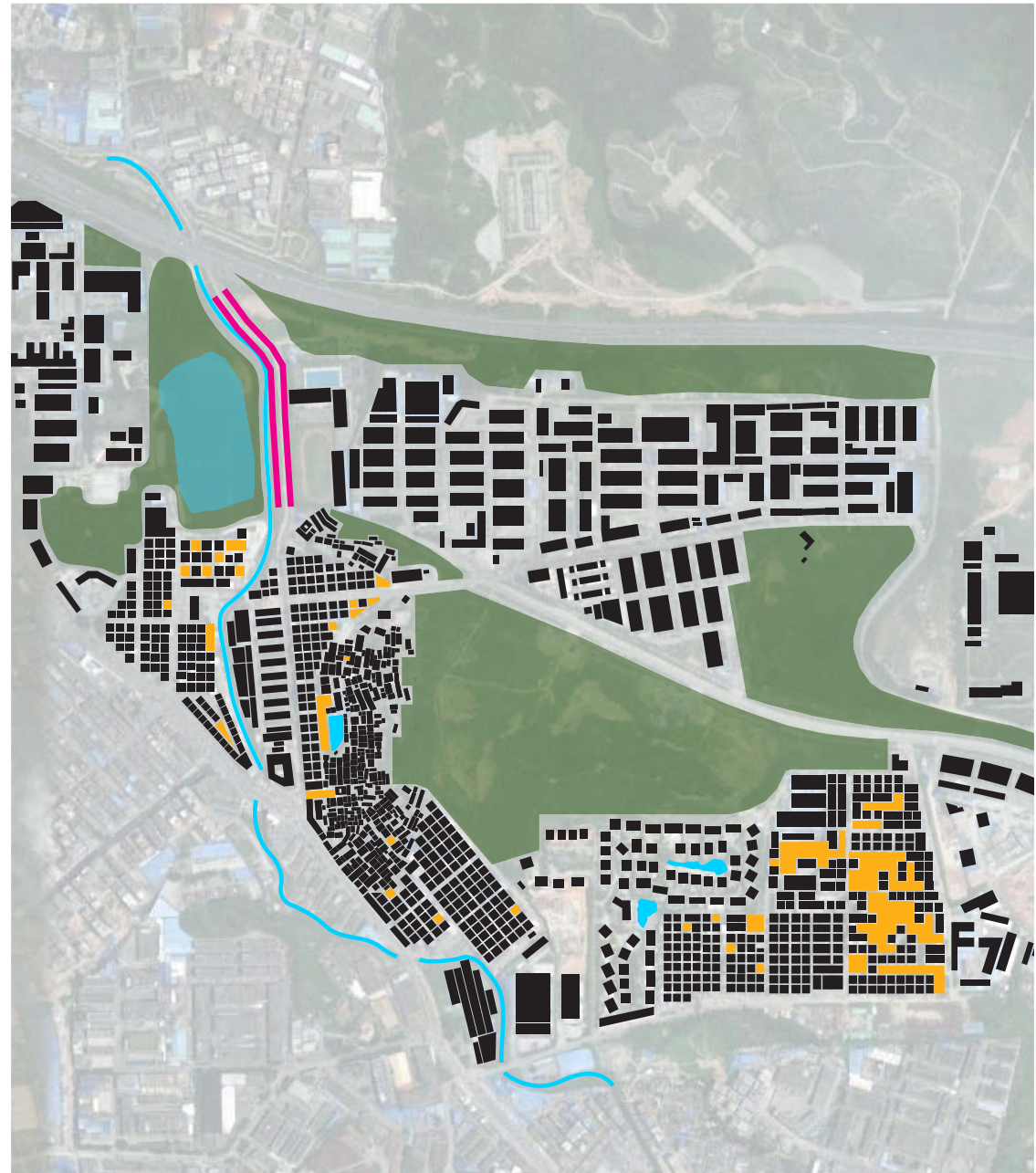
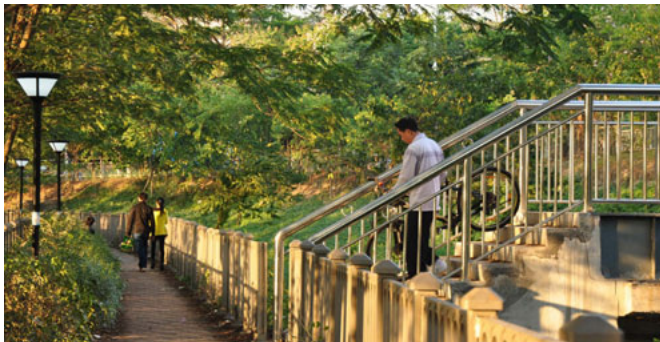
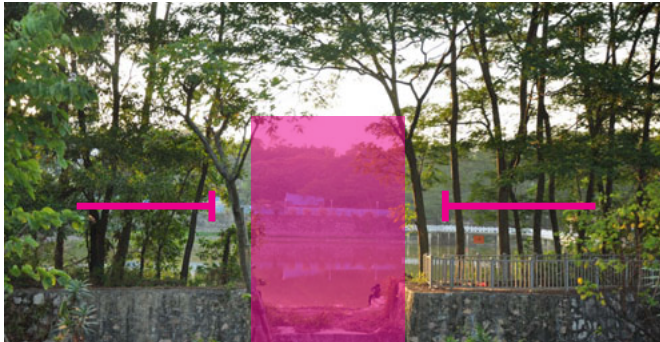


## 4.1 DESIGN | Langkou village chosen as focus site

### - Potential and problems

#### Good natural resource with unreasonable design

This section of greenway is very short, and has a barrier in the middle of the road along the canal. And the entrance of this route is unreasonable. Some facilities just in the middle of the entrance, stop the pedestrian to get in. And specially design of the stairs need to be considerate for the bicycle.



## 4.1 DESIGN | Langkou village chosen as focus site

### - Potential and problems

#### Urban greenway need to be connected

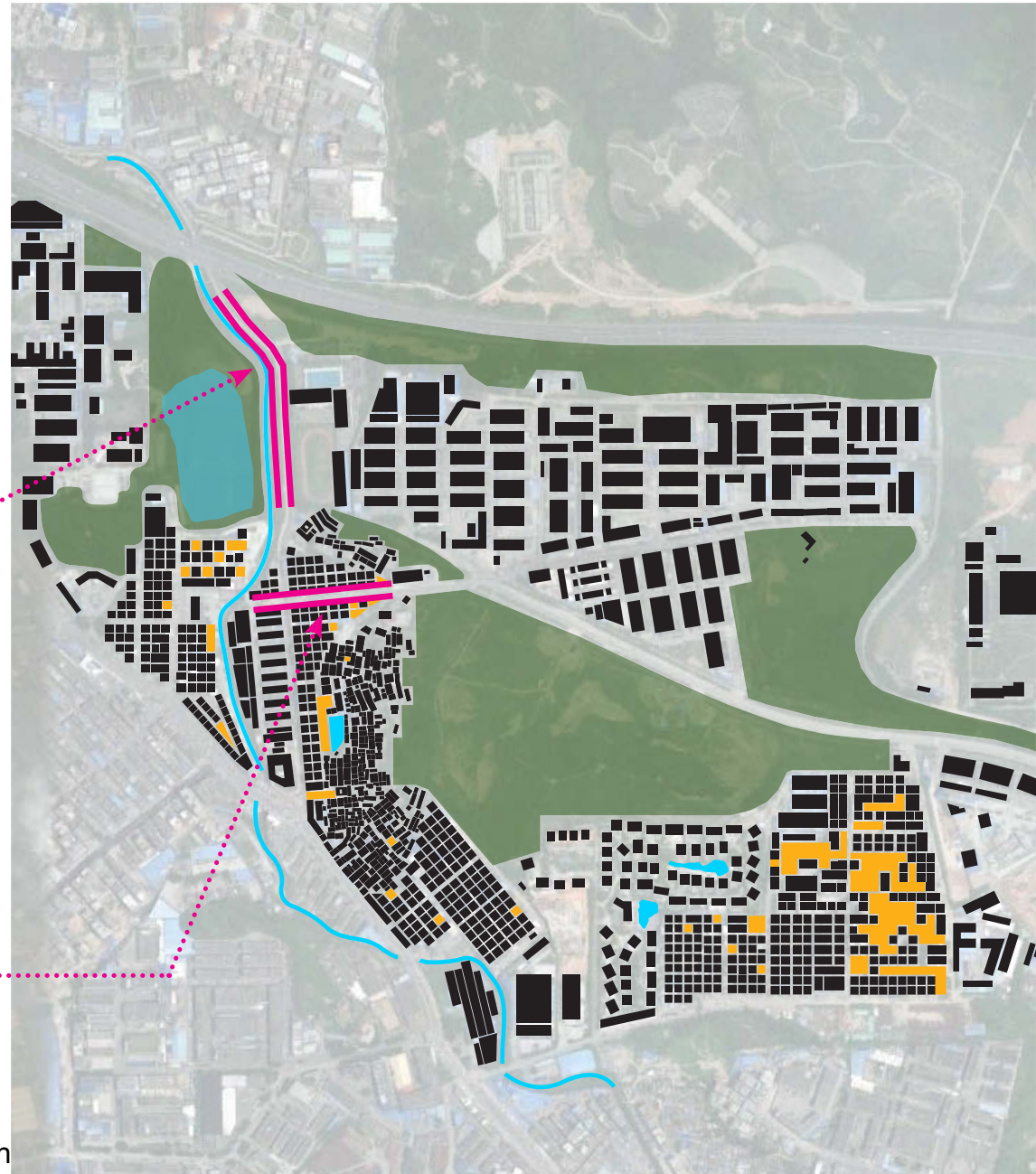
Local Cyclists create a circle route by themselves. They use the existing greenway and find some routes which has the potential to be greenway in the future (normally these routes have a good view beside green or water).



existing greenway in a good



potential route lack of conn



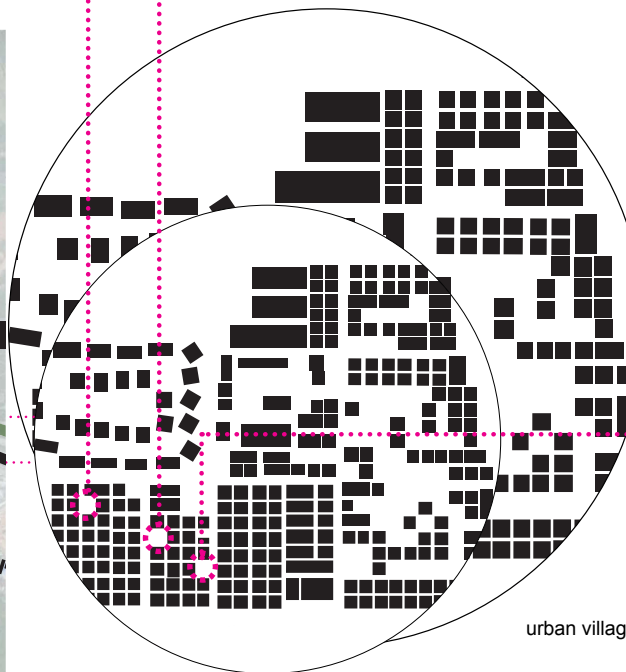
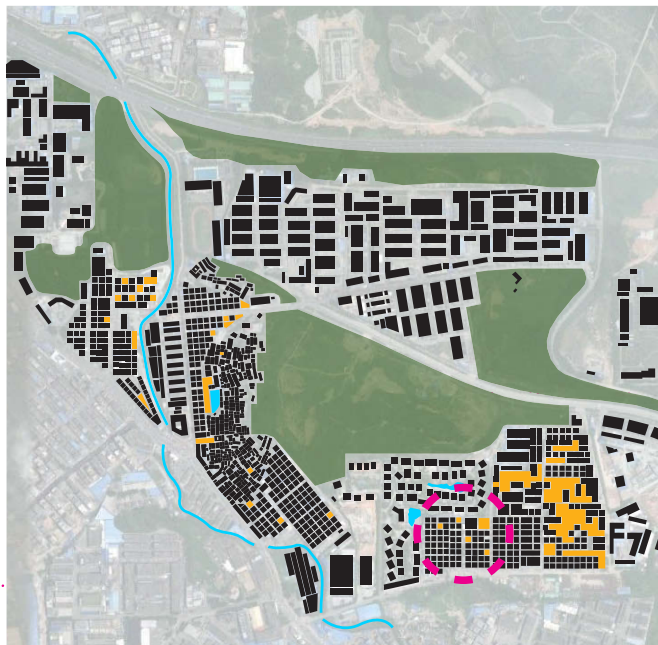


## 4.1 DESIGN | Langkou village chosen as focus site

### - Potential and problems

#### Vacant lots inside of the urban villages

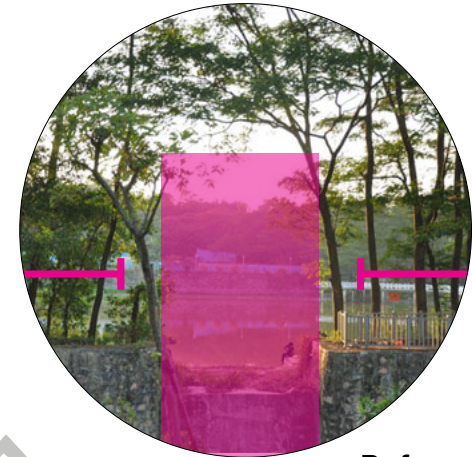
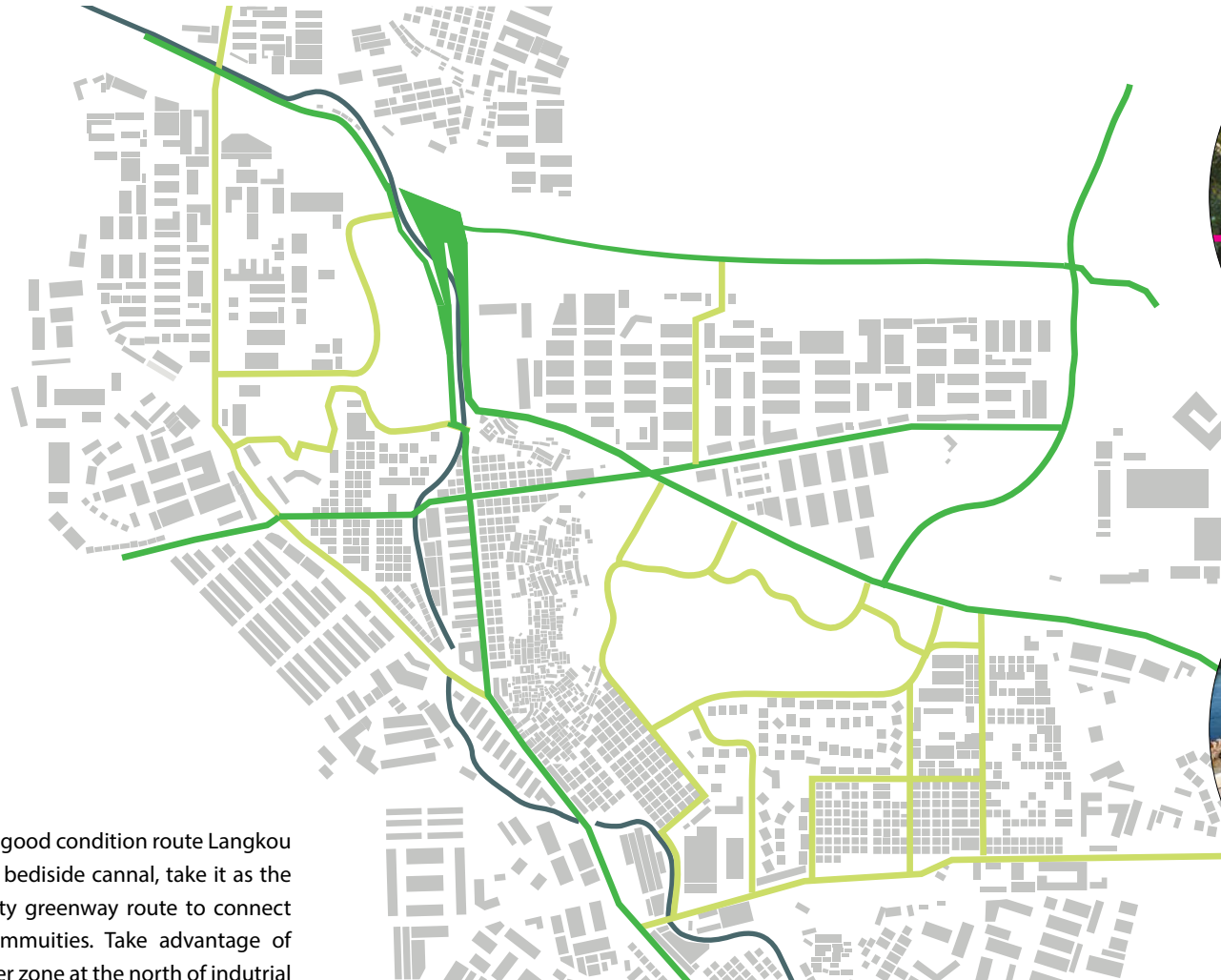
The owners of Some house-sites in urban villages is unclear, no one would come to construct buildings here, so this kind of land are always vacant. It is interesting that, in this block, there are three different ways to use the vacant lands by the residents around. The idea is great, but the quality of these kind of public space need to be improved as the nodes of the greenway system in neighborhood scale. It has a potential turns to be a dynamic public space for the migrant work living around.



urban village

## 4.2 DESIGN | Set up basic spatial structure of greenway system

### - Connect Greenway network



Before



vision

Based existing good condition route Langkou Yi Road which beside cannal, take it as the south-north city greenway route to connect with other communities. Take advantage of the green buffer zone at the north of industrial area, as the east-west urban greenway. Local greenway route will be linked related to the city greenway framework. Different scale greenway route from a community greenway network.



## 4.1 DESIGN | Set up basic spatial structure of greenway system

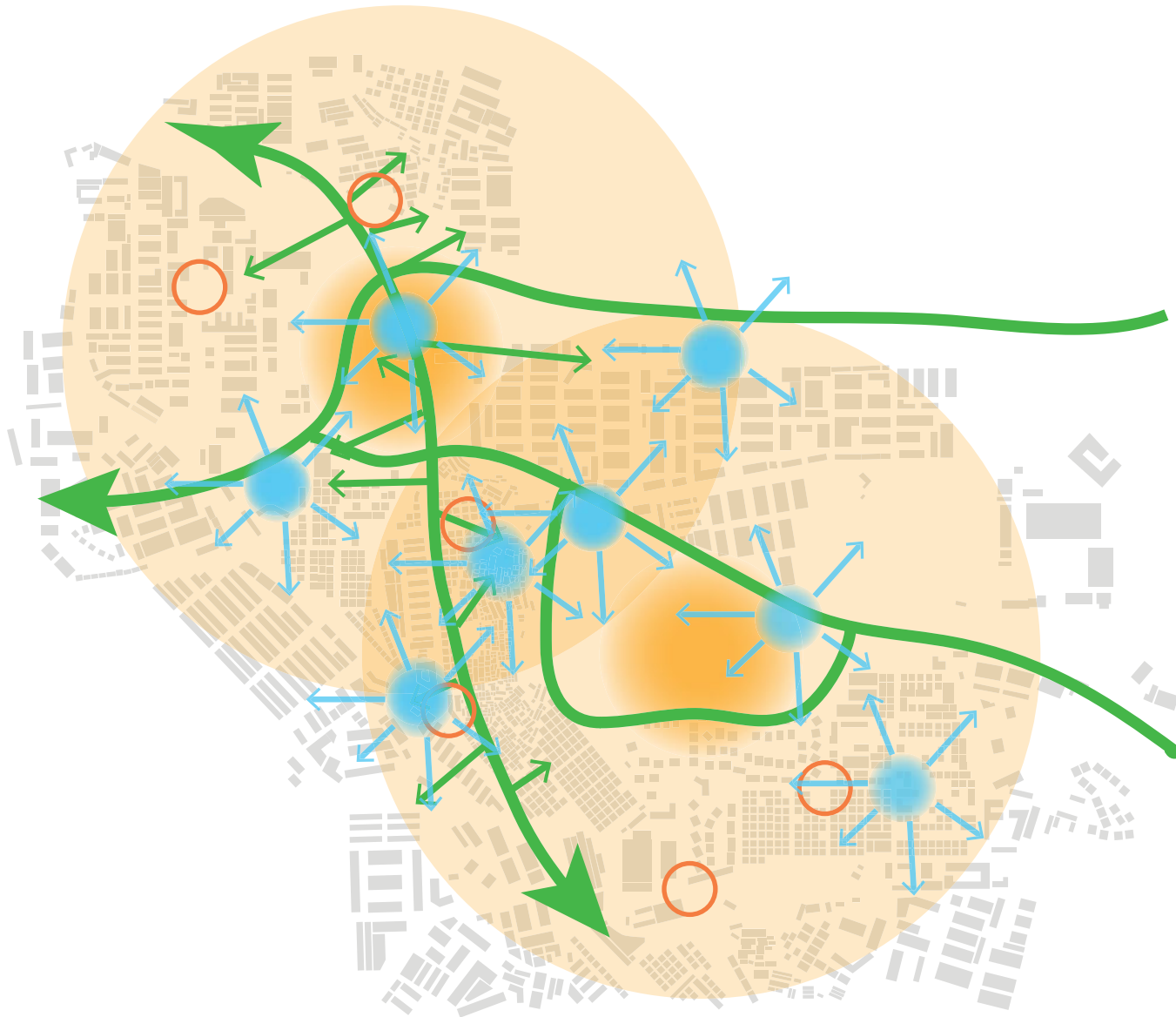
- Add excitement programs as hubs



Upgrading the waterfront in Dalang Sport Park, improve the non-vehicle path beside canal to enhance the accessibility to water. Make it to be the main hub of community greenway system. Develop the basic greenway network, link the Chongzhen Women College and other historical and culture sites in to a system. Take advantage of vacant lots inside urban villages. Select related public facilities and programmes to meet migrant workers' needs.

## 4.2 DESIGN | Set up basic spatial structure of greenway system

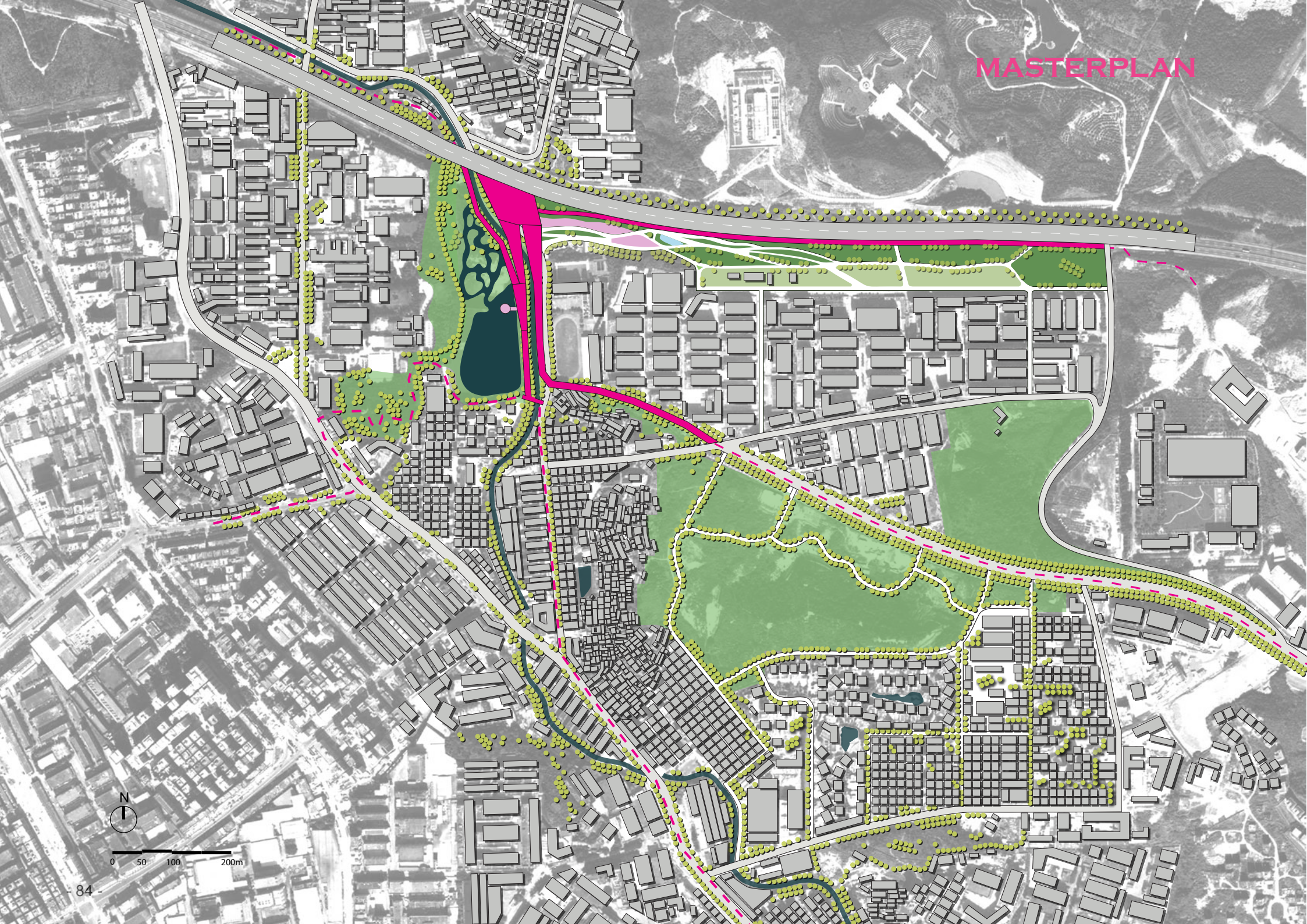
### - Interaction between hubs and network



There is a interaction between greenway neetwork and its hubs. In order to link all hubs into a system, related greenway will be developed. Meanwhile, due to greenway network, new hubs will be acitived as well. Acoording to exsiting bus station, transit hubs will be set up to make a good connection between diverse convenient public transtransport.

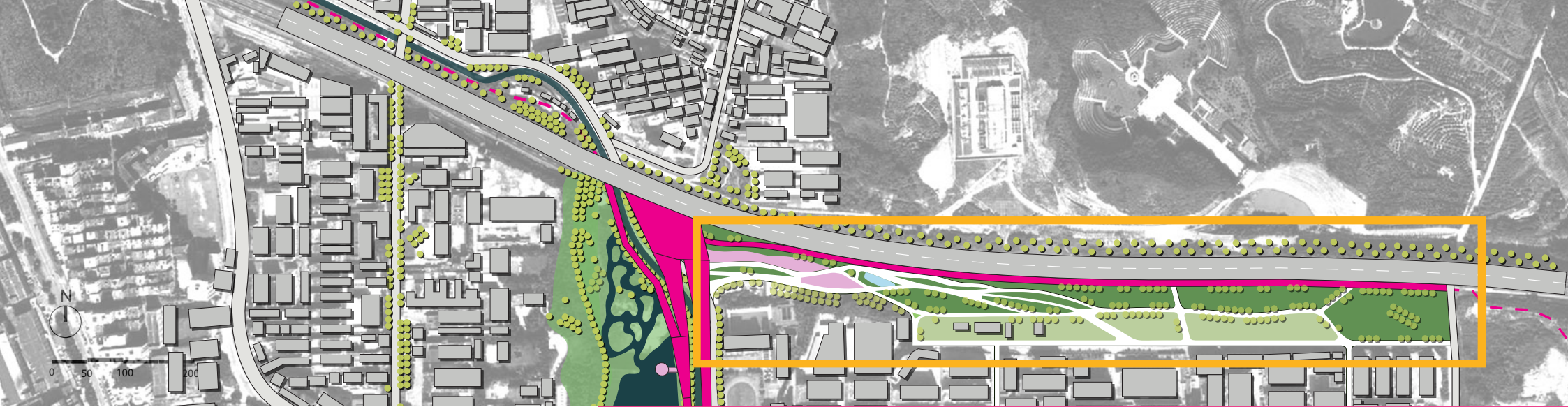


# MASTERPLAN



0 50 100 200m





### 4.3 DESIGN | key interventions

#### - Industrial buffer park



Source: SG North East

Walk path in the industrial buffer park



Source: NYSDOT

Green wall make a buffer with the industrial area

<p>Set up protection boundary around the natural space with limitation of construction.</p>	<p>Integrate industrial fragments spread around in a compact area for efficient management.</p>	<p>Take advantage of green buffer zone around industry implement related programs with alternative functions.</p>	<p>Transit the green fragments in urban area into public green space with alternative functions.</p>	<p>Integrate the component of water system with green space and urban facilities.</p>

#### Main Square of the industrial park




Source: VisionUnion.com




# 4.1 DESIGN | key interventions


## - Develop vacant lots



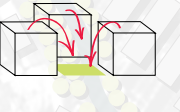
Set up protection boundary around the natural space with limitation of construction.




Integrate green fragments spread around in a compact area for efficient management.



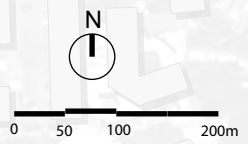
Transit the green fragments in urban area into public green space with alternative functions.



Take advantage of vacant lots, implement related programs to meet migrants' needs.

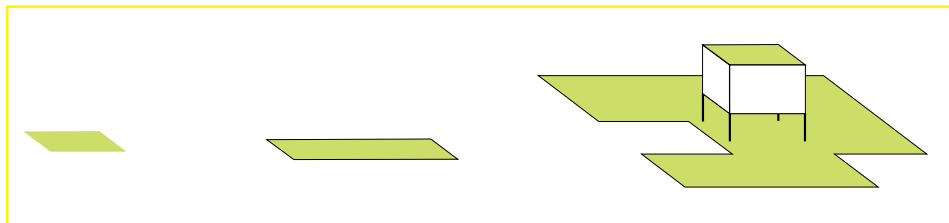
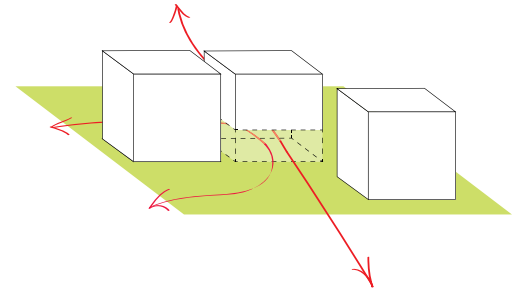
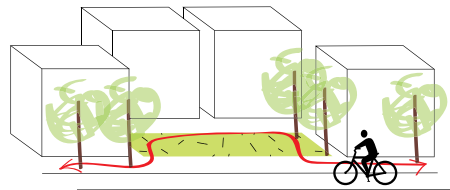
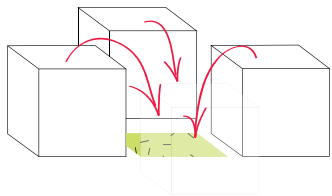
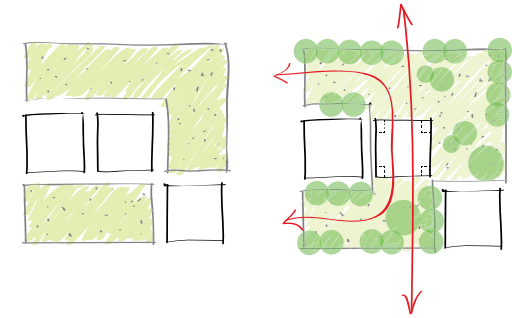
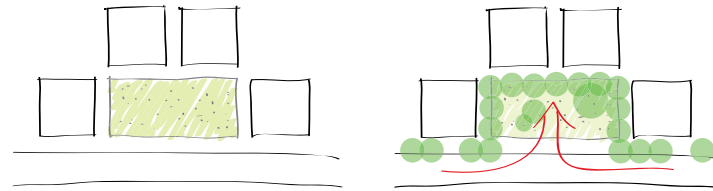
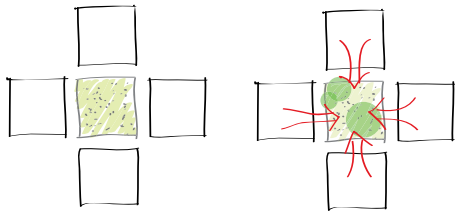


Take advantage of improving accessibility to develop important transit hubs.



### 4.3 DESIGN | key interventions

#### - Develop vacant lots



**What could it be?  
How can migrant workers benefit from these spaces?**





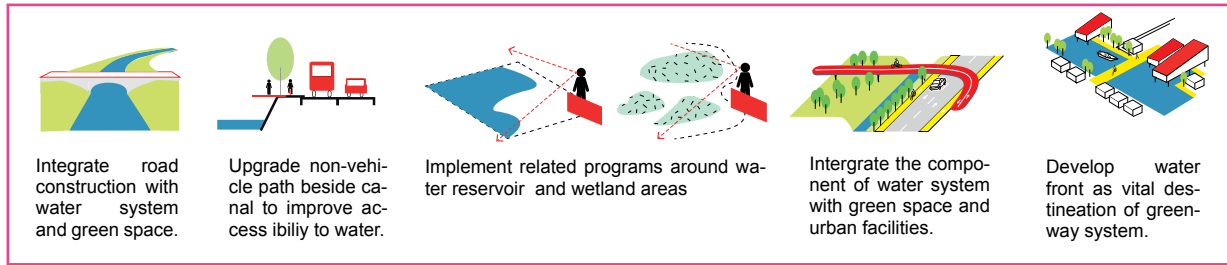
**TRANSIT HUBS IN VACANT LAND BESIDE THE GREENWAY**





## 4.3 DESIGN | Key interventions

### - Interventions on Dalang Sport Park



Upgrading the Dalang Sport Park is the main intervention in the greenway system project. Set up a greenway bridge beside the canal, can be a part of the urban greenway network. Meanwhile, related programmes on the greenway bridge will benefit the resident in this communities. Diverse functions and facilities will be add on the bridge to meet migrant worker's needs. This intervention will be taken as an example to show the possibility that how greenway will improve the livability of migrant workers' life.



Public facilities on the bridge



Green bridge create more open green spaces



Waterfront of the park in the future





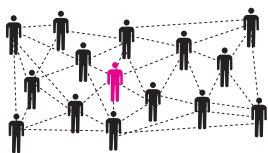
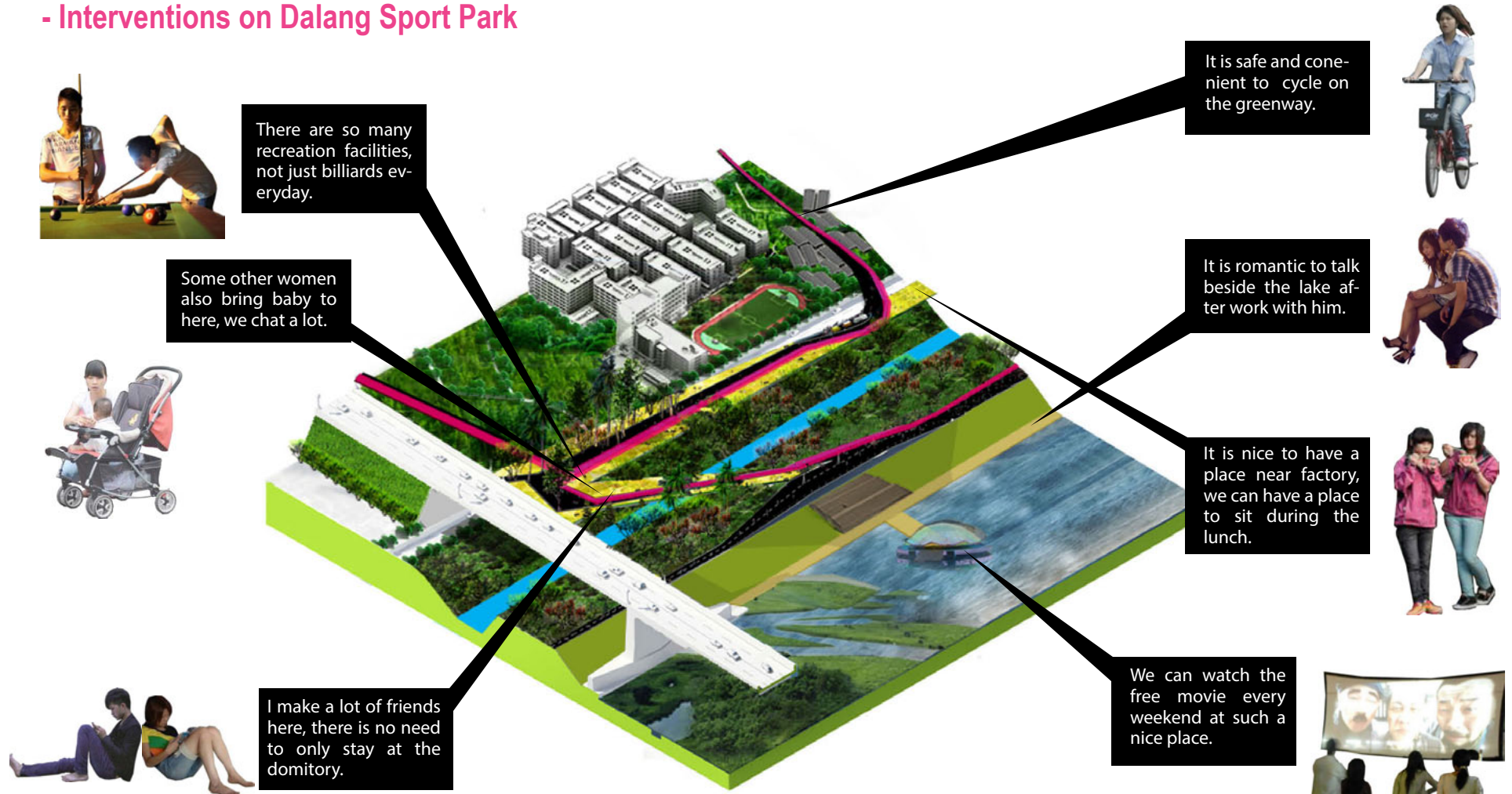


**GREENWAY PATH ON THE BRIDGE BESIDE THE CANNAL** (made by author)



## 4.3 DESIGN | Key interventions

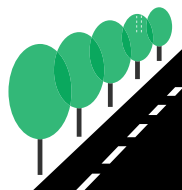
### - Interventions on Dalang Sport Park



strong social network



open space



safe and convenient public transportation



culture facilities



activities



sport



relative personal space out of collective life



place to have a break





**NIGHT VIEW OF WATERFRONT THEATER**



## 5. REFLECTION



## 4.1 REFLECTION | Review on comparison between proposed planning and current planning

### CURRENT PLANNING

- local & regional economy development based on large scale of fashion-industry implement
- suburban tourism development based on Yangtai Mountain

- top-down interests consideration from regional level to local level
- government and investor domain
- short-term interests

- industrial upgrading by implement of fashion-industry
- urbanization on villages
- road expanded and connected project

- rural-urban fringe area of Shenzhen with monochrome industry, cheap land price, low condition living area for migrants

### FOCUS INTEREST

### DECISION MAKING

### PLANNING CONCERN

### ROLE OF DALANG

### PROPOSED PLANNING

- regional environmental quality based on building regional greenway system
- local societal and environmental quality based on related programs implement on local greenway system

- combination and reflection between top-down and bottom-up consideration
- integrate participation of local actors(migrant workers and local villagers)
- flexibility and resilience in long-term.

- improvement of human settlement for migrant workers
- conserve and connect local natural and cultural landscape; integrate fragments vacant lands for efficient use
- add diverse functions on the greenway system

- an sustainable living area for migrant workers
- a eco-buffer zone connecting inner Shenzhen and natural environment
- a health spontaneous developed district with multi-functions

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