

The impact of peri-urbanization on rural communities in Shanghai: the changing villages at the urban-rural interface

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Abstract

This dissertation is a research focused on the urban-rural interface of Shanghai. The research aims to analyse different changes that are happening in these areas, focusing on the peri-urban case, situated between the urban area and the rural area of Shanghai. The conceptualization is based on the urban-rural continuum analysis and aims to find and recognize common trends along the continuum, focusing on three impacts: social, economic, and environmental. Understanding these trends give the base to know in which manner it is possible to develop these areas, generate policies that are able to protect the local population and at the same time give a great and sustainable future to these areas.

In order to have a wide understanding of the Shanghainese urban-rural interface, the analysis is focused on three different peri-urban villages, each one having different characteristics. The villages were chosen in order to analyse different possible scenarios in which the peri-urban areas are evolving. The different areas were selected also due to their distance from the Shanghainese urban core, following the concept of the urban-rural continuum.

The impacts had been analysed by quantitative and spatial methods, which allow a clear and full understanding of the actual situation in these areas. The quantitative data had been collected through questionnaires, during several site visits in all the three villages. The results of the questionnaires permit to discover several important data, that were utilized to build different indices that represent each of the three impacts. The outcome of the three indices shows a clear situation, in which the villages close to the urban area are facing stronger changes than the ones that are close to the rural one.

The aim of the research is not only to analyse and “record” the actual situation of the Shanghainese peri-urban areas but is also to understand how these areas are facing the dramatic and rapid changes that characterize the peri-urban fringe.

Key Words: Shanghai, Peri Urban, Rural-Urban Continuum, Social Impact, Economic Impact, Environmental Impact

Sommario

Questo elaborato di tesi è una ricerca incentrata principalmente a capire gli impatti della peri-urbanizzazione sull'interfaccia urbano-rurale di Shanghai. La ricerca si propone di analizzare i diversi cambiamenti che stanno avvenendo e avverranno in queste aree, concentrandosi sul caso peri-urbano, situato tra l'area urbana e l'area rurale di Shanghai. La concettualizzazione si basa sull'analisi del continuum urbano rurale e mira a trovare e riconoscere le tendenze comuni lungo il continuum, concentrandosi su tre impatti: sociale, economico e ambientale. La comprensione di queste tendenze crea la base per sapere in quale modo è possibile sviluppare queste aree, generando politiche che siano in grado di proteggere la popolazione locale e allo stesso tempo di generare un futuro sostenibile a queste aree.

Per avere un'ampia comprensione dell'interfaccia urbano-rurale di Shanghai, l'analisi si concentra su tre diversi villaggi peri-urbani, ognuno con caratteristiche diverse. I villaggi sono stati scelti per analizzare i diversi possibili scenari in cui le aree peri-urbane si stanno evolvendo. Le diverse aree sono state selezionate anche per la loro distanza dal nucleo urbano di Shanghai, seguendo il concetto di continuum urbano-rurale.

Gli impatti sono stati analizzati con metodi quantitativi e spaziali, che permettono una chiara e completa comprensione della situazione reale di queste aree. I dati quantitativi sono stati raccolti attraverso questionari nel corso di diverse visite effettuate in tutti e tre i villaggi. I risultati dei questionari permettono di scoprire diversi dati significativi, che sono stati utilizzati per costruire diversi indici, i quali rappresentano ciascuno dei tre impatti. Il risultato dei tre indici mostra una situazione chiara, in cui i villaggi vicini all'area urbana stanno affrontando cambiamenti più consistenti rispetto a quelli vicini all'area rurale.

Lo scopo della ricerca non è solo quello di analizzare e "documentare" la situazione attuale delle aree urbane periurbane di Shanghai, ma anche quello di capire come queste aree stiano affrontando i drammatici e rapidi cambiamenti che caratterizzano la fascia peri-urbana della città.

Parole chiave: Shanghai, Peri-urbano, Continuum Rurale-Urbano, Impatto Sociale, Impatto Economico, Impatto Ambientale

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Cultural introduction

China is experiencing a burst of economic development in recent decades. The urbanization processes that Chinese cities are undergoing are multifaceted and highly complex, involving immense amount of existing and new territories. These transformations are profound, they have an impact over the everyday life of Chinese people, as well as over the global processes such as country's economy and politics. Detailed studies of localities and areas involved in this process are necessary in order to analyse and understand the character of the overall transformations. In this context Peri urban areas are the key for its understanding, as they are areas in transition, they are getting transform radically and obtain a completely new urban fabric in the short period of time. I arrived to do my master's degree program in China, and I became witness of new Chinese urbanities, having the possibility to study the events directly on site, at the same time as they are happening.

The dynamics and evolution of peri urban areas has been study from experts and scholars all around the world, many different definitions of peri urbanization were formulated. Nowadays peri urbanisation is becoming an emerging topic of discussion among Chinese scientific fields. In recent years multiple studies were conducted in several cities among different Chinese scenarios. Was interesting to participate and to give my contribution to these emerging debates. During the research has been done multiple site visits and interviews with local inhabitants in order to build the bases and "record" the story of what is happening in the specific area where the process of peri urbanization takes place. My research was conducted on-site but taking into consideration a vast amount of the literature regarding the peri urban topic. The first part of dissertation is about the different peri urban studies that had been done in the past, specially in the western countries. After analysed the existing literature I decided to focus on three specific villages located in the peri urban fringe of Shanghai. These villages had been chosen studying and analysing several indicators, which allowed me to study different villages scenarios in the Shanghainese peri urban texture. This villages had been chosen not only because of their differences, but also

because they share some similarities (as for example the location in the peri urban fringe). The peri urbanisation is a part of the wide, macro-urban process, thus can help to understand the dynamics of changes that are undergoing in the city itself. What I learnt from this research and from the site visit I did in the peri urban villages is that peri urban areas works as a mirror of what is happening in the city and the country level, incorporating and showing the extra ordinary situation in which the more weak part of the population is facing. Peri urban areas usually face dramatic changes, and people that cannot afford to live in the city move these areas. Only continuing to study and record the situation in these areas can help us to understand the evolution and the dynamics in which the field is moving, studying the situation on the micro level can explain and give a contribute to understanding of the bigger process in which peri urban area are facing.

The master thesis research has been developed during the double degree program held between Politecnico di Milano (Italy) and Tongji University (China). The research background, data and studies were developed and collected during a whole year spent in Shanghai, visiting several times all the three different areas in which the research is focused. During the site visit I was helped from several Chinese volunteer in collecting surveys from local citizens.

There are huge cultural differences between China and Europe, more in particular between the scale of the cities that characterize the two different areas. The focus of the research is about the studies of different impacts in three villages situated in the peri urban areas of Shanghai. Shanghai is a mega city with more than twenty-five million people of population. These numbers that are not possible to be find in European cities, these quantitative differences bring to understand that the issues discussed in this dissertation are not capable to be compare or correlated with Italian and European ones.

These two parts of the world have a various and different cultural background, that can be various about some specific issues as migration flows, inequality, gentrification, economical growing, environmental degradation, education of population, etc.

There are important different meanings between the two universities

master thesis tasks and requirements. In Tongji University the format is standard and fixed and has to be followed by all the students, while in Politecnico di Milano the format is free and each student can develop it by his preferences. The same rules also about the structure of the thesis, that in Tongji is fixed, with the thesis that is based on one or more research questions, which has to be answer by the end of the dissertation. Instead in Politecnico the structure depends from the students and the research typology. I decide to keep the structure following the Chinese structure rules in order to keep the meaning of the thesis itself.

0. Research introduction

0.1 Overview

Shanghai is a 21st century metropolis, as a contemporary metropolis the city has to face and solve several kind of problems. Shanghai was a small fishing village until one and half century ago, urbanization in the city started to growth in a fast rate from 1840s, during the opening policy, when foreign concession as British and France were built, and during the socialist era, between 1949 – 1990 when Shanghai became an important industrial city.

After the end of the Cultural Revolution Shanghai doubled its population in thirty one years (from 1949 to 1980)¹, most of this growing was due to the immigration induced by the central government in order to enhance man power for the industries of the city.

Was mainly after the central govern open door policies that Shanghai started its greatest development (Yungjie Sha, et al., 2014), the central govern define the strategy of developing the city, indicate Shanghai to be one of the international, finance and trade centre economy along the Yangtze River. Thanks to these policies the city increased dramatically its population, reach 23 million in 2011. The Shanghai Masterplan 2015 – 2040 forecast to limit the city population under 25 million people, but already in 2018 the amount of people living in Shanghai encompassed that limit². Looking at the impressive evolution of the city, it is clear the high pressure that the peri urban areas in the surrounding are facing, the strong impacts on the population, on the environment and on the economy of these areas. The fast changes that from one hand bring prosperity and wealthy, but from the other massive relocation of local population, cultural destruction and environment degradation. The built up area of Shanghai increased from 309 square kilometres (in 1984) to 1.302 square kilometres (in 2014)³, an increasing of almost one thousands of square kilometres in thirty years. This increased of the Shanghainese built up area made the city sprawl

1 Shanghai Bureau of Statistics

2 Shanghai Bureau of Statistics

3 Data from Nasa Earth Observatory

outside its borders, invading the rural fields. This trend has been possible also because the policy embraced by the Shanghai's govern, as for example the "1-9-6-6 Model", from Shanghai Urban Development Plan 1999 – 2020, in which one of the main point was to build nine new town surrounding the city of Shanghai in the peri urban areas.

The research will study three area situated in the urban-rural interfa- ce which are the area that are facing strong changes in a short time, it is important to study and understand the forces, the evolution and the impacts that are shaping the peri urban areas surrounding Shanghai.

This research will focus on three different situation of Shanghainese peri urban villages, each case has been chosen carefully, studying the different characteristic and the evolution of the area in order to represent different peri urban scenarios of Shanghainese peninsula.

0.2 Research Questions

The comparative research will focus on two main analysis; the queries are formulate in order to have a wide and complete vision on the peri urban field in Shanghai.

The studies are focused in order to find the answers about these precise questions:

Q1: How to conceptualize different reality of the Shanghainese peri urbanization?

Q2: Do villages with different characteristics face the peri urbanization impacts in different manners?

The research is based and developed on these two questions; the hypothesis is to understand and to define the evolution and changes in the peri urban villages, utilizing as methods qualitative research, quantitative data, mapping and site visits.

0.3 Goals and Objectives

The research is going to be part of the peri urban studies field, this field is quickly updating itself following the changing of the peri urban areas. One of the main goal of the research is to define and describe the Shanghainese peri urban fringe as it is in this moment, as John Friedmann wrote the peri urban areas are a “restless landscape”, in short time they will change and we can study just a lighting moment in the process of socio spatial transformations⁴. The second goals is to categorize and understand the correlation between villages that are situated in different location along the urban rural continuum. Each villages has been selected carefully, following different characteristics. The three chosen areas are:

- Wu Jing Town, Xinhuo Village;
- Chonggu Town, Zhang Nian Village;
- Fengchen Town, Don Xin Shi Village.

Each village had been studied looking at its spatial and social characteristics, throughout questionnaires, and personal impressions, in order to have a complete overview for each of three cases. The scope will be to define common and opposite trends that can be analyse using these data.

The conjecture is that the evolution of peri urbanization follow similar trends, also if the situation is different. In case these trends are definable, the next step will be the possibility to create hypothesis on the possible future evolution of Chinese peri urban areas, looking at the past evolution of the Shanghainese one.

0.4 Methodology

The methodology will focus on case of study and comparative research, mapping, quantitative data analysis and content analysis. Starting with the creation of a theoretical framework about peri urban areas, deciding between the dozens of peri urban definition and choose the one that fit in the best manner for the

⁴ John Friedmann, 2016. The future of periurban research

Shanghainese case. The investigation will follow comparison of relation methodology between the three villages, searching in different contexts the relations between the independent and dependent variables. The comparison of contexts are made in order to prove and determine existing relation that characterize the different situations. Another methodology used in the research is the quantitative data analysis, which consist to collect information that are primary data from questionnaire and personal impression, and secondary data from literature.

The comparative research will be focus on the three Shanghainese villages, but will be implemented also a descriptive comparison between Shanghai and will be take in account also the European and Italian peri urban trends.

In order to understand better the framework, for each village there are a series of map and schemes. By the use of mapping tools the understanding of the peri urban fringe situation will be easier and immediate.

0.5 Thesis Structure

The research is structured in order to follow a top-down analysis (from general to particular), it begins from the first chapter explaining in a wide manner what is the meaning of peri urban area, analysing the several definitions and focusing on European and Asian cases. In this section are explained several concepts (rural urban dichotomy, urban rural continuum).

In the second chapter the focus shift on the Chinese and Shanghai peri urban case, focusing on policies, status and reform. In this chapter is explained the overview on the urban planning evolution of the city and the evolution of the peri urban area in within these trends. It is also defined which are the peri urban borders of Shanghai.

The third chapter change the scale focusing on the village scale, describing and analysing the three villages chosen to represent the peri urban fringe of Shanghai. In this chapter there will be a clear overview of the actual situation of each of the three areas.

The chapter four regard on the surveys carried on the three sites,

in which are explained and showed the questionnaire and the data results.

The fifth chapter regard the analysis on the data from the surveys, in which is explained the process and the methods that had been utilized.

The sixth chapter shows the outcome and the conclusion of the research.

I. Introduction to peri urban areas

1.1 Peri urbanization as a phenomenon

The peri urbanization phenomenon can be seen as a process that occurs during the expansion and shrinking of cities, this process is located in between the urban area of the city and the rural area in the countryside. As a phenomenon, the peri urbanization can wear different shape and different patterns of growing, depending of the characteristics of cities and their driving forces. The definition of peri urban is it not unique, many expert and scholars define it in different way up to their interpretation, and today there is not a clear definition of this phenomenon. The reason why of this confusion can be associated to the fact that peri urbanization process is depending by many variables that most of the time are not replicable, each case can be different from the other.

Many developing country are facing the trend of urbanization, currently, more than half of the world population is living in cities, and it has been forecast that the world's urban population will reach 6.29 billion, of which 69% of the total world population will live in urban area in 2030 (United Nations, 2010).

It has been predicted that from 2000 to 2025 the East Asia urban population will grow around 200 million people, of which forty percent of will live in peri urban areas (Lo and Marcotullio, 2001).

The question of how to manage to peri urbanization phenomenon is became one of the main issue in the contemporary debate of 21st century of urban development (Watson, 2009), mostly because the developing countries are facing a rapid urbanization that is directly linked with the peri urban areas and their importance (Cohen, 2006; United Nations, 2001).

Peri urbanization is a contemporary topic, especially in China, as a contemporary topic so much has been written about with many different approaches. Most of the developing and developed world country faced the peri urbanization in different time and following different processes, for example we can find totally different issue between a peri urban study in Slovenia (Anton Perpar et al, 2009) and a peri urban study in Vietnam (Caitlin Kontgis, et al, 2014). To

have a general overview of how the peri urbanization processes are different between the western countries and eastern countries the research will focus about the evolution of this process in last decades studying the different case in Asia. While in Asia peri urbanization is a contemporary issue started from few decades, in Europe this trend begun after the first and second industrial revolution.

We can define two macro periods to categorize the theories about peri urban areas:

The first theories were developed in between 1950s and 1980s, in which there were two opposite views; the top-down theory “Urban Bias” (Urban Fringe, Edge City, Growth Pole Theory, etc.) that emphasized the market expansion of the metropolis, and the bottom-up approach “Rural Bias” (Agropolitan Development, Selective Spatial Closure, etc.) that promoted the endogenous industrialization rural power. After 1980s theories were focused to criticize the research that were treating urban and rural development as separate issues. The new models were focusing on urban rural balance development, urban rural interaction, and regional perspective, theories as “Secondary cities”, “Desakota regions”, and “Urban Rural integration” (Gina Méndez, 2012).

We know that peri urbanity is also a synonymous of uncertainty; these areas are facing continuous rapid change and fast development that alter their spatial and social structure. These changes can bring many impacts on the local life, as the needs to move for the population, the environment alteration or massive changes in the economy of the area. Is it recognize that peri urban is a “restless landscape”, is proved that in a short time this areas will be different, they will change, what we are studying today is only a lighting moment in a process of socio spatial transformation whose longer term outcomes are still unpredictable (J. Friedmann, 2016). The peri urbanization process is just a consequence of the growing and expanding of cities, it is a continuous and natural phenomenon, every year many studies are written about it and many theories are published, trying to follow and understand it. The process of peri urbanization is not fixed and its dynamics are always shifting following new trends and facing with the new growing possibilities.

Yanti Budiyanitia and Vidya Pratiwi collect a series of definition of peri urban, which may clarify the myriad of variables used to understand the peri urban trends.

Table 1. Definitions of peri urban (Yanti Budiyanitia and Vidya Pratiwi, 2006)

n.	Sources	Peri-urban Definitions
1	Andreas (1942)	The peri-urban region is the mixing zone of characteristically agricultural and characteristically urban land use structure.
2	Garnier and Chabot (1967)	Peri-urban is an area where the continuous built up town ends.
3	Singh (1967)	The peri-urban region is a rural land with urban phenomena.
4	Wehrein (1942)	Peri-urban represents an area that is forced by the urban development.
5	Dickinson (1967)	The peri-urban region is an area where housing, industries, and offices have become urban orientation.
6	Pryor (1971)	The peri-urban area is an area of rural-urban fringe. It is characterised based on the settlement's density, the existence of commercial functions, industrial, the level of land conversion, and the existence of commuting.
7	Yunus (2008)	The peri-urban area is an area in between urban zone and rural zone. According to Yunus, there are 4 zones of peri-urban, namely: (1) town frame; (2) urban-rural frame; (3) rural-urban frame; (4) rural frame.
8	Direktorat Jenderal Penataan Ruang – PU (2006)	Peri-urban area is located outside the core of metropolitan/urban. It forms as a supporting line of facilities and urban mass transport, and an urban extension from its core in random growth (sprawl) for 40-50 kms outside. Direktorat Jenderal Penataan Ruang-PU (2006) classifies the peri-urban region into three categories based on its land use and economic activities, i.e: (1) Predominantly Urban; (2) Semi Urban; and (3) Potential Urban.

From the table 1 we can recognize the different evolution of the definition of peri urban, in which each case can fit with different definitions. There is not a unique direction in which peri urbanity is evolving.

The globalization, emigration, and mostly the urbanization made the land in the peri urban areas highly increase its value, the cities expand their economy in these areas, mostly thanks to direct foreign investment (DFI), that bring a huge amount of investment where the land and the cost of work is still cheaper than in the urban area. This evolution brings to the creation of megacities with export oriented industry that needs to expand their build up area, sprawling into the peri urban land. The land use in the peri urban areas is often characterize with a mix of agricultural land situated just after industrial plants. In Est Asian countries the peri urban areas are often developed without a define and unique plan, there can be situations of planning law that overlaps, or plan that are not implemented (Abramson D., 2006). Frequently peri urban areas present a lack of infrastructure with an insufficient transportation system, high value of air and water pollution and inadequate service system (water, electricity, sewage treatment, waste disposal), crowded and unsanitary housing, with social segregation divide by wealth, class, provenience and religion (Richard L., Delik H., 2014). The development in these areas are often made by the requisition of the local population land by force, taken without an adequate compensation (Hsing, 2012). Another huge problem is the disparity of income between the urban areas, rural areas, and peri urban areas in which the urban residents can earn more than ten times the income of the peri urban one (PRC NSB, 2013). It is recognized that there is a wide difference between the urban and rural population, these differences are summarised in the table 2.

Table 2. Tradition accepted stereotypical differences drawn between Urban and Rural populations (Hugo, 1987)

Dimension	Urban	Rural
1. Economy	Dominated by secondary a tertiary activities	Predominately primary industry and activities supporting it
2. Occupational Structure	Manufacturing, construction, administration and service activities	Agriculture and other primary industry occupations
3. Education Levels and Provision	Higher than national averages	Lower than nation averages
4. Accessibility to Services	High	Low
5. Accessibility to Information	High	Low
6. Demography	Low fertility and mortality	High fertility and mortality
7. Politics	Greater representation of liberal and radical elements	Conservative, resistance to change
8. Ethnicity	Varied	More homogeneous
9. Migration Levels	High and generally net in-migration	Low and generally net out-migration

1.2.1 Peri urbanization in Asia

From 1980s China has experienced a rapid urbanization, the urban population increased on average by 0.9 percent annum that means an increase of almost ten million people annually (China Statistic Bureau), most of this people are migrants from rural areas. This changing in urban pattern and population distribution bring new needs for the cities that have to face these trends by expanding their border or by densify their existing built up areas. In the 80s (thanks to the open-door policies), China opened its border to the world market economy, as a result of these new policies the country shifted from the largely agrarian economy into an industrial power. New direct foreigner's investment (DFY) came, allowing China to

become one of the fastest economies growing country in the world and the first exporter country. The growth of the economy brought to the developing of cities and urban culture, the central government policies were made to attract and encourage people to move from the countryside to the cities, as an example the English version of Shanghai's Expo 2010 motto was "better cities better life", but the Chinese translation was "Cities make life better".

Webster and Muller (2004) summarized the characteristics of Chinese peri urbanization as follows: a. The changing economic structure, from an agriculturally based to a manufacturing dominated economy in peri urban areas. B. Changing employment structure, with a shift from agriculture to manufacturing. C. Rapid urban growth in peri urban regions. D. Land-use and pattern changes, from agricultural land to industrial and residential use. To develop Chinese peri urban areas, planning is always been the protagonist, used to define social and economic progress, China is based on a planned economy that cover a many kind of field. For example the Five Year Plans (FYP) used for socio economic development, regional integration plans used for urban system and city clusters, master plan and urban design plan, land use and functional zoning like the plan of the new suburban towns, environmental and protections plans, landscape plan, disaster alleviation plan, poverty reduction plan, etc. (Jing Lin, et al. 2016). From 2000, China start its transformation from a centrally planned system into an open market system, it is important to underline that one of the most important tool used from the Sino government is that the central government it is still playing a leading role during the process of development and funding new projects. East Asia become the world's epicentre of the contemporary peri urbanization, is the place where there are the greatest opportunities and the most important problems that urbanization and modernization bring (Friedmann, 2011). Using planning tools, China is making order inside its peri urban areas, trying to manage them in order to attract capital and investments.

In western countries the urbanization was characterize as a massive migration of rural population inside the cities (Gottmann, 1961), instead in Asia this flow embraced different directions. As one of

the major difference of Asian urbanization is the rapid growth in dense populated rural regions, in between big cities, without the massive rural to urban migration (McGee, 1991). This evolution brought to rapid economic and social structural changes, shifting the base economy of these areas from an agricultural base to a manufacturing one that can accounts for 60-70% of the gross domestic product (GDP). Due to the needs for cheap workers, peri urban areas attract a large number of people from outside the region that migrate bringing fluctuation in the population number. A large part of population sometime can be not registered in the demographic data because the hukou status that can be incompatible with their presence in the area.

1.2.2 Peri urbanization in Europe

In Europe the peri urbanization was dominated by residential suburbanisation, whereby existing urban residents move from the city centre (Richardson & Bae, 2004). The most evident transformation was about the physical form of the cities, from a core shape, they became more extend, spread, widen. The cartographer, were used to represent the cities with compact symbol, they had to change the way of representation when the city has become less recognizable in the regional patter, more fragmented, and made from reticular characteristics. In the 20th century, after the industrial revolution and following the fordism movement, the industries started to produce goods in a mass production series, which was requiring economy of scale and agglomeration, with a high concentration of technology, machine, and especially labour force. For this reason, cities were attracting population from the countryside and villages. In the first half of 20th century, the fordism trend reinforced this tendency, speed up the development of the bigger urban agglomeration, and litter of the small villages in the countryside.

In Italy the peri urbanization phenomena started in 1950, this period was called “the Italian miracle” when Italy changed from the traditional rural economy, to the west industrial model economy

(Pagliari, 2004). In the 50s in Italy more than 70 per cent of the rural municipality lost population, instead, the urban municipalities were growing, these cities absorbed the 90 per cent of the increasing of the Italian population of that period (Lanzani, 2003). From 60s to 90s the peri urban areas continues to modify and changing, moving and evolving, the border of the cities spread far from the centre invading the rural areas.

In the swift between fordism and post-fordism period, we can recognize the return to the small villages, during these trends there were many variables undergoing. Simplify we can say that the fordist model shaped the cities, transforming them in “production machine”, ideal to reduce to cost production for goods and services, thanks to the concentration of the productive factors and economy of scale (Dematteis, 2015). With the new technologies, like informatics telecommunication and fast movement there were no reason why the industries had to be concentrate one close the each other. With this new possibilities, cluster of industries start to be divided and relocated where the cost of productions was more convenient, this new distribution was called in many different ways: productive decentralization, flexible specialization, flexible accumulation (Piore; Sabel, 1984; Scott, 1988). Thanks to this movement, we faced a decline of the urban area and a developing of the peri urban areas and rural areas, this brought to create dispersion of new element like villas, warehouse, shops and similar. From this element begun the urban dispersion that changed the city shape as we knew before.

In the beginning of 80s the CURB (Cost of Urban Growth) from Wien (Van Den Berg, et al., 1982) proposed a general model to describe the demographic dynamics of the urban system, the model was called “the cycle of the city”. The urban system has been divided in three zones: the central core, the sub-urban area called the ring, and the last peripheral one. The research that CURB had done was to analyse the cyclical evolution or decline of the three elements of the city (Fig. 1). This model was created only by theoretical methods, so it has to been seen only in a descriptive way. It has divide the cycle of the city in four phases (urbanization, sub-urbanization, de-urbanization and ri-urbanization), in the upper part of the figure

are schematize the changes in the demography of the core, ring or periphery for each cycle (+ and – indicates the growing or decline of the population). Following the CURB model, we can recognize the period of the anti-urbanization that occur during the second and third phases. At this point, the growing of the urban system first get slower and then start to decline, but in the same time the peripheral areas are growing. This model cannot be used for all the urban situation but has been proved that it is adapting well to the European model.

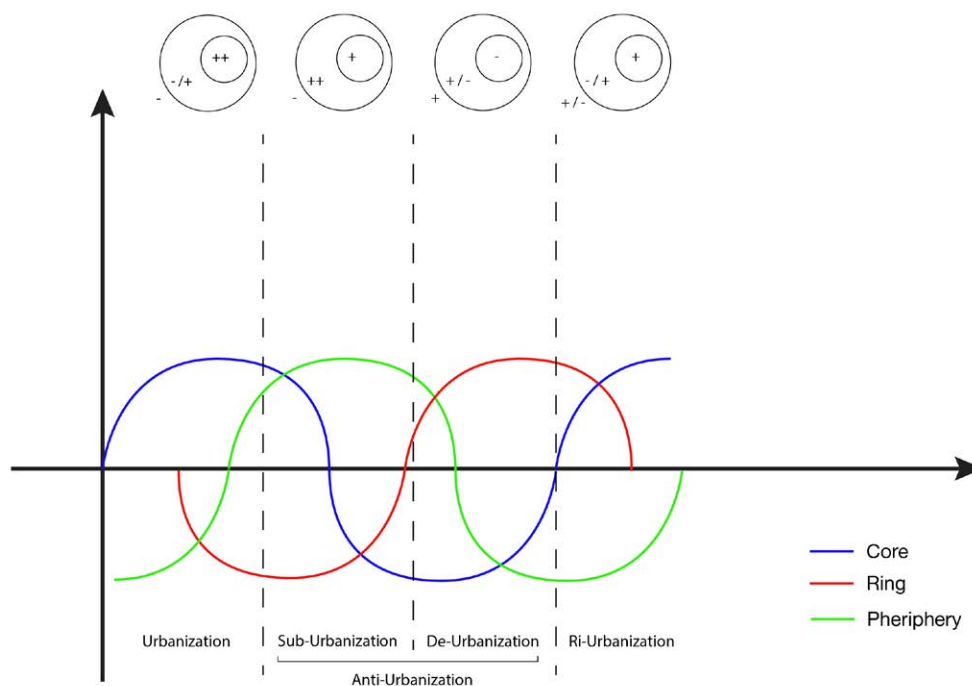


Figure 1. The cycle of the city

In 2000 Eugenio Turri defined the north part of Italy as the “megalopolis Padana”, this terms is used to recognize the urban amplification that faced the Padana plain, becoming a unique entity that is extended from Turin in Piedmont passing through Milan in Lombardy, Bologna, Rimini in Emilia Romagna, Padua and Venice in Veneto. This megalopolis can be seen as a city where the agricultural land is in between urbanized zones. Turri described this megalopolis as to be created from the willing of the people to live in a city, but this city grew without thinking of develop the space for the peoples, the unity, and the identity. The final challenges are

how to facing and manage this wide urban sprawl, provide services and connection, and how to improve and starting the process of regeneration of this “megalopolis Padana”.

1.2 The concept of rural urban dichotomy

The Chinese rural areas have always been encompassed by the urban one, the urban rural gap can be seen as one of the Chinese major problems, especially about the issue of social and economic development.

After the open up policies and the fasting of the economical growing this gap is also increase dramatically, manifested in the quality provision of infrastructures, education, healthcare, and social insurance (Ye, 2004). In the Table 3 is possible to understand the evolution in the average wages in urban and rural areas of China, in 2014 the urban areas had nearly triple average wages than the rural areas⁵.

Table 3. Per capital income of urban and rural residents. Source: National Bureau of Statics, 2016

Year	Per capital annual disposable income of Urban Household (yuan)	Per capital annual net income of Rural Household (yuan)	Absolute income gap Urban / Rural	Income ratio Urban / Rural
1978	343,4	133,6	209,8	2,57
1980	477,6	191,3	286,3	2,50
1985	739,1	396,6	342,5	1,86
1990	1510,2	686,3	823,9	2,20
1995	4283	1577,7	2705,3	2,71
2000	6280	2253,4	4026,6	2,79
2005	10493	3254,9	7238,1	3,22
2010	19109,4	5919	13190,4	3,23
2011	21809,8	6977,3	14832,5	3,13
2012	24564,7	7916,6	16648,1	3,10
2013	26955,1	8895,9	18059,2	3,03
2014	29381	9892	19489	2,97

⁵ PRC, National Statistics Bureau, 2016

1.3 The concept of rural urban continuum

We can define rural urban continuum as the continuity between city and countryside, the concept was created in order to define dissimilarities that can be recognize from different characteristics of the population, as for example the social aspects, in which there is a strong diversity between the rural and urban cases.

Cecilia Tacoli⁶ argue that the continuum should be conceived as a process rather than a typology, there are many indicators used to define the continua, which together can form the process. Cecilia argues that is important to take into account the whole series of meshes of different textures lined on each others, together forming a process which can create a more complex pattern.

The linkage between urban and rural include flows of goods in both of the directions, agricultural products from rural to urban, and manufacture goods from urban to rural.

The flow is not only about goods, but also about people, in which one of the main index can be intended as the migration from the rural area to the urbans ones, this create a dynamics set of flows

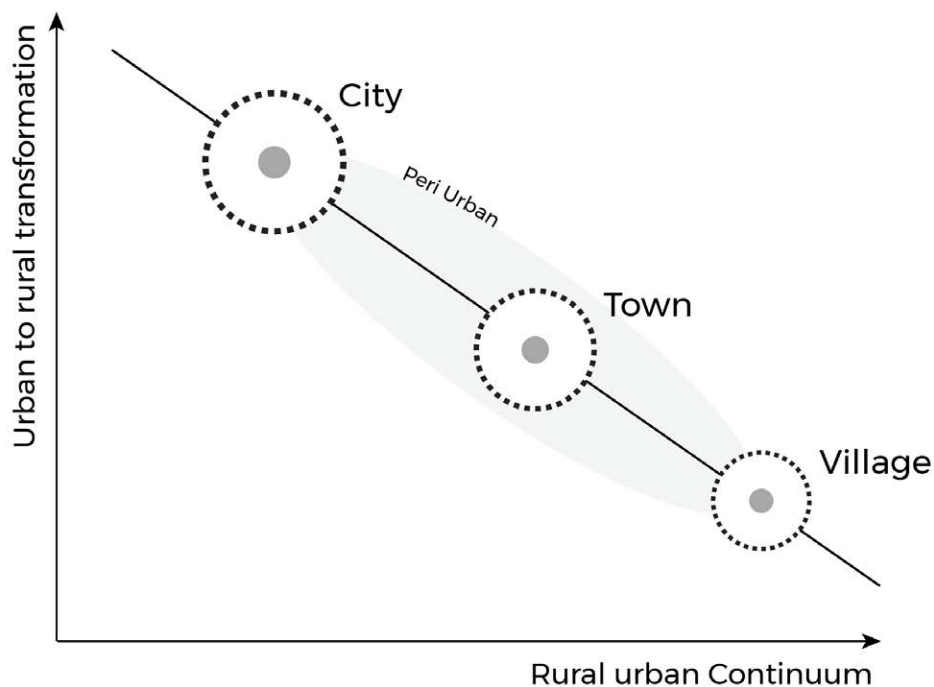


Figure 2. Peri urban continuum characteristics

⁶ The links between urban and rural development. Cecilia Tacoli, 2003

that exist between the two spaces, creating interdependencies between them.

This complexity at the rural urban level can create different patterns of continuum in which the peri urban areas are involved in the process, often having a leading role in it.

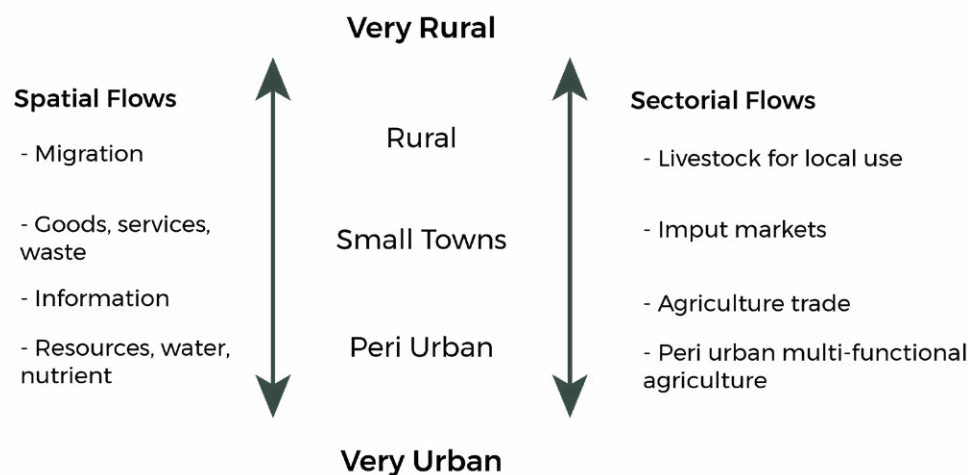


Figure 3. Peri urban continuum characteristics

Joachim von Braun defined two typologies of flows between rural and urban (fig. 3). The left one is the spatial flows, which include people, goods, money, technologies, knowledge and informations. The right one is the sectorial flows, which includes agricultural products (from rural to urban), and goods from manufacturing (from urban to rural) (Tacoli, 1998).

From the literature is clear that there are several common features along the continuums of different areas:

- The increasing of the presence of immigrants moving along the continuum, from urban to rural (Richard L., et al. 2014). This is due to a lower cost of house rent, and a highly presence and needs of low skilled jobs in the peri urban areas (as industry worker or farmer);
- The decreasing of quality of infrastructures, from urban to rural (Richard L., et al. 2014). There is a dramatic gap of services between urban and rural, where in the city there is a high concentration of infrastructures and services, with a clear decreasing along the continua, in the peri urban area;

- Changes of land use pattern, in which in the peri urban areas there are a more complex and fragmented elements that are affected through systematic transitions and casuistic processes associated with an increase in artificialized surfaces and substantial expansion of the continuous urban fabric (A.O. Tavares, et al. 2012);
- Along the continuum from the urban fringe to the peri urban area most of the time bring to an overall degradation in ecological system (S. Janakarajian, 2007). These problems are mainly due to a massive industrialisation of these areas, and due to an uncontrolled use of pesticide in the agriculture fields. These characteristics bring to a series of negative externalities that lower the living standard in these areas;
- Along the continuum, there is an increasing in the development of informal housing and illegal residential conglomeration (Pengjun Zhao, 2012). These can bring to a low presence of residential utilities, as drinkable water, gas, and electricity, and to hygienic and sanitary problems.

1.4 The impacts due to the peri urbanisation process

The areas that are facing the peri urbanization process are characterized by a series of dramatic changes (Haroldo, 2011) that can be define as “impacts”. These series of impacts can be merge in three main categories: social, economic, and environmental. From the literature it can be define clear trends in which each of these impacts are facing the peri urban fringe:

- Social impacts: is possible to recognize different analysis about this impact, it can be define by the changes in the demography in the local population, and social heterogeneity (John M., Emmanuel N., 2015), and is often associate to a negative outcome. For example in the peri urban areas the income of the local population (which is compose mostly by immigrants) can be so low that they may cannot afford to rent an apartment, and there are case in which residents cannot afford neither the supply of public facilities (Yan Guo, et al., 2015). The newcomers can have different values and expectation in comparison to the local population, increasing the

social disparities in the area (Aloyce L., 2003).

- Economic impacts: one of the main aspect regarding the economy in peri urban areas is the land and housing market (John M., Emmanuel N., 2015), which can be dramatically modify and shaped by the peri urbanisation process. Economic transformation can also effect the land use in the peri urban fringe on mainly three key aspects: changes the agricultural structure, impacts of the adoption of modern agricultural science & technology, and farmers' behaviour (especially decisions that involve the changes from the traditional to the modern) (Guy M. R., et al., 2018).

- Environmental impacts: often happen that in the peri urban area there are new buildings development without effective control, this imposes externalities on the neighbourhood in which incompatible land uses could be next to each other worsening the peri urban environment (Jieming Zhu, 2012). Houses and factories are intensively mixed, especially in small villages, with polluting and hazardous water that are spread in the environment that is strictly in contact with the local population. The important presence of industries con brings to a series of negative externalities for both the fragile ecological environment, and the population of the villages. Another aspect can be the loss of the agricultural land (Paul A., et al., 2013) that is recognize as a loss of the identity and the characteristic landscape of an area that bring to a decrease of biodiversity and resilience in the area, intensify the possibility of natural disaster as for example flooding.

II. Peri Urban characteristics in China and Shanghai

2.1 Policies Analysis

The Land Management Law of 1998, is the reference law for the ownership of land in China. According to this law all urban land belongs to the state, instead the rural areas and villages belongs to collectives and citizens as farmers.

The creation of the LURs System in 1988 has allow to transfer and to sell the land in rural areas, behind this, farmers start to use the collective ownership to get allocated plots of land to cultivate and to build their own houses, inside their allocated land. The collective land can be inherited, but it cannot legally converted in urban land, it is manage by a three layer governance system: the township, the administrative village, and the natural village (Ho, 2001).

This system present some problematics, as the confusion between the three different entities, because they do not have a clear delineation and there is misunderstanding of the collective ownership boundary that are not fixed, the collective ownership can be so confused to be ambiguous also to its nominal owners (Cai, 2003).

From 2000, in China many policies has been developed, following the national urban rural integration strategy, which is based on promote better quality of life in the rural areas and more balanced development between urban and rural areas. The peri urban regions are the key to develop this strategy, several new planning approach have been strengthen in the regions, one example can be the socialist villages and communitilised village management.

From the other side has been tried to increase the institutional capacity of planning, with new law as the 2007 Urban and Rural Planning Act, introduced by the state in order to replace the Urban Planning Act, which was the most important regulation about planning and urban development in China since it was created in 1986.

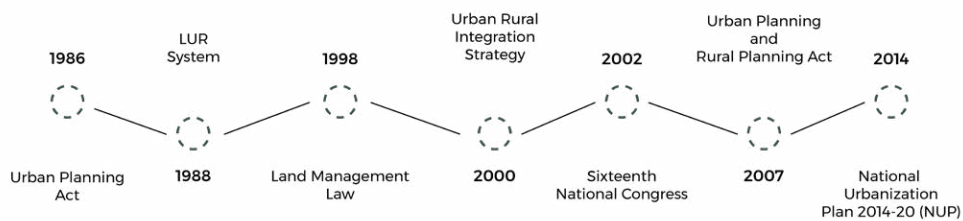


Figure 4. The main laws that influenced peri urban fringe

During the Sixteenth National Congress of the Chinese Communist Party in 2002, was decide an important turning point for the rural areas: for the first time it was declared that the countryside was a key point to achieve the goal of moderate prosperity and socio-economic development that must incorporate both, urban and rural areas. This allowed to plan a series of goals in order to promote the urban-rural integration, focusing on three main point:

- Deployment of key factors between urban and rural areas, that is about the trade of agricultural products, the use of savings, the requisitioning of land, the labour transfer and environmental dividends. Focusing on urban-rural integration means that the rules must shift from exclusively benefiting urban development to benefiting a balanced development of both urban and rural areas.
- The supply of primary public goods and services in both urban and rural areas. These areas had been developed in two different systems, regarding issue of infrastructure, compulsory education, health care and social insurance. Following the urban-rural integration concept means that this division into two systems must be changed, and the policies already implemented in the cities must be extended to the rural areas in order to diminishing the urban-rural gap.
- The allocation of public resources between urban and rural areas. Urban rural unification means that the provision of public finances must be extended also to the rural areas, and the financial support must be provided to equalize the deployment of key factors between urban and rural areas and to promote equal access to public services in urban and rural areas.

In this moment, China is following the National New-type Urbanisation Plan (NUP) 2014 – 2020, with a vision of urbanization

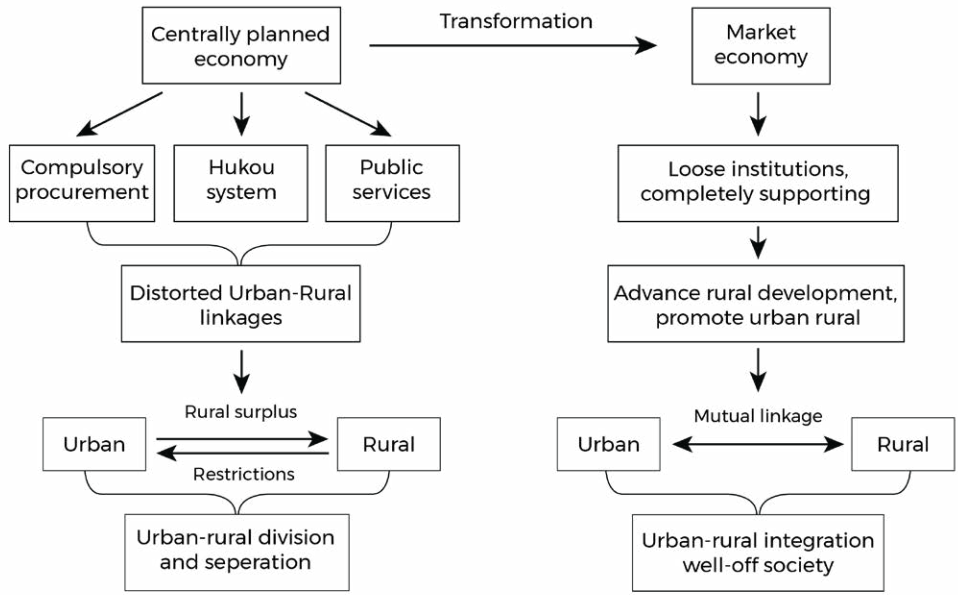


Figure 5. Institutional change and urban-rural development in China

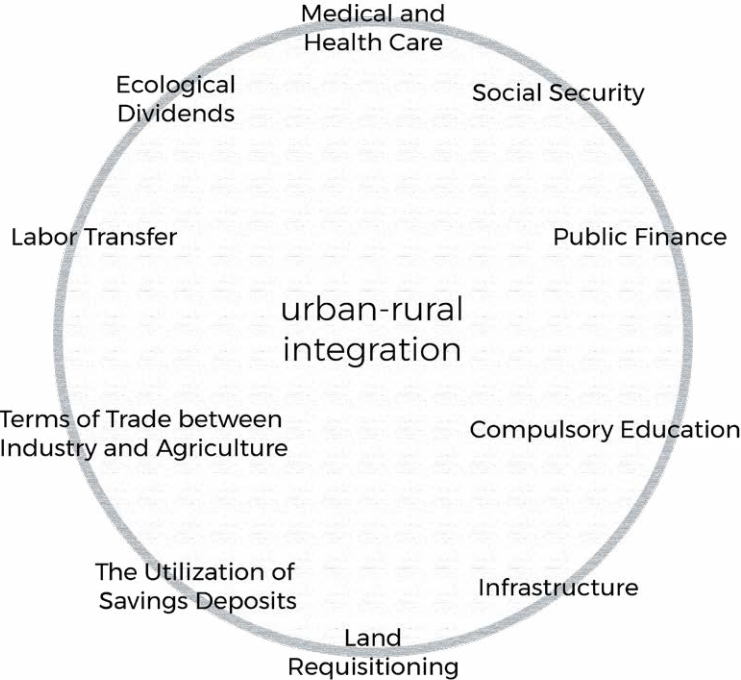


Figure 6. Urban-rural integration in China

as the primary subject of China's economic growth, and at the same time focusing also "on the human" elements of this process, not only focusing on economic goals but also consider environmental, liveability, and equity goals. The plan is now to involve particular tasks about urban planning and development:

- a. include social equity, with a human environment that is balance, economic development and quality of life;
- b. China developed a decentralized governance in order to implements these goals;
- c. based on both: top-down policies and bottom-up initiatives in order to create a balance between the two directives.

Ye Xingqing during his speech in the Ninth European Conference on Agriculture and Rural Development in China held at the University of Leeds in the UK, explain the developments in rural policies in China, defining the policies in ten points that are summarize in the fig. 6.

2.2 Hukou system

The Chinese hukou system was created following the Soviet propiska (internal passport), that we can translate literally as the "household registration system" (Chan KW., Buckingham W., 2008), it was introduced in 1958 as a modern means of population registration (Xin BH., 2008). It was created as a part of the economic and social reforms during the communist regime. The hukou system was made through the provision of personal identity cards that is under the supervision of the Ministry of Public Security, China's police. The aim of hukou is and was to define and control three main characteristics: the control of internal migration, the management of social protection and the preservation of social stability.

The procedure starts straight after the birth of the individual, as a census, each person has to be register, with its personal data's, including status (urban or rural), address, activity, religion, physical description. This registration also determines the access to services as housing, education, medical treatment, and other welfare state provisions.

After Chinese open policies reform, the country faced a rapid economic growth, especially in cities, in which had been create

millions of new job opportunities. From the rural prospective, this economic growth significantly decreased the quantity of arable land in rural and peri urban areas, for this reasons has been created a surplus of millions of workers (Yang H, et al. 2010), as a result, the restriction for the movement of the rural hukou from the countryside to the cities has been relaxed.

According to the Ministry of Human Resources and Social Security of China, in 2010, approximately 153.35 million rural residents had migrated into cities⁷. However, the hukou system still denies the migrants permanent urban residency rights and many of the associated social benefits. As a consequence, the rural hukou people, must move between the cities where they work and temporarily reside, and their home villages, in which they belong permanently. In this sense, the system is unequal, and create disadvantages to the rural population that want to immigrate to urban areas (Li L., Lei K., 2012).

The hukou system is manage by the cities, that allow them to control the application process of their population, for this reasons the hukou system is very important for China's citizen, and highly valued in the main cities as Beijing, Shanghai, and Guangzhou.

2.2.1 Shanghai Hukou

As an example, according to the Shanghai's Statistics Bureau, the 25 percent of the non-Shanghai residents (in total 9.726.900 people) applied to access in Shanghai urban hukou, in order to benefit the city's services. Some of the benefits made for Shanghai urban hukou are:

- The possibility to buy a house; for not Shanghainese residents is it not possible to buy a house if they are single, in case they are married they can buy a house only if they have payed social insurance contribution to Shanghai municipality for more than five years.
- Children of Shanghainese hukou are allowed to public school without any extra requirement, instead for non-Shanghainese resident the admission into public school can require for the parents

⁷ Ministry of Human Resources and Social Security PRC, 2011

to have residence permits and to own a house in proximity the school.

- Retirement is provide from the city where the people are registered, Shanghai as one of the major Chinese cities has a high life cost, for this reason the retirement check can be higher than in other cities.

There are some main requirements in order to apply for Shanghai hukou: as being the owner of a company, who attended the university abroad, who has spouses/children/parents that have Shanghai's hukou, and who owns the Shanghai residence permit and have contributed to the social insurance for a minimum of seven years.

2.2.2 Controversial

The immigrant's cover an important role for the cities growing and sustain, even though they are segregated and divided from the urban hukou population.

They are considered "backward", seen in a negative way by the urban resident, they must work in so called "3d jobs" (dangerous, dirty, and demeaning jobs) (Roberts K., 2001), that in general urban resident don't want to and find inferior (Guan J., 2006). The literature show that agricultural hukou is associated as a negative label, urban resident associate it to a lower socioeconomic status in which people have less income and less education. The social distance between the two groups has gradually increased along the time (Guo X., Chu H. 2004), this can have as result a radical division of class, that can bring to discontent in the population.

2.2.3 The hukou reform

Criticized for long time the hukou system was finally placed on the national reform agenda in July 2014. The new reform planned to abolish the distinction between agricultural and non-agricultural hukou, replacing them with a registration of residence in a certain area.

Many pilot experiments has been done during the last years trying

to unify the two different hukou status, for example the city of Shandong is more than ten years that unified them. Before 2014, there were twelve province and one autonomous region that revise the hukou registration system in order to create an easier way for migrant workers to move in the cities within the same province. The criteria used from this province were different, and sometimes not compatibles. The national reform aim to find the outlines in order to create common rules for all the country, following some basic criteria as the job and residence stability, social insurance contribution and the length of the time that one person lived in the city.

In 2015 begun the 13th Five Year Plan, one of the objectives in agenda was to achieve a “real urbanisation”. In that period the hope for a progressive reform were high, but today, after four years in cities as Shanghai or Beijing, change the hukou status has become even more difficult (Chan, Kam W., 2019).

The main aim of the reform is to jump after and eliminate the two different hukou status, and so different treatment of the population. The new reform is based to maintain the principles of population control, it categorizes the cities by size and try to encourage citizen to immigrate in smaller and medium size cities.

The Chinese government strategies is to suggest largest cities as Shanghai, Beijing, Guangzhou and Shenzhen to straight control the population inflow, and cities with more than five million people to be prudent about further expansion.

One long term strategies faced by the Chinese govern is to improving the services and quality of life in the medium size cities, in this way citizen with agricultural hukou that want to immigrate, finding good possibility, will be willing to move and live there instead that in the big and expensive main cities. One of the main points of the hukou reform is to completely open the small cities and deregulate the middle size one, but still to have strictly hukou's control in the megacities as Shanghai.

Another example of how agricultural hukou can switch to urban status is the points system for migrants, this system was introduce at first in Shanghai in 2004, and then in Guangdong province in 2010, it consist in an evaluation system that evaluate

their employment, education, income and other factors (mainly economic).

Until today, many progress in the hukou regulation has been done, for example before 2003, immigrants caught without resident permit could be evicted, in 2003 this rules was abolished, this allow migrants to work and live in cities without the need of any authorization. However, there is still a long way to permits to the population to have all the same basic rights, and open the access to the social services and welfare in the same manner, in order to do not differentiate the population in classes.

2.3 Peri urban fringe in Shanghai

2.3.1 Overview of Shanghai planning evolution

Shanghai is a “young” city, its history started only three century ago, although Shanghai has already pass through three different eras of urbanisation, each stage is define by distinct dynamics in terms of population, culture, industry, the role of the city in the financial

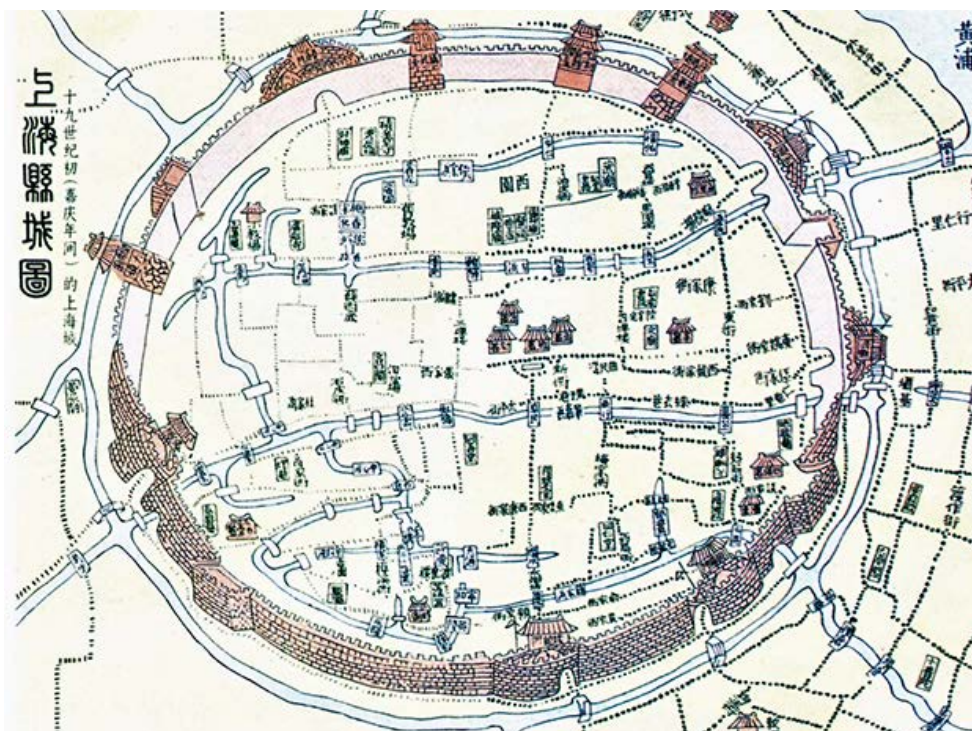


Figure 7. Map of Shanghai Town of the early nineteenth century

systems, urban development and so on.

The first Shanghainese urban settlements started 1840s planned by force from British, until that time Shanghai was a small fishing village, only after the decision to open Shanghai to foreign involvement the city start to grow, in short time others country followed British as French, and Americans. The Chinese law of that time permits this country to have an independent colonial presence with their own culture, architecture, and society. Following the developing of the foreigner's areas, also the Chinese part of Shanghai started to grow, the Chinese town was called Lao Cheng Xiang, with an area of two square kilometres (fig. 7), surrounded by a city wall.

In that period the Chinese citizen prefer to live in the foreign settlements because of many issues as the commerce, or in order to be protect from enemy during the war, etc. Shanghai continues

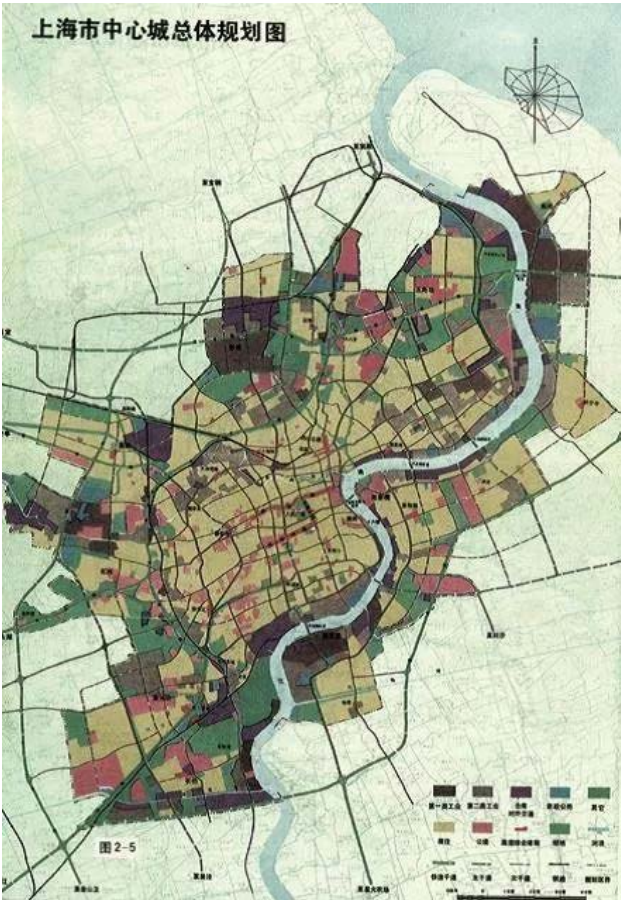


Figure 8. Map of Shanghai in 1980

to expand around its borders and inside the foreign concessions, these areas can be recognize as the ancient core of Shanghai. The multicultural presence brought Shanghai to become a mixed culture city, with western influence and to be the point of connection between Europe and the Far East.

The second part of Shanghai's urban development started straight after the beginning of People's Republic of China, which was founded in 1949. The new policies of development were focused on industrial and manufacturing sector, this made Shanghainese economy to swift from a commercial based into a productive and manufacturing hub. Shanghai shifted from a city that consume and import goods, into a city that export and produce them, during this period, Shanghai was contributed between one-sixth and one-tenth to the total national revenue, despite have only one percent of the total Chinese population (Zhao Min, 1993). In these period the Shanghai's population growth from 6 million (in the beginning of 1950s) to 12 million (in 1982), most of the new population was the result of immigration policies, create in order to bring new citizen to the cities because of manufacture and industry's needs. The new manufactural districts were built out if the city's borders of Shanghai, this district were composed by the factories itself with the houses of the workers built straight after them, many services as schools (kindergarten, primary, etc.), healthcare facilities, etc. were built inside the area in order to allow the workers to find all their needs inside the neighbourhood. The aim was to create a self-sustain area owned by the govern, with a strong socialist character in which citizen can fulfil their needs without leaving the area. Universities and educational institutes also followed this concept provided by the central government, this mechanism shaped the built up environment of Shanghai of that time, however during this period Shanghai did not faced an important physical urban growth. The increasing of the population densified the urban area, and increased the presence of citizen inside the historical part of Shanghai. In the beginning of the Chinese opening reform, around 1978 - 80, the investment and development were focused on new cities as Shenzhen despite Shanghai, which in that period became secondary, with a growing rate lower than others cities along

Pearl River. During this period, Shanghai did not face important changes in the physical environment, mostly because of the falling of economic development, the average quality of life decrease, until became one of the worst in the whole country. One of the cause was the over densification that brought to the decreasing of the average square meter per person of the living spaces, public spaces, and to the overcrowding of the public transportation system. During this period around 1990, the living conditions in many neighbourhood as Linong areas became dramatically low, and the population density drastically high, these characteristics brought the area to be recognize as slums.

After a decadent period least for several decades, following the open door Chinese policies, Shanghai entered in the third urbanisation era, which was the wider and the most important time for the Chinese urbanisation. In 1991 the Chinese central government strategy selected Pudong as a strategic Spur zone, defined as the door of Yangtze River that will allow Shanghai to became one of the reference point of the whole Yangtze River Valley⁸. Two main policies has been developed in order to enforce the urbanisation in the whole country: the first modified the tax revenue allocation between the central and the local government in order to give to the local cities more power and more freedom of initiatives, giving to the cities the conditions to have more resource. The second policy was about the housing reform, that changed from socialist based system into a real estate market model, in order to speed up the urban development. With the increased of disposable budget the city faced new possibility to build infrastructure and improve living conditions, this brought Shanghai faced a rapid urban change that allow the city to growth, in terms of economy and quality of life (the living space per capita increased from 6.9 m² in 1992 to 13.1 m² in 2002).

In 1986, the State Council approved the first Urban Master Plan of Shanghai. The goals for urban development specified in the plan were to look at Shanghai not only as one of the most important industrial hub in China, but also as the larger and important centre of economy, technology, trade, finance information and culture.

⁸ The Comprehensive Plan of Shanghai 1999–2020

Beside Shanghai have the aim to become one of the largest trade centre along the west coast of the Pacific Ocean. According to the plan, in the centre of the city should be develop a comprehensive zone with balanced functions and multiple nodes, based on the principle of “organic decentralization and facilitation production and life”. Regarding the satellite towns, it emphasized that each of them should have its own leading industries⁹.

The State Council approved the second Shanghai Master Plan 1999 – 2020 in 2001. The concept of the Master Plan was based to improve and develop the area along the riverside and the coastline, in the area situated along the historical axes of Shanghai – Ningbo and Shanghai – Hangzhou. Others important point ware to continue the development of Pudong New Area, the creation of new towns around the city. The construction of new towns was one of the priority for the future development in Shanghai. “One City, Nine Towns Development Plan”, started in the beginning 2000s as a pilot project in the Tenth Five-year Plan 2001 – 2005. In 2004, the nine towns were upgrade to be cities, and in 2006 the development plan “One City, Nine Towns” was replaced with 1-9-6-6 model in order to define a new urban structure. The concept 1-9-6-6 model was composed from an urban structure divided in four layers.

“1” referred to the central city core, “9” represent the nine cities, the first “6” meant sixty small towns around the 9 new cities (50,000 to 150,000 residents), and the second “6” meant six hundred local villages in remote suburbs (Shanghai Municipal Government, 2001). The 2001 Shanghai Master Plan tried to predict the population growth, the forecast were that Shanghai’s residents would increase from 14.57 million in 1998 to 15 million in 2010, and reach 16 million in 2020. In reality, the population reached 16 million in 2002, 18 year in advance the prevision, it became more than 18 million in 2007, and 23 in 2011 (National Bureau of Statistics of China, 2011). The 2001 Shanghai Master Plan faced many critics because of its wrong forecast, the real population growth more than two times what was expected in the beginning, this lead Shanghai to have unplanned population growth and land development. The Shanghai Master Plan 2001 was made by local design institute, which is dominated

⁹ Shanghai urban Planning Museum

by architect-planners. Plan making process shows strongly interest on specific spatial organization instead of concern about the economic or social consequences.

The most recent Shanghai Master Plan 2017 – 2035 “striving for the excellent global city” in a shorter way called “Shanghai 2035”, was based on the concept of innovative, coordinated, green, open and shared development. By clarifying Shanghai’s general target through 2035 and a longer term vision until 2050, its development model and goals as well as key measures to be taken are thought in order to facilitate the growth. To develop the Shanghai 2035 the central government made a series of conference and adopted an open minded and scientific approach, trying to involve as many possible subjects in the process. To ensure that the master plan was developed in scientific way the municipalities invited about 100 experts and scholars from different universities and organisations. The plan start with emphasize the geographical position of the city along the Yangtze River Delta urban cluster, underline its economic, financial, trade and shipping, technological, and innovation power and historical preservation.

The outcome of the plan was that the Shanghai can increase its competitiveness becoming an excellent global city, innovate and eco-friendly socialist modern metropolis with a global influence. The plan define the Shanghai’s vision for 2035, in which the city will be in the vanguard of China’s reform opening policy and lead the nation’s innovation development, making China look and learn from Shanghai how to develop the wealthy, democratic, civilized, and harmonious principles. Shanghai 2035 plan wanted to change the city development model, keeping the principles of advance development and flexibility, and exploring new models to add into a sustainable development of a megacity. The plan is to control the population and limit it until 25 million, controlling carefully the number of permanent resident in order to manage the limited environmental resources. The construction land will be limited to 3.200 square kilometres, in order to ensuring ecological land and protect the urban ecology. New policies has been developed also about the protection of the historical and cultural sites, based on the principles to “protect them as a whole, protect actively and protect

with stringent rules”, trying to expand the protection range area. The city plan is to accelerate the urban and rural development under a new framework and to optimize the urban space structure that consists in one core area (centre of the city), two axes (Huangpu River and Yan’an Road-Century Avenue), and four supportive wings (Hongqiao, Chuansha, Baoshan and Minhang). The plan include also to continue the development of the satellites new towns with functional concentration, increased public service facilities, following the regional coordination and space optimization.

The Shanghai’s plan also define the future of the public transportation, which will cover almost every new town with a population of more than 100,000 people, it’s also planned to establish a 15 minute walk community, in order to improve the living standard and personal mobility. The plan is to cover the 99 percent of the population with basic public service facilities within 15 minutes’ walking range. Another important target is to improve the quantity and the quality of public spaces as for example the creation of the riverside regions along Huangpu river and Suzhou Creek, that will provide a green linear corridor surrounded by facilities as cultural, education, sport and wellness. The forecast for 2035 is to have a green coverage of the 23 percent of the city, in which each resident will have 13 square meters of public area or green land. One of the most relevant contemporary problem in China and in Shanghai is about the air quality, the plan for the future is to improve it, by 2035 the average density of PM 2.5 will be limited on 25 micrograms per cubic meter. Another important point faced from Shanghai Master Plan 2035 is the resilience about natural disaster as flooding, land subsidence, energy supply and other types of public emergencies. The plan ends underline that the city should guide the social resources to supervise and enhance the plan, in the way to improve it in a more scientific way, make it flexible and able to fit in several situation until the entire realization of the plan.

2.3.2 Peri urban areas within the Urban Planning evolution of Shanghai

During the central planning period, Shanghai was characterised by a

huge division between rural and urban area. The city structure area of the suburban rural counties was much more larger than those of the urban districts (Zhou and Shi, 1993), this two parts of the city had completely different roles. The urban district was focused on industrial and economic development, instead the rural areas were focused on provide to the city raw materials and products from agriculture.

Starting from 2000 in Shanghai, due to integration of the two parts of the city many policies have been implemented, also in response to the national urban rural integration strategy. The city of Shanghai is one of the China's largest and highly developed urban area, which is a centre of finance and high tech manufacturing, with a prosperous research and development sector (Zhang, Le Gates, & Bao, 2016).

The urban rural development of Shanghai start to be define over thirty years ago, according to the censuses and data from the 2016 Shanghai Statistical Yearbook, in 1987 the urban population rate was almost the 93%, decreasing in 2010 to 89% it remain stable till 2015 (PRC NSB, 2016).

These data shows the changes in the population of Shanghai, underline that for more than 30 year the rural population was only around the 10%. Shanghai started to developed policies about urban rural integration in the late 1980s (without explicit name), much more earlier that the national government, which started only from 2000s.

The major afford from the municipality was done by 2000 (Shanghai coordinate urban-rural development), when the local government undertaken massive top-down investment in infrastructure and public services in rural areas in an "impossible" quantity for other Chinese cities. The main focus were on support and develop projects as high-end manufacturing, historic towns, parks, and technological innovation centres.

Shanghai was also one of the first municipality which has experienced bottom-up policies to coordinate urban rural development, regarding land, industry and housing, these policies has been widely replicate from other Chinese municipalities. Shanghai has also developed an urban rural system characterize by

cities, districts and town in order to permits immigrants workers to find non-agricultural jobs in an easier manner in small and medium size enterprises (Den Hartog, 2010).

It is recognize that Shanghai municipality invest high quantity of funding to increase the quality the environment and to improve the liveability, in order to diminish the inequity between urban and rural residents. During the massive industrialization in 1980s, 1990s and 2000s, the quality in the Shanghainese natural environment was drastically low, the Shanghai govern decided to invest huge amount of resources in order to improve the environmental quality and increase the air and water standards. The villages and towns in the rural and peri urban areas receive funding from the municipal government and national government in order to protect the environment and promote tourism, creating a healthy and clean economy for the countryside.

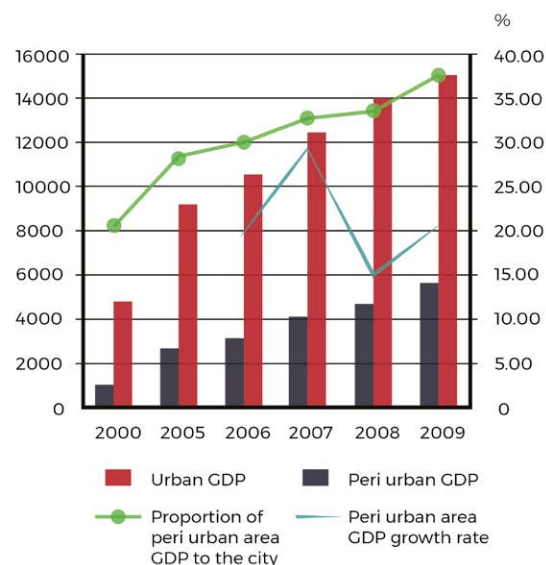


Figure 9. Comparison of GDP changes between Shanghai City core and the peri-urban areas

The displacement of local farmers is a contemporary and complicated issue in China, about this topic Shanghai municipality is giving high attention regarding equity and compensation to the farmers. The city is trying to avoid to use force and top down decision in order to take the land from the resident without giving the right compensation (O'Brien, K., & Li, L. 2006). In order to reach

this purpose the municipality developed the “three displacement policy”, in which is provide a compensation to the rural residents that have been displaced and decide to waive its rights. The provision for the rural residents that renounce his rights are the replacement of the house in an urban community, a new urban-level social welfare, shifting from rural hukou to urban hukou, and a monetary compensation (Chen, X. 2012).

Taking in account all these regulation, it is understandable that Shanghai is giving much important to the rural / peri urban areas, and it has actually been quite successful to improve them. The basic concept based on distribute high-quality infrastructure and public services gave the possibility to the local citizen to increase their quality of life, with the increasing of the quality of life also the average of the wages increased vertiginously. The gap of income between the city of Shanghai and its countryside is still high, the ratio is 2.26 : 1, but is one of the lowest between the Chinese megacities (PRC NSB, 2016).

2.3.3 Definition of Shanghainese peri urban area

The peninsula of Shanghai is a particular case in the Chinese scenario; it is a complex area, due mainly to spatial, social, and economic factors.

In the literature there are dozens of different definitions peri urban, how to decide which one to use for the case of Shanghai is mainly an issue of the research meaning: embrace different definition it changes drastically the outcome of the borders peri urban area. Researchers that have high amount of resources use complex methods of calculation by mathematical formula to understand what is, or what is not part of the peri urban area, students are more willing to use theoretical methods that are faster to implement and easier to understand, giving a wide spectrum of possibility to choose and select an appropriate definition.

This research is based on three villages situated in the peri urban area of Shanghai, the definition used in order to understand which is the peri urban area of Shanghai is taken from Tian Li’s theory, it says that the peri urban area is all the area that is outside the urban

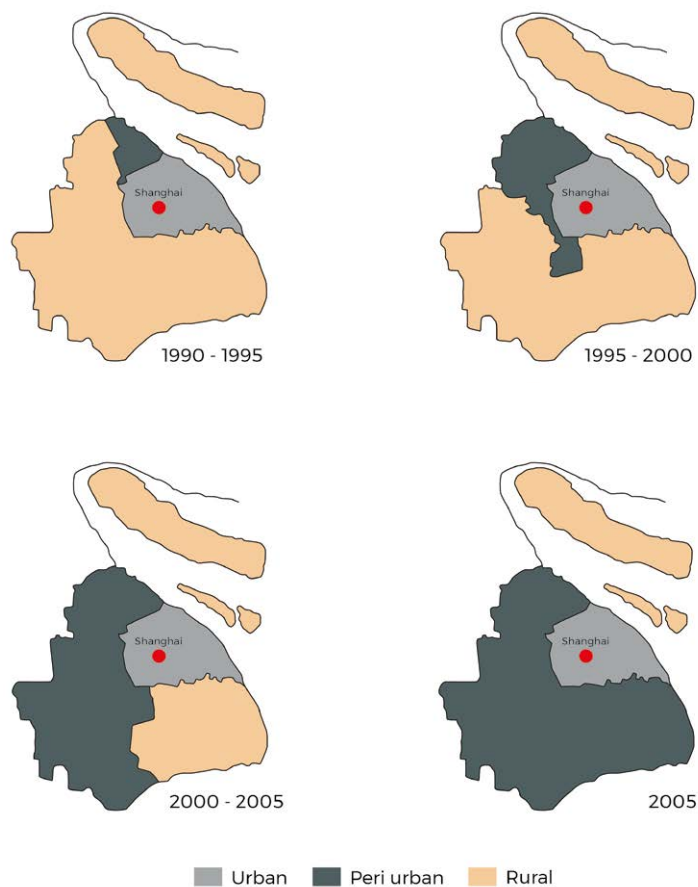


Figure 10. Changes of the Shanghainese peri urban's boundaries since 1990

centre (Tian Li, et al. 2014). Often scholars define peri urban areas with the definition of J. Friedman that says that peri urban area as an area situated 50 km around the city core¹⁰, or the definition from Webster and Muller that define peri urban as an area situated 8-15 km from the urban core¹¹. These two definitions were not fitting with the case of Shanghai; the scale of the city is unique and completely different from other cities, for this reason the definition used for the research was made studying specifically the Shanghainese case. Tian Li also define the evolution of the peri urban area of Shanghai from 1990 until 2015, when all the area of Shanghai peninsula outside the urban core was define as peri urban (fig. 10).

The area of investigation it has been selected following Tian Li

¹⁰ Peri urban area is situated 50 km around the city (J. Friedman 1996)

¹¹ Peri urban area is situated 8-15 km to the core (Webster D, Muller, 2002)

definition about peri urban areas, which give a clear overview of the peri urban area outside the Shanghainese urban core. The actual definition of the Shanghainese case show us the reality in which the whole peninsula of Shanghai is facing. As explained in the previous chapter peri urban areas are zones in which the changes are dramatic and happen really fast, often without keeping in account the local population needs. The research about these areas will allow a better understanding of the peri urbanisation phenomena in the Shanghainese peri urban fringe.

III. Introduction to the three villages across rural-urban continuum in Shanghai

3.1 Status and characteristics

The aim of this research is to find the answer about two main question regarding the peri urban area of Shanghai:

Q1: How to conceptualize different reality of the Shanghainese peri urbanization?

Q2: Do villages with different characteristics face the peri urbanization impacts in different manner?

In order to conceptualize the Shanghainese peri urbanization and to study different impacts, it has been done several investigations as comparative research about three villages situated in the Shanghainese per urban area. The three villages has been selected due to their different characteristics, as location, population, economy, and surroundings area. The villages has been selected



Figure 11. Shanghainese peninsula division in 2005

starting with studying the vast area of Shanghainese peninsula, which consist of ten main district, with a large part of their area situated in the peri urban fringe (fig.11). The Tian Li definition¹² has been used to delimit the Shanghainese peri urban borders, in which

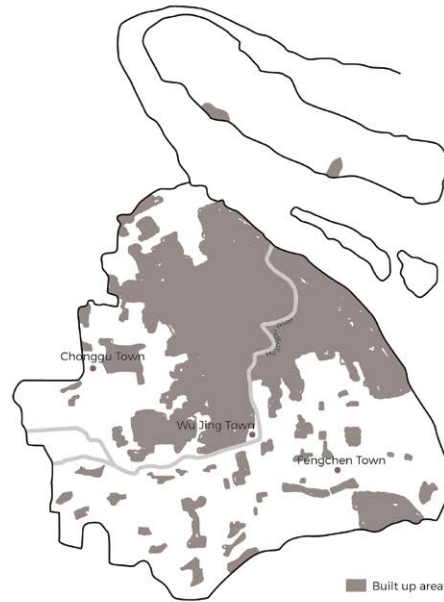


Figure 12. Shanghai built-up area

the tree villages have to be inside and part of it. Focusing more in deep about which part is the urban area of Shanghai, it has been

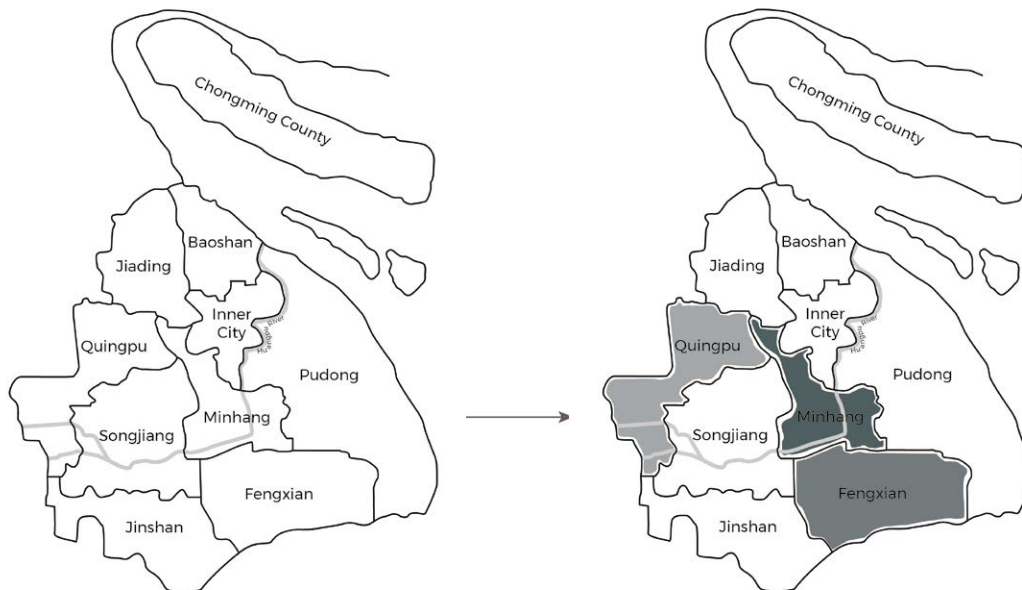


Figure 13. Selected districts

12 The peri urban area is everything outside the urban area

schematize the built up area of the Shanghainese peninsula (fig. 12) and the position of the three villages relate on it.

The first requirement to choose villages with different characteristics was to select several district in the Shanghainese peninsula, most of the time different districts differ between each other due to many factors, as for example they can have different spatial composition, different economy, different importance, different social situation, etc.

The three different districts chosen are: Qingpu district, Minhang district and Fengxian district, each of them has been choose because of its different characteristics.

Qingpu district is situated in the west side of the Shanghainese peninsula and its characterize by the presence of water and protect landscape, it is also important the presence of several industrial park and the connection with the cities on the east surrounding Shanghai, it is also located the important railway station and airport of Hongqiao.

Minhang district is the closest district of the three to the central city of Shanghai, for this reason is facing a huge pressure and the impact from the city urban area. Along the central part of the district, there is the presence of the important connection of the

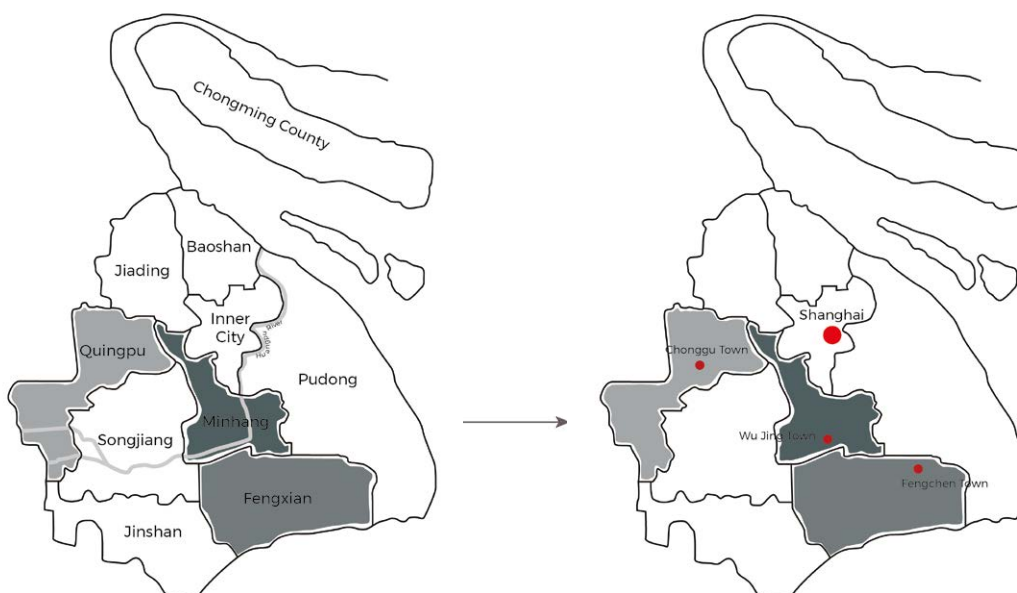


Figure 14. Selected towns

Huangpu River, that bring commerce to the area and in the past permits to move easily and reach the Yangze River and the Chinese Sea. The district have faced a huge increase of the economy in the last decades and there are only few area that have not been yet urbanized.

Fengxian district is the farthest district from the central city, it has been chosen for the characteristic to be less developed than the others, it can be define as a “sleeping district”, waiting for the future development. It is composed mainly by agricultural area and several industrial cluster in which the presence of immigrants is relatively high.

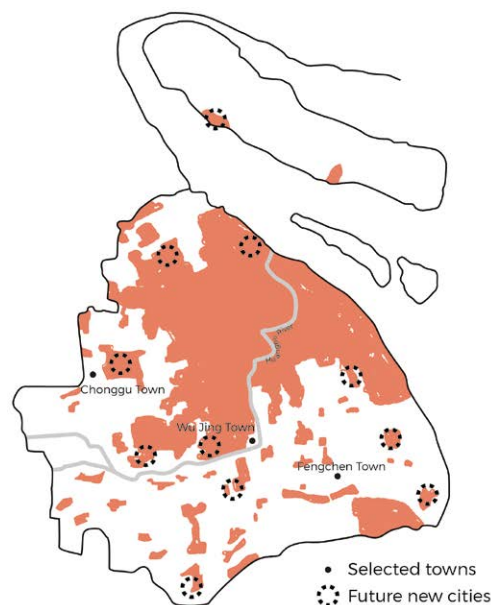


Figure 15. Shanghainese satellite cities

For each district there will be a focus on one town, which have in the rural area a village that is relevant for the research. The three town selected are Chonggu town, Wu Jing town, and Fengchen town. Around the area of these three towns it has been decided to investigate three peri urban villages that are: Zhan Nian village in Chonggu town, Xinhuo Village in the area of Wu Jing town, and Don Xin Shi village for Fengchen town.

These town and villages had been chosen due to their different characteristics;

Chonggu town and Zhang Nian village are situated close to a

satellite new city of Qingu, that was included in the Shanghai “One City and Nine Town” Master Plan. It will be important to understand the impact and the pressure that a satellite town can face to the peri urban area in its surrounding.

Xinhuo Village and Wu Jing town were chosen because of their closeness to the central city of Shanghai, they are situated in a highly area urbanised area, with just a small part of peri urban territory. Due from these characteristics the area of Wu Jing town did probably faced strong changes in recent years, for this reason is important to study and compare these trends with the other villages. The urbanized composition of Wu Jing town brings the

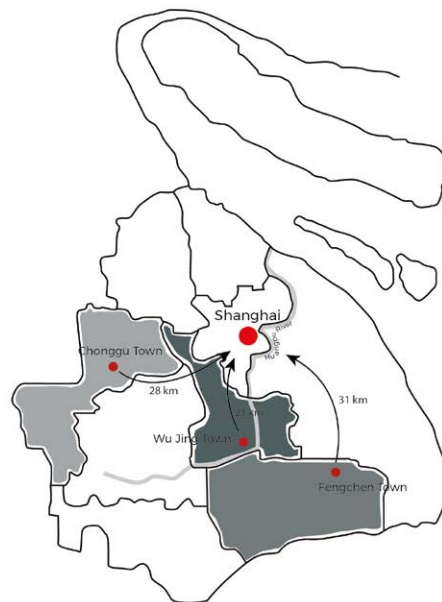


Figure 16. Distance from the centre of Shanghai

research to study the area, looking at the town scale instead that at the village scale. Studying the area from this scale will give the base to understand if the peri urban area in this zone will disappear soon, due to a continuous trend of expansion of the urbanized area of Shanghai. Don Xin Shi village in Fengchen town was chosen because of its unique position far from the urbanized area, the village is surrounded by agricultural land and has only few industrial areas around. Don Xin Shi village can face dramatic change in the future because if its develop possibility, with drastic change for its population and its environment.

3.1.1 Wu Jing Town, Xinhuo Village



Figure 17. High-rise developments in agricultural fields

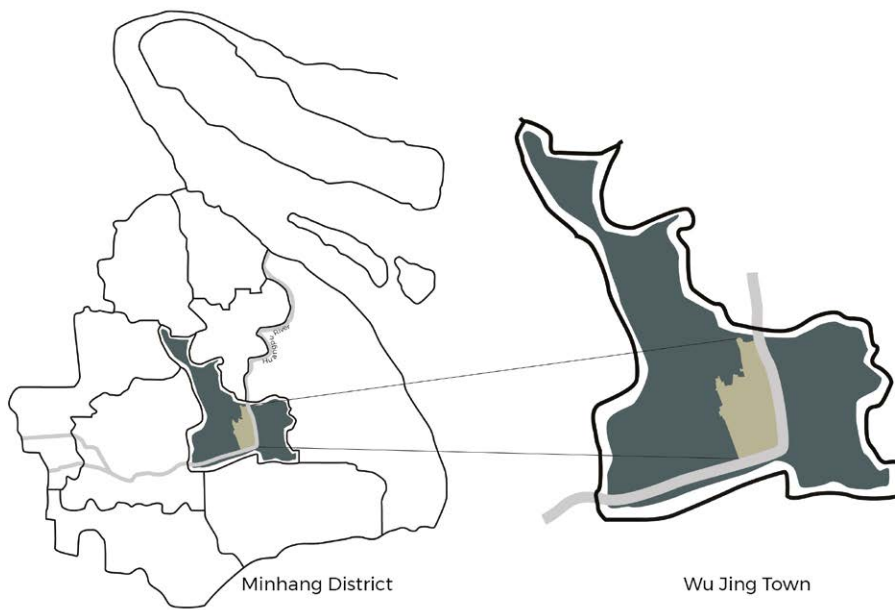


Figure 18. Area overview

Wu Jing Town is located along the Shanghai's southern part of the Huangpu River that runs vertically from south to north of Shanghai.

The town's borders are the Huangpu River in the southeast part, Zhuanquiao in the west part and Westgate in the north. The total area of the town is 37.15 Square kilometres, under the jurisdiction of 8 Villages, 14 neighbourhood, with the total population in 2016 of 118.427 people.

Wu Jing Town is relatively isolated, with railway and metro system that are far from the town (the future metro 15 project will pass inside the town and is currently under construction, planned to be open in 2020, fig. 26). Wu Jing Town has a stable development trend, mostly because of its location along the Huangpu River bay, that bring geographical advantages, with good natural conditions for the economic development. Wu Jing Town is also included in the Shanghai plan 2040 that define the town as one of the satellite centres around Shanghai, this create for Wu Jing Town high development prospective for the future. Wu Jing Town has always had an industrial based economy, this is proved by the huge presence of the industrial park, which contains many kinds of industries as Shanghai Chlor-Alkali, the power plant and many others.

The presence of these heavy industries brings many externalities such as water and air pollution, healthy problem for the citizen, and high energy consumption. The industrial sector is relatively stable, but needs to be consolidate, there is no a leading industry sector in the area.

The town is divided in three main parts: the northern one, mainly based on industrial areas, the central part, composed from residential area, and the southern part, with the recent Zizhu High Tech Park and the agricultural villages in the south east part.

Many changes happened in the history of Minhang district, starting from the establishment in 1959, the district was replaced in 1964 the by Xuhui district. After twenty years, in 1982 the name of Minhang was restored and in 1992 Minhang district was in charge to govern 3 towns and 14 townships. In 1993 the Shanghai municipal government approved the possibility for some district to remove



Figure 19. Demolished village

townships and town, in the list there was also Minhang district. In 2010, the total population of the district was 2.43 million people (sixth census data), it is planned to reach 3.2 million by 2020. The Minhang's plan also include the improvement of the functional areas, central systems and ecological corridors, proposing the concept of "one axis, two belts, seven areas and six centres".

- One axis: Shanghai-Hangzhou development axis;
- Two belts: the development belt of Qilu Road and the development belt of Puxing Road;
- Seven areas: around the leading development function, planning to form seven functional areas. The key area includes three parts, called Hongqiao;
- Six centers: one city center, Hongqiao hub city center; one district center, Xinzhuang district level center.

The undergoing plan for Minhang District is the planning text 2006 – 2020 called "Two regulations", Minhang district is the southwest gateway of Shanghai, its aim to be a modern service industry centre, and advanced manufacturing Research and Development



Figure 20. Wu Jing Town overview

base, an area with mixed residential and service development. The local government of Wu Jing Town wants to develop the area in order to play a key role in the scientific and technological field, following the National policies of the last Five Year Plan, the regional policies of Minhang District, and the Wu Jing Town local policies. The transformation of the industrial field include the developing of the “four new economies”, encourage the increasing of the fashion industries clusters, focusing on optimization of business services. The second objective is the integration of the three zone, creating synergic advantages trying to increase creative talents, focus on innovation and ecological development. The main focus it will be about fashion industry, with a clear future plan. Wu Jing Town area is situated close to Shanghai, for years the apparel production, film and television, cosmetics and other field has been developed, making the preliminary base for a fashion related industry feature layout that is unique in Minhang District. Wu Jing Town was established in 2000, the jurisdiction area is of 37.15 square kilometres, which include 8 villages and 10 neighbourhood. Geographically, the position of the town is occluded, because of the presence of Hangpu River on the east side of the town. The town is connected to the others areas by a network of infrastructures; the Fengfanyu Expressway, that pass in the northern part through Yanqiao Town and connect the inner ring, the Fengxian and Hangpu Expressway, that pass in the southern part of the town in horizontal direction, connection Pudong International Airport to east and Zhejiang via the Songjiang River. Many residential development has been improved, the main one are the Vanke Garden Town, Amethyst South Park, Maple Garden, Hongmei New Garden, Xinhua Yongde Community and other residential areas, mostly distributed on both sides of Jianchuan Road. The town faced a lack of commercial services, the main agglomeration of shops is distributed on both sides of Longwu Road and Jianchuan Road. In the town is relevant the presence of educational facilities that include Shanghai Jiaotong University, East China Normal University and Shanghai Donghai Vocation and Technical College. For the Town is important the presence of the Zizhu Science Park,



Figure 21. Residential area



Figure 22. Agricultural area

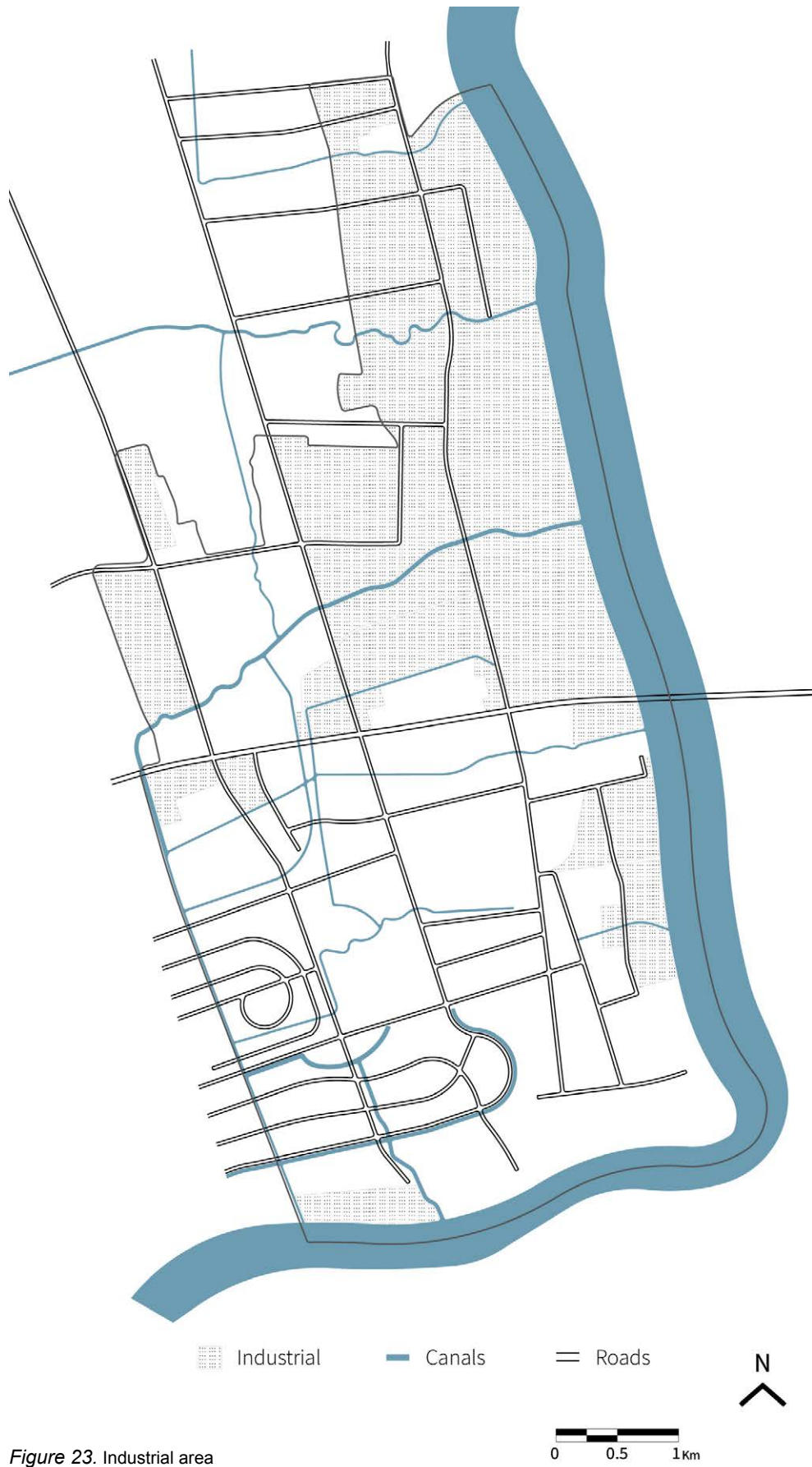


Figure 23. Industrial area

situated in the south of Dongchuan Road, this park host many Research and Development companies. Some of these companies are Microsoft, Intel, Omron, Xinhua Automation Technology Development, Shanghai Solar Engineering Technology Research Center, Yamaha, Silicone Semiconductor, AVIC Commercial Aircraft Co, Guorui Life Technology, Shenlian Biomedicine, Dongli Fiber Research Institute, SMC, Nanotechnology and many others. A large number of multinational corporations applied to enter in the Zizhu Science Park. The industrial part of the Town is mainly located in Wusong Industrial Zone, in the north of Shenjiahu Expressway. It is composed from a large number of enterprises as Shanghai Coking, Chemical Industry Co., Wujing Thermal Power Plant, Chlor Alkali Chemical Co., Shanghai San Aifu Co and many others. The ecological and environmental part of the town include many green spaces as public parks, green belts along the roadway, and ecological corridors belts.

Minhang faced some problems of implementation its master plan 2006 - 2020, the developing of the district has fasting completed all the task set by the General Regulations largely in advance (especially in terms of population and land use). The new strategies has been move forward, because the general rules of the previous version were not adaptable to the current situation and to the new trends. The rapid development of the previous stage brought important results and gradually changed the development and the condition of the region. In terms of population development, the growing rate have exceeds the speed of housing construction, in the past decade it has moved from 1.2 million to more than 2.5 million.

The problems are more important when the focus swift on the public facilities, the implementation has been developed only about the 50% of the total planned amount. Regarding ecological environment, it is recognizable a decreasing of the soil quality, with the mostly part of green infrastructure still waiting to be implemented.

Following the Shanghai's General Regulation 2040, the new Wu Jing Town master plan needs to implement the new "three line" control, in order to protect the agriculture borders and urban boundaries.



Figure 24. Commercial area

In August 2016, Wu Jing Town had a total population of 118,427, in which there were 59,504 households, that includes farmers. In the town there is a small presence of agricultural household that are the 4.7 percent of the population, 2774 in total. The non agricultural household are 56,730 that are the 95.3 percent, and 58,923 people from Shanghai, including 289 overseas.

Regarding the age composition, the percentage of young and middle-aged working population, which are between the ages of 20 and 60 years old, is relatively high, and is the 59.5%, of the population. The presence elderly that have more than 60 years old is the 25.9%, and the number of young people under the age of 20 is relatively small, accounting for 14.6%. From this data is understandable that in several years the phenomenon of aging can become a problem, the number of young people is insufficient. In this moment, the problem is relatively less dangerous because the immigration trend, which bring many young people to live in the town and it is the main reason for the high proportion of young and middle-aged labour.

According to the third economic census data, made in the end of 2013, it is registered in Wu Jing Town a total amount of 1508 companies engaged in the secondary and tertiary sector, with the total number of employees was 58.140.

The secondary and tertiary industry employees are mainly concentrated in five major companies, of which the accounted for 70.6% of the total number of employees, this industries operate in the secondary and tertiary sectors. The number of employment in the tertiary sector is facing a relevant growing, reflecting the trend of industrial structure that goes towards a technological and service oriented transformation.

The agricultural sector is almost disappearing because the agricultural land has been mostly replace with built up area (residential, commercial and industrial). Is recognizable that the area of Wu Jing Town is almost completely urbanised, with the last part of agricultural land in the southern part, where there are still several villages remain.

The development of Wi Jing town is currently facing many problematic due by multiple factors as comprehensive transportation, planning positioning, housing demand, chemical industry transformation, and urban and rural differences.

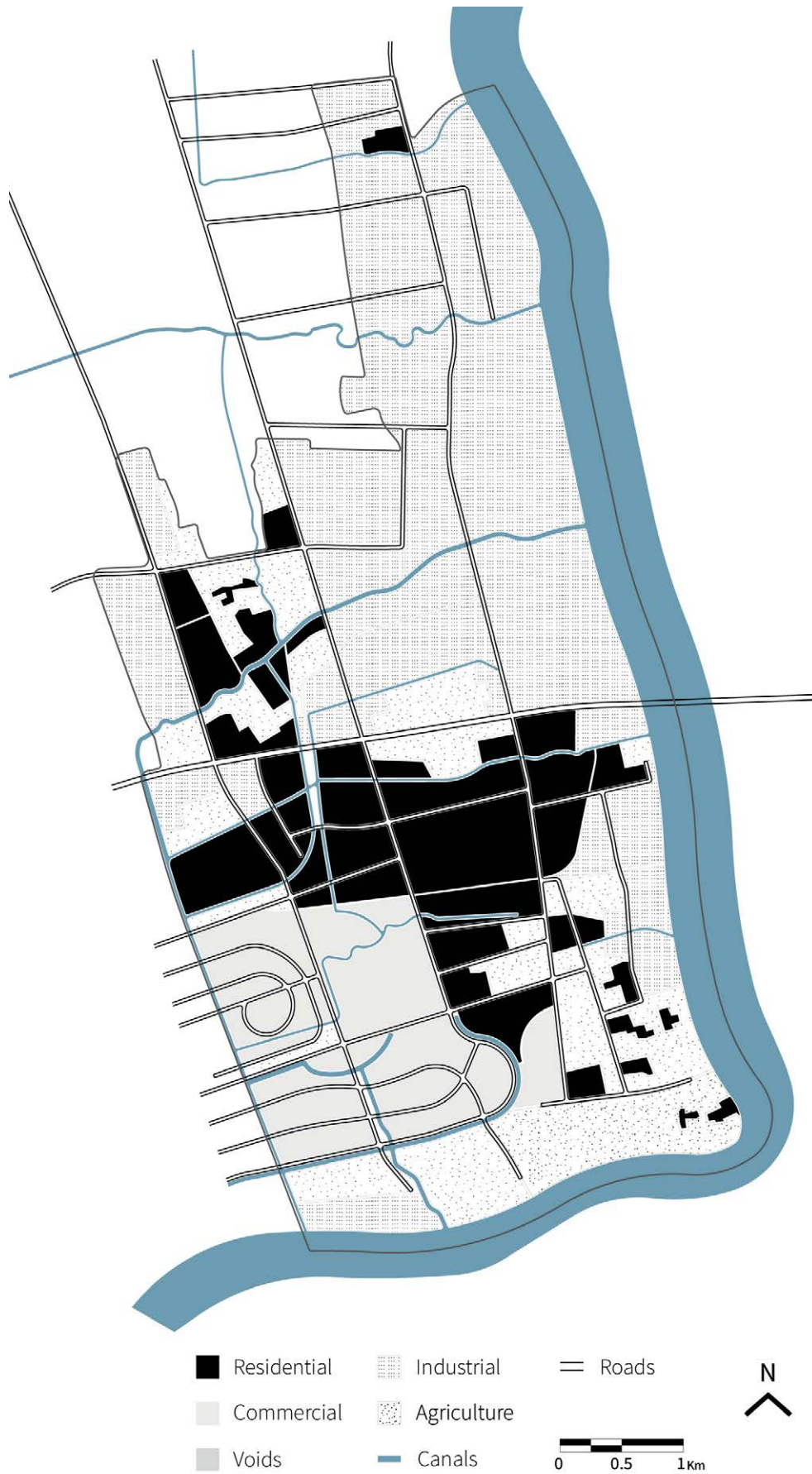


Figure 25. Land use

One of the main problem facing the town is how to use the land in an efficiently way and how to preserve the ecological features of the area. Secondary problems are a lack of rail transit, the connectivity between the residential areas and the surroundings, the traffic jam along the main streets. In the villages the quality of the houses are poor and there is a lack of facilities. The rural population is low and decreasing, most of the local population is moving out from the town, instead new immigrants



Figure 26. New metro line 15



Figure 27. Main roads system

are coming to live in the area.

In the central part of the urban area, residential areas and industrial areas are mixed and close to each other, this can create adverse impacts and threaten the quality of life and health, which is emphasize with a lack green spaces and low water quality.

New extended residential areas has been recently built in the Zizhu area, until now the main surrounding commercial facilities are missing. The quality of the living environment is low, and the confusion in the urban landscape bring in the town lack of continuity.

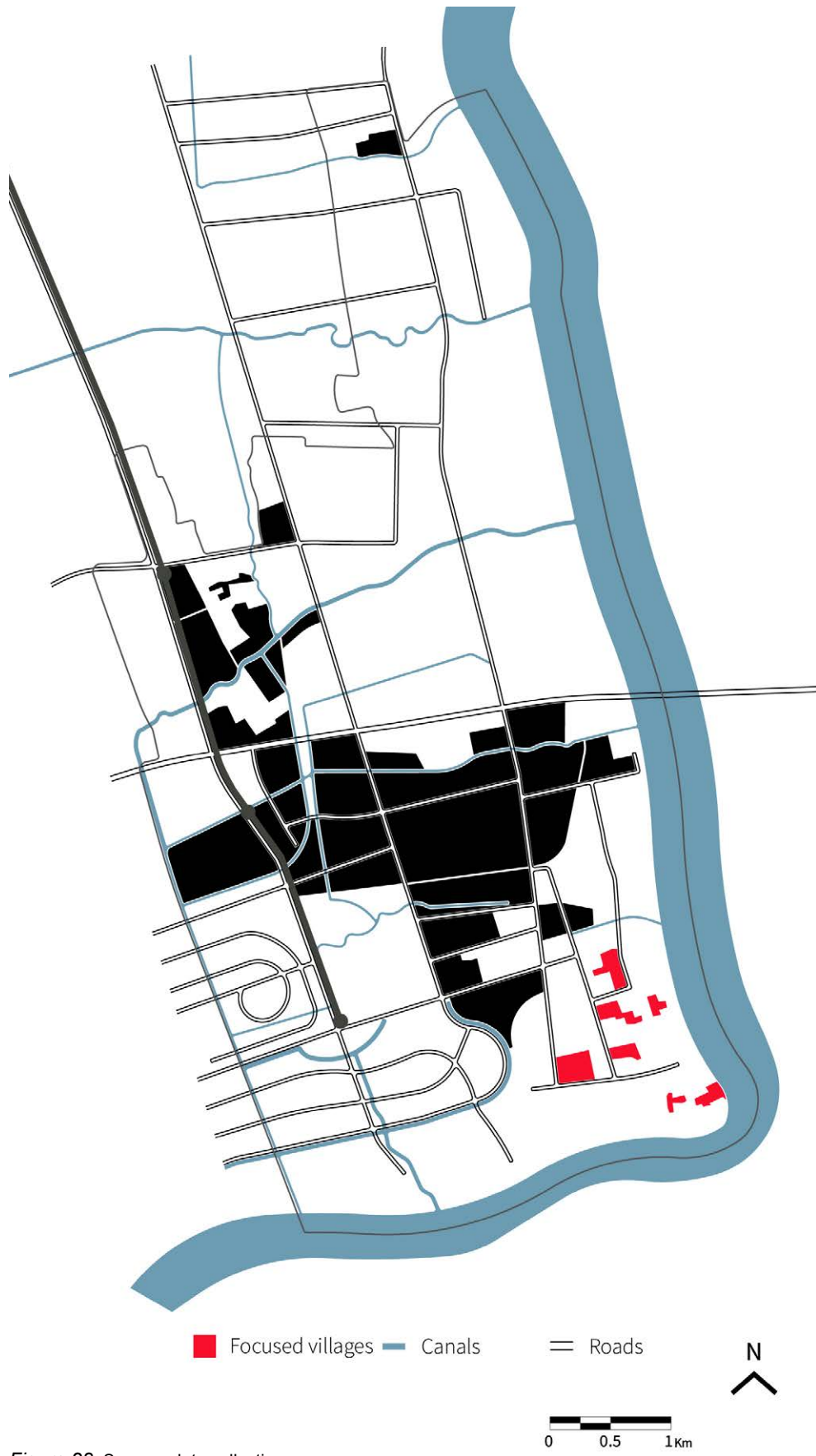


Figure 28. Surveys data collection

3.1.2 Chonggu Town, Zhang Nian Village



Figure 29. Ancient bridge in Zhang Nian Village

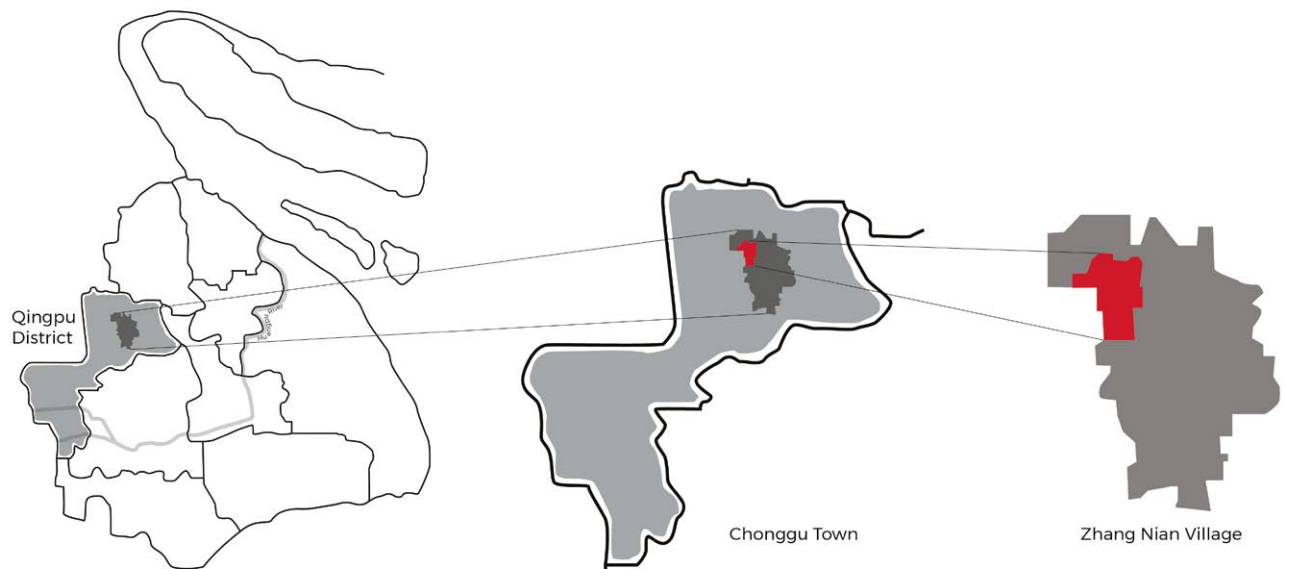


Figure 30. Area overview

Zhan Nian village is located in the northwest of Chonggu town in Qingpu District, the size of the village area is about 2.05 square kilometres. Eleven small built up groups area compose the village, with 1.395 registered hukuo, a total of 496 number of family, and 700 people who have hukuo that are resident in the village. The number of migrants without hukou is 883, which has exceeded the number of permanent residents, in total the number of residents in the village is around 2.200, mostly engaged in the agriculture sector. In the Qingpu district, the total built up area is limited at 111.9 square kilometres and the industrial land is limited at 71.6 square kilometres. The ecological land as forest and preservation area are 42.6 square kilometres and the farmland is 315.59 square kilometres (that's include the agricultural area, garden and forest, fish ponds and the construction land for village), and 112.5 square kilometres for water and lake.

Qingpu district have an overall planning called “One City, Three Parts and One Belt”, the village is situated in the north part of the district and it is included in one of the “three parts” of the plan. In addition, close to Zhang Nian village, in the central-north part of the Qingpu, is situated one of the main industrial park of the district, focused on development of advanced manufacturing and production services. It is planned that Chonggu town will became an industrial logistic park because of the presence of important highways connections as the S26 and G1501.

Zhang Nian village's borders enclose in the east side the Dongshan Harbour, in the south pert the Huilong Village and Tong Town, Youdun Harbour and Xuyao Village in the west, and Tong Town in the north.

Zhang Nian village has a long and important history started in 1950, when was establish. There are several historical elements that characterize the village area, as the old wood residential houses, the ancient Chenghuang Temple, and the main stone bridge that is located in the centre of the village (fig. 29).

Despite the relevance of these ancient buildings they had still not been protected, in fact the village is facing huge changes in which many residential building will be demolished. The project undergoing for the area is to build a touristic water town following the same example of



Figure 31. Local residents in Zhang Nian Village

the close Zhujiaojiao, to achieve this objective the developer is buying several residential plots in the area of the village, relocating the local resident far from it. This strategy can cause a loose in the identity of the area.

The village built up area is about 15.64 hectares, in which residential account for 10.36 hectares, public services are 1.06 hectares, industrial land just 0.23 hectares (composed only by warehouse), the unconstructed area is 74.89 hectares (composed by agriculture, farmland, fish pond and garden).

The income of Zhang Nian village residents derive mainly from the investment return tax and financial transfer subsidies, in 2015, the village's total tax return was more than 8 million yuan, of which the village collective earned more than 1.4 million.

A large number of agricultural households are cultivating mainly crops, and several type of vegetables, managing the major part of the agriculture areas in Zhang Nian village. The village is situated close to Chonggu town in which there is the important presence of industry clusters, instead we cannot find any enterprise based inside the village.



Figure 32. Chonggu Town overview



Figure 33. Residential area

In 2014 - 2015, the local government started to follow policies in order to reduce the secondary industry, and now there is no more presence of it in the village. The main problems due to this policy are manifested in the depression of the village economy and the lack of important industries that support the development of the area. In this moment, the village's economy is based mostly on agriculture, and there is a lack of jobs in the area. For this reason most of the citizens are going outside of the village to work, people who work inside the village are doing mainly jobs about roads and river sanitation and garbage collection, some families start their own family business enterprise. The people who have local hukuo



Figure 34. Agricultural area

mainly earn the rent from renting their land.

There are few facilities in the village, recently has been built sports equipment as football and basketball court, these area during the site visit results with low maintenance and with no people using them.

The village is connected mainly with two roads (Yaozhang road and Chenzhang road) without any division between cars and pedestrians, these roads are distributed on the north bank of the village, along the canals water system, and perpendicular on the main canal connection.

There is only one bus line in the village, going to Chonggu town, the working hours are from 6:00 to 19:00, and the time between on bus

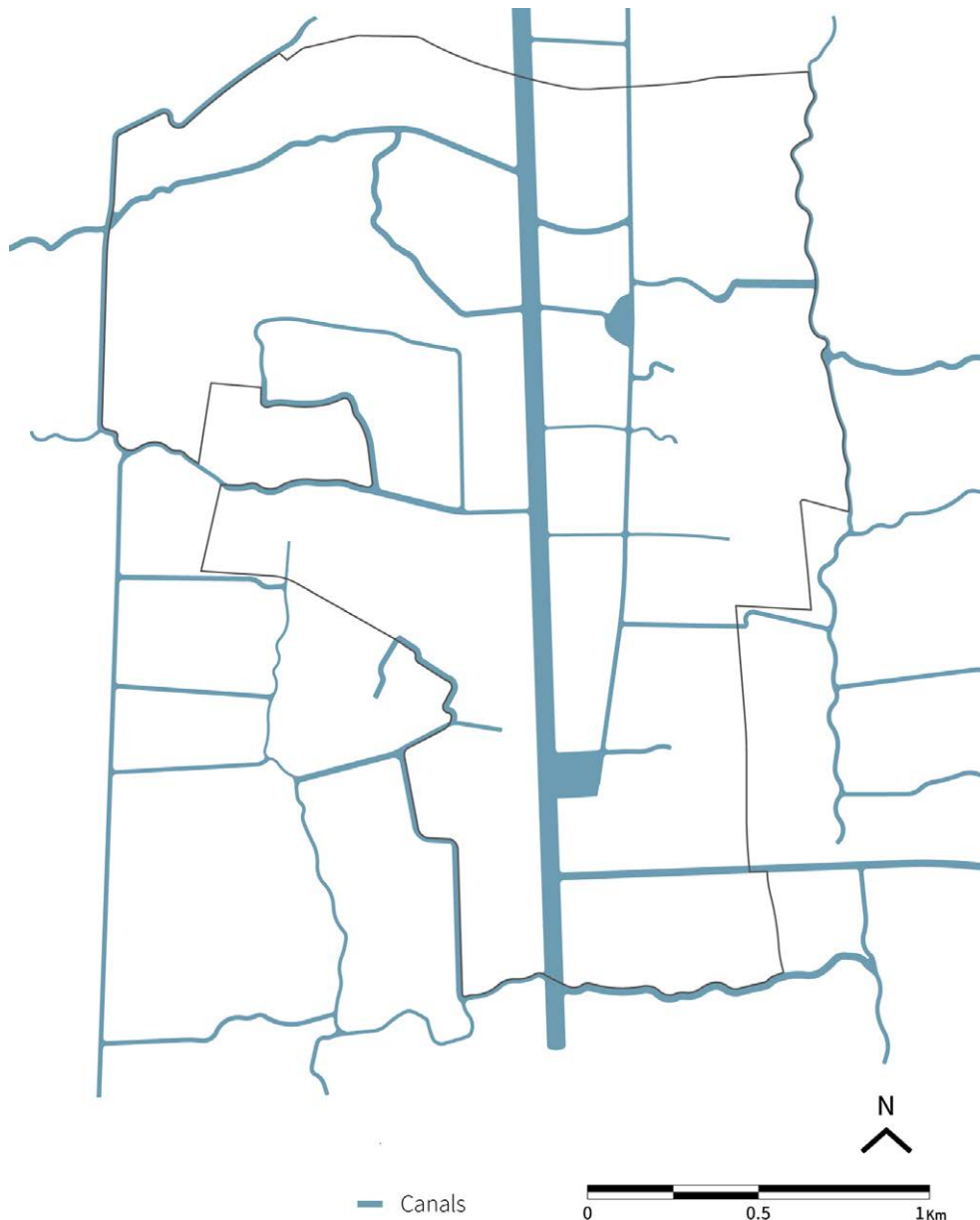


Figure 35. System of canal

and the other is 45-60 minutes. There are three stops in the village area: Yaozhang Road Intersection Station, Zhangye Village Village Committee Station, Beibei Station (fig. 38), the journey to reach the Chonggu town area is 15 minutes.

There are many stream and canals around the village, the water quality strongly change between them, in some case this factor can become a problem influencing the quality of citizen's life in the surroundings. The Youdun canal flows through the municipal river channel in the territory of Zhang Nian village, and connects in the south the Huangpu River with the Suzhou River in the north.



Figure 36. Land use

In terms of topography and landforms, Zhang Nian village is situated in a plain with a rich presence of water and canals that characterize the area. In 2014, the 6th Shanghai Land Planning Conference proposed a negative growth of industrial land in Shanghai. This policy became real in 2016 - 2017 with the implementation of the 198 plot reduction, the planned reduction of industrial land was around twenty square kilometres. The area of 198 plots is mainly located in the suburbs of Qingpu District, Jinshan District, Fengxian District, Songjiang District and Pudong District. Zhang Nian village in 2015 start to follow these policies, from that time the village developed many interventions, as for example



Figure 37. Empty houses waiting to be demolished

250 mu of public new forests have been added, illegal buildings have been destroyed, and illegal shops have been closed. In addition, since the beginning of 2016, several villages' renovation work has been carried out to improve the living environment, increase the quality of facilities and roads.

Zhang Nian village is located in the northeast part of Qingpu District, the village is nine kilometres far from Qingpu city centre and fifteen kilometres away from the important hub of Hongqiao Airport and Hongqiao railway station. Close to the village there is the important presence of Qingpu New City, that is only several kilometres far from the area. The New City was one of the New Town planned in the Shanghai Master Plan strategy "One City and Nine Towns", the presence of this city can face a strong impact on the village.

Zhang Nian village is located at the intersection between two important highways: the S26 Shanghai - Changzhou Expressway and A30 Shanghai Ring Expressway. It is situated two kilometres far from the nearest entrance and exit of S26 Huchang Expressway, and also 2.5 kilometres far from the nearest entrance and exit of A30 Ring

Expressway. The presence of the two important highway connection give to the resident the possibility to move easily and to reach Shanghai in a fast manner. The village is also situated close to the metro line 17 that is seven kilometres far.

The strategy undertake by Qingpu District aimed to improve the quality of the surrounding area of Zhang Nian village, and is based on Shanghai Urban Master Plan 2015 – 2040. The concept achieve to improve the open spaces, and to preserve the green and agricultural areas creating a system of compensation for cultivate land and farmland protection. The plan is to prevent new building construction in the agricultural areas, following this strategy, the district govern will ensure that the green area will not decrease, preserve it for the future generations. A second important tools used from the district govern is the compensation for who will use mechanism of land protection, and use the agricultural land in an efficient manner.

In the Qingpu Regional Planning Outline 2004 – 2020, the main point for the land developing are to plan and manage the future construction development in order to preserve the not constructed soil. The plan is focusing on main element as industrial areas and ecological connection like parks, forest, agricultural areas, and suburban rigs.

The aging in the village is seen as a serious problem, the population over 60 years old is more than 30 percent of the total. This is a clear indicator that young people are not willing to live in the village, the young generation prefer to move and live in urban areas. The local resident that live in the area and have registered hukou in the village are usually elderly, instead migrants who recently move to the village principally for work reasons are usually young. Life in the village is mostly based on self-sufficiency, there is almost no industry presence, most of the people are going to work in the urban area in Chonggu Town. The plan to increase the future economy is to invest in tourism, restoring part of the village in order to create an ancient water town.

Due to a lack of presence of jobs and resident, the house price in the village is low, and almost half of the household are migrants. These people are doing jobs like farming, cleaning, garbage collection, or they managed to open their own business.

The development of Zhang Nian village is currently facing several problematic due by multiple factors as a lack of public transportation,



Figure 38. Public transport network

with only one bus line to go to Chenggu town. The several environmental policies made to protect the area have two opposite results: on one part they prevent the environmental degradation of the area, keeping the agricultural land and the ecological qualities for to future generation, on the other side they decrease the possibility to develop the industrial sector bring it to disappear from the village. In the future, there can be an important possibility for the village to become a touristic attraction, focusing in the shifting from agricultural based, to a touristic based. Along this process it is possible to predict several possible trends, as for example the loosing of identity the area, the marketization of the local



Figure 39. Survey's collection areas

uses, and the increasing of garbage and pollution. On the other side, the increasing of the tourism will improve the economy of the area, bringing many people and resources in the village.

The environmental quality is still good and the agricultural activity in the area is still cover an important role in the economy of Zhang Nian village, the preservation of these important features will ensure to the area to protect its own identity and preserve it in the future generations.

3.1.3 Fengchen Town, Don Xin Shi Village



Figure 40. House along the canal in Don Xin Shi Village

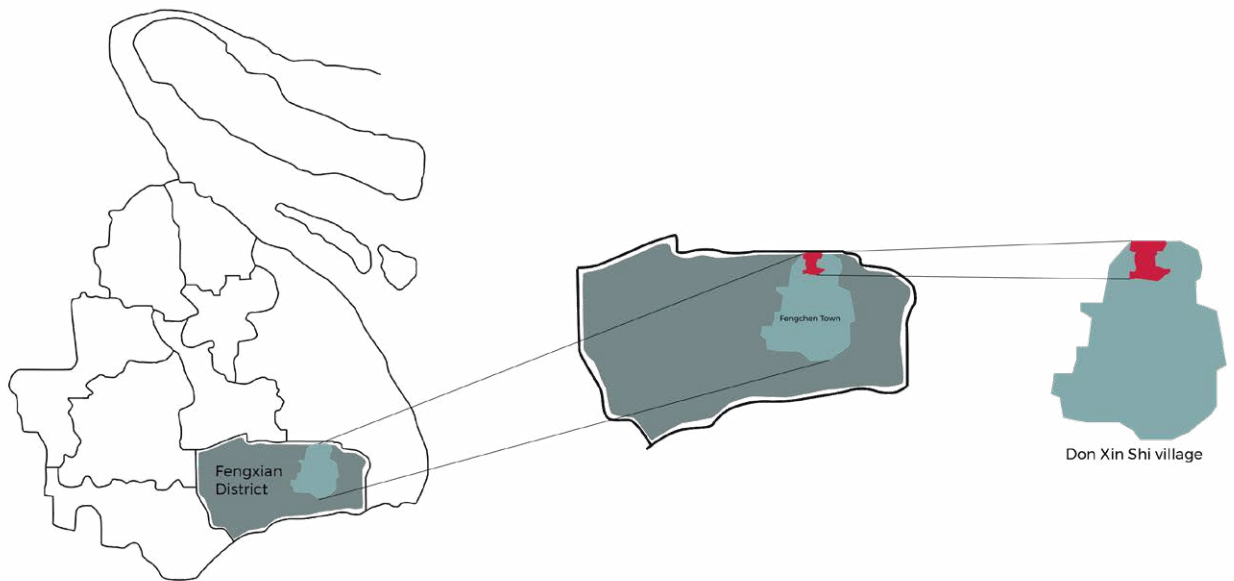


Figure 41. Area overview

Fengxian District is located at the southeast part of Shanghai peninsula, it is adjoin with Hangzhou Bay in the south, Huangpu River in the north, Pudong New Area in the east, Jinshan District in the Western Region, and adjacent Songjiang District. Fengchen Town is located in the northeast part of Fengxian District. The town is close to many relevant areas as the Pudong International Airport, Nanhui New Town, and Nanqiao Town, where the government of Fengxian District is based. Dong Xin Shi Village is located in the northern part of Fengchen Town, with an area of 5.88 square kilometres.

The main use of the land in Don Xin Shi Village is for agricultural propose, the area is around 2.300 acres. The agricultural area is mainly concentrate in northern and southern part of the village, and is mostly based on cultivation of fish ponds, corn, spinach, celery, coriander, soybeans, loofah, tomatoes, grapes, watermelons, and peaches.

The residential area is 64.63 hectares that is the 25.10% of the total construction land. The residential areas are scattered and distributed in small villages (fig. 45), for this reason in the area, the density of population is relatively low. The main connection to Dong Xin Shi village are Daye Highway, Xinfeng Highway, Xinchao Road and Xinhuan East Road. Until several years ago, in the village there was a relevant presence of illegal factories that has been demolished in order to regulate the area. In this moment, the village present many logistic and storage warehouse due to a presence of an important furniture companies market cluster.

Shanghai municipality is trying to legalize the factories and relocate the one that are not following the environmental protection standards, the relocation of the furniture industry had a strong impact on Fengchen area, in this moment the town is trying to switch its economy in order to become a logistic hub. This shift will bring benefit to the town, as for example the decreasing of the pollution: in this moment the major part of the domestic and industrial sewage system going directly inside to the river without any treatment, this create problems of deterioration of the environmental quality, in particular the water quality. In addition, the configuration of canals create dead end parts with an insufficient



Figure 42. Water pond in the village

circulation of water, this bring to have pond area and bad smell, influencing the quality of life of the resident that are living in the surroundings.

After the demolition of the illegal areas, the number of resident and immigrants living in the village decrease, following by the local economy (as agriculture and local shops). The residential areas are scattered and far from each other's, and there are few public spaces that can be utilize from the citizens (a new plaza has been recently built).

The total administrative area of Dong Xin Shi Village is around 588.1 hectares, the use of land is divided several typologies as agricultural area, built up area and empty area.

The agricultural area of Dong Xin Shi Village is collectively owned, before the demolition of the illegal buildings this part was only 278.49 hectares and the built up area was 257.83 hectares, the empty area was 52.19 hectares. After the illegal buildings were demolished, the construction land decrease to 217.32 hectares and the empty area increased to 93.07 hectares. The current



Figure 43. Village overview



Figure 44. Agricultural area

agricultural area in Dong Xin Shi Village is about 278.39 hectares, which is divided in 172.84 hectares of cultivated area, 9.11 hectares of garden area and 19.55 hectares of forest. Most of the cultivated fields are managed by companies that cultivate them.

Most of the industrial area and warehouse are located in the central part of Dong Xin Shi Village, mainly concentrated in the Punan Electromechanical Park, situated on both sides of Cai Jianyu and Xinfeng Highway and on the south side of Daye Highway. Before the demolition of the illegal buildings, the total industrial area of the Electromechanical Park was 92.35 hectares, with the main production on building materials manufacturing and furniture's, after the demolition, the park area decreased until 51.5 hectares.



Figure 45. Residential area

The public facilities in the village cover an area of 4.5 hectares, including village committees, primary schools, health clinics, elderly activity centres, cultural stations, leisure green spaces, sports and fitness venues, and other convenience stores distributed in various areas of the village. Don Xin Shi village is facing important shifting in the scale and organization of agricultural production, in this moment there is a huge part of agricultural land not cultivate, that is resulting as a waste of land and a deterioration of the agricultural landscape. The demolition of the illegal buildings left many voids, empty and unused plots, especially industrial plants that are waiting to have a new allocation.

The primary economy of the village is mainly composed by

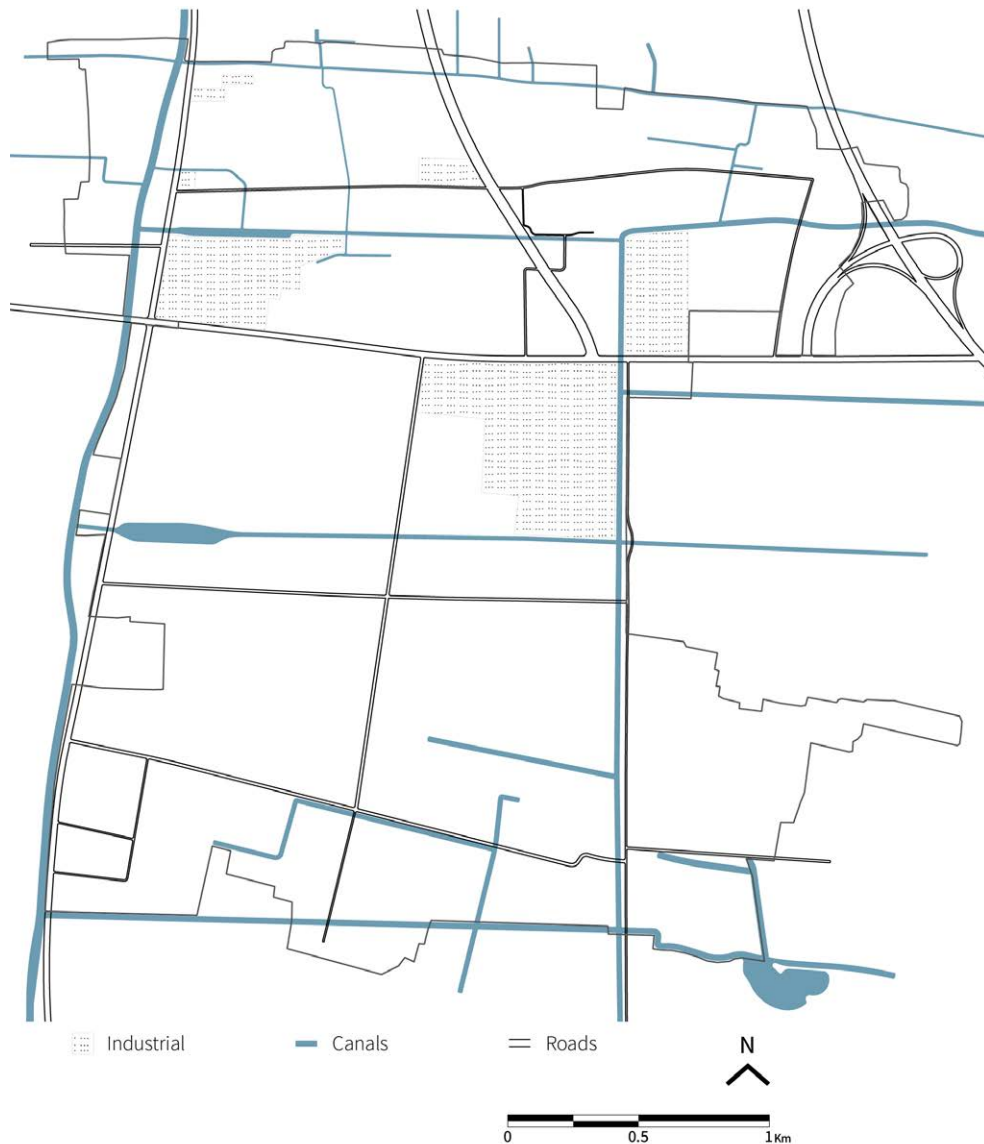


Figure 46. Industrial area

agricultural production, in 2015, the total agricultural output value of Dong Xin Shi Village reached 8.92 million yuan, due mostly about fish farming. The main vegetables that are cultivate in the village are corn, green vegetables, leeks, watermelons, loofahs, and tomatoes, which are mainly grown in greenhouses, the main fruit trees are grapes and peach trees. The secondary sector is the most important industry sector in Dong Xin Shi Village, that's includes building materials, machinery, electrical appliances, steel and furniture manufacturing plants, and until several years ago an important furniture manufacturing. In the process of demolition and reduction, most of the furniture factories and workshop disappear. The third industry of the village is mostly about the building materials market,



Figure 47. Commercial area

which is a cluster with more than 1.500 small retailers.

The population of Dong Xin Shi Village is composed mostly by middle-aged people, elderly locals and young and middle-aged migrant workers. The major part of the local resident left the area and moved in the surrounding urban zone, very few young people remain in the village, for this reason the elderly population is the main one. Therefore, the income of residents in Dong Xin Shi village is relatively low, most of people's monthly income in 2015 was between 1.000 and 2.000 yuan.

In 2016 the number of residents in Dong Xin Shi village was 3.780, that increase until 4.362 in 2017. The increase in the number of residents was mainly due to the introduction of the old house real



Figure 48. Land use

estate registration policy in which people must register where they are living.

The number of migrants has decreased drastically after 2017, the main reason is that since the end of 2015, Dong Xin Shi village and Shanghai municipality promote the “demolition violations” policy. During this process, a large number of illegals factories buildings were demolished and relocated, many workers lose their jobs, and migrants were almost forced to leave the village in order to find a new source of income.

By comparing the population size of Dong Xin Shi village with Fengchen Town in 2010, we can recognize that Dong Xin Shi village is one of the most influential and large-scale villages in the whole

town. Analysing the quantity of the total population and the resident population it is clear to understand that in 2010, Dong Xin Shi village was providing a host for a larger number of migrants that arrived in the town.

In the village, the number of unemployed people has dramatically increased, due to the demolition procedure and shrinking of the area, most of the people who worked in factories or owned a small shop and do business in Dong Xin Shi village had suffered of economic problems. At the same time, the rise in rents and of the vegetable prices has led to an increasing of living standard costs for local residents and immigrants.

Shanghai needs external labour force in order to continue to grow, and in Dong Xin Shi village there was a high amount of immigrants living and working in the furniture industry. However, at some point the quality of the environment became low and not anymore acceptable, and the central government introduced drastic demolition policies in order to manage and provide decent living standard for the area.

The massive decreasing of the village's population, brought to have a huge number of vacant houses that recently had rapidly increased, from the site visits was clear the high amount of vacant housing and empty workshops. In addition, due to the decrease in the number of migrants living in the area, the quantity of many service facilities, such as restaurants and vegetable farms, have also dropped down significantly.

In Dong Xin Shi village there is a large number of elderly people, which have problems to leave the area because of mobility and family complications¹³, moreover in the village there is a large number of middle-aged citizens that have recently lost their job, having strong difficulties to find a new one. These social problems can create instability in the social composition of the village.

In Dong Xin Shi village the scale of the primary industry is relevant, and the traditional production methods have been changed. Most of the local farmers gave to manage and cultivate their land to farming companies that pay back a rent to them. In this way, the local residents have the time and energy to find a job, and at the same

¹³ Information from the interviews done in Dong Xin Shi village the 02.03.2019



Figure 49. Public space in Don Xin Shi Village

time collect income from the land.

In the village there are two main public space spaces, one is an ecological park next to the village committee, with a stage to host activities, celebration and events. The second one is located in the small square along the east side of the village committee, composed by pavilions, fitness equipment, which become the main place for the villagers for the daily exercise (fig. 49).

The bus is the only public transportation in the village, it is connected by five line (fig. 50), with several stop in the area. The village presence a lack of public transportation services, the closest metro service is the line 16, which is around 8 kilometres far from the village.

The development of Dong Xin Shi village is currently facing several problematic due by multiple factors as a lack of transportation from and to Shanghai, the shrinking of the population due to a decreasing of quantity of jobs in the village. The demolition of the illegal industrial buildings that brought many immigrants to leave in



Figure 50. Bus system

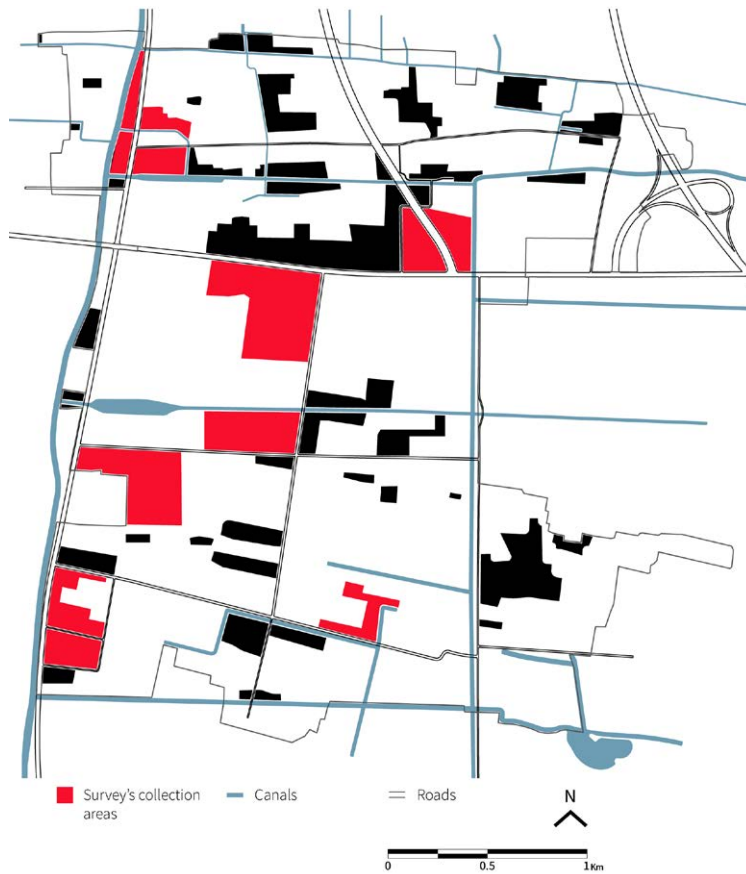


Figure 51. Survey's collection areas

order to find a job somewhere else.

The main problem faced by the village is to find a turning point between the previous situation in which there was a rich economy but many illegal settlements, and the actual situation in which the economy is stagnant trying to search for a better future.

The environmental quality is still good and the agricultural activity in the area is still cover an important role in the economy of Wu Jing Town. The preservation and developing of these characteristics can become an important starting point for the redevelopment of the area.

IV. The Impacts of peri urbanization on the three villages at Shanghai's urban-rural interface

4.1 Aim of the survey, the peri urban impacts

One of the main purpose of this research is to understand the impacts along the peri urban fringe of Shanghai, as summarized in the research question:

Q2: Do villages with different characteristics face the peri urbanization impacts in different manner?

As explained in the previous chapters, in China, rapid urbanisation has greatly improved the quality of life for millions of people increasing the living standard. From the other hand, this rapid urbanisation process causes some problems related to social, economical and environmental development in both urban and rural areas. These problems are typically emphasise in the peri urban regions, which are transition zones, and have a high level of complexity in their social, economic and environmental structures. The results from the analysis in this research have revealed some new trends in peri-urbanisation in Shanghai since 2000. These new trends are the outcome of new economic, institutional and social factors arising in the context of industrialisation, decentralisation and marketization. The results of the analysis show that the percentage of temporary migrant residents in the peri urban regions has continued to grow due to several reform and to an increase of attractiveness of the urban area. The structure of the population of migrants in the peri urban areas, which in the past was dominated by local farm workers, has recently changed, with an important increasing in the number of migrants. As a result, the social inequalities in relation to quality of life between local people and migrants in the peri urban region have been increase (Chan, 1996; Logan, 2008).

This can be seen as an example of how much and how fast the peri urban areas can change, one of the aim of this research is to study these changes, analysing the impacts. Three main impacts has been selected (social, economical and environmental), in order to have a clear overview of the changes that are happening the peri urban fringe of Shanghai.

For each impact has been developed specific investigations that

merged create a clear overview on the peri urban situation of Shanghai.

4.1.1 Survey Explanation

In order to better understand the trends and the impacts of the three selected villages, it has been decided to develop and collect quantitative data, mostly made by surveys carry out in all of the three areas. The target of the survey were local resident of the village that were living in the area for several years, with more than 40 years old. The survey has been design in order to be clear and easy to understand also for elderly and not alphabetized people, but often has been faced the needs to help the interviewed to understand the questions.

The survey is composed by 55 questions, divided in five different sections;

The first part is the section a, and it is about family information. The aim of this section is to understand how is composed a standard family that live in the village, the total number of households, and where the family income came from. In this section, there is also a focus about the willing for the interviewed to move out of the village, asking why they want to leave the area, or why they want to remain in the village. The last part of the first section investigate about the hukou status; asking which status the interviewed has, and if the interviewed want to transfer the status moving to the urban area. The section b of the survey is focused on the personal impression of the interviewed, starting to ask why they are living in the area, if the changes in the village had a strong impact on their life, and if they are happy about these changes. In this section it is also implemented the investigation about the satisfaction and the improvement of several social characteristics as the healthcare, education, and the safety in the area.

The section c of the survey is focused on the economic information of the citizens, starting with asking which is the current occupation of the interviewed, where is he/she working, if he or she bought a house in the urban area, and for how long was saving money in order to buy it. In this section, there is also the focus on the increasing of the residential utilities cost as gas, electricity and water and if they are affordable compared to the interviewed income.

The section d investigate about the environmental information, start with asking how much the people care on the environment,

investigate deeper their impression about the quality of life in the village, if they ever had healthy problem due to pollution, and if they think about the industrial area of the town as a problem or as an opportunity. The section d ends asking if they know people that had been relocated out from the village, and which is their feeling about this.

The section e is the last section and is about the personal information, is made in order to understand the age, gender, the education level and the monthly income of the interviewed. The complete example of the survey is attached in the appendix. For each village has been taken a total of forty valid surveys, during several site visits, reaching a relevant statistical number compared to the population of the site. The surveys has been taken in all the three villages, along the street, in the shops, and inside private houses, keeping attention to the balance between all the statistical groups, as for example male or female, immigrants or local, elderly or middle age, etc.

4.1.2 The Rural Urban Continuum along the Shanghainese peri urban fringe

The concept of rural urban continuum that is explained in chapter I will be use to show the changes along the Shanghainese peri urban area, starting from the closest area to the core (Wu Jing town), reaching the closest part to the rural area (Fengchen town). This representation is based on the results of the surveys that are shown in the in the point 4.2.

The use if this methodology will allow a clear and easy

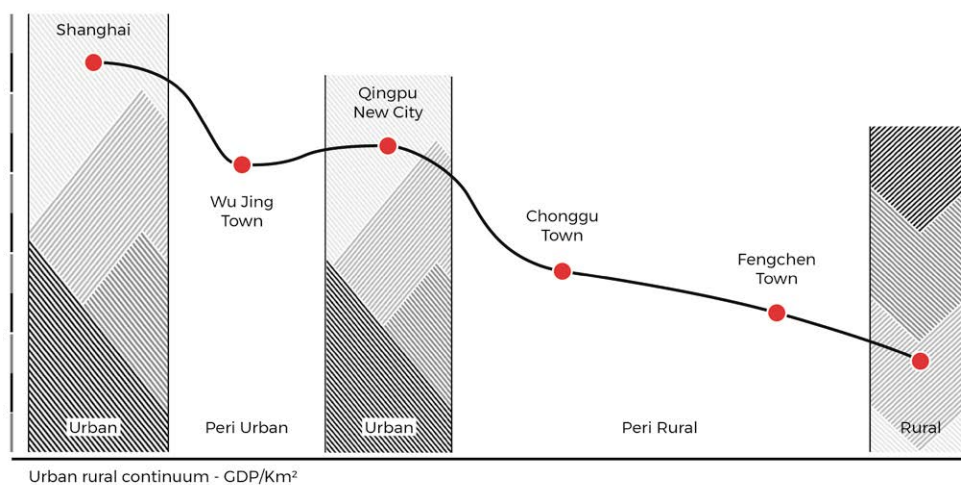


Figure 52. Schematic example of continuum

understanding of the changes along the urban rural continuum.

To show how the continuum changes along the peri urban areas will be use a schematic drawings as in the one in the figure 52. The representation is based on the gross domestic product (GDP) per square kilometers along the continuum of Shanghainese peri urban area.

In the example in the figure 52, the starting point of the continuum is on the left side of the figure, in the Shanghainese urban area, and the final point is on the right side reaching the rural area. In between these two poles, there are the three chosen towns in the peri urban area. The figure also emphasized the presence of the urban area of the “German theme” new town Qingpu An Ting.

The position of the three town is not casual; Wu Jing town appear as first one because is the closest to the urban area of Shanghai, Chonggu town is close to An Ting German satellite town, and Fengchen town is the last one because is the farthest to the urban area of Shanghai and is closest to the rural area.

Using this schematic way of representing the continuum, will be clear the differences between the areas in the peri urban fringe, this method will be use to represent the data analysis of the surveys and to show the different impacts measured in the three different areas. In the case rapresented in figure 52 the curve makes a clear shape along the continuum, in which the urban area result richer and there is a clear decreasing of GDP moving far from the urbanized area to the rural one.

4.2 Evaluation of impacts of peri urbanization process and related policies on the study areas

In this section will be shown and explain the most important results from the surveys carried out in the three different villages; the whole list of survey's results are attached in the appendix c.

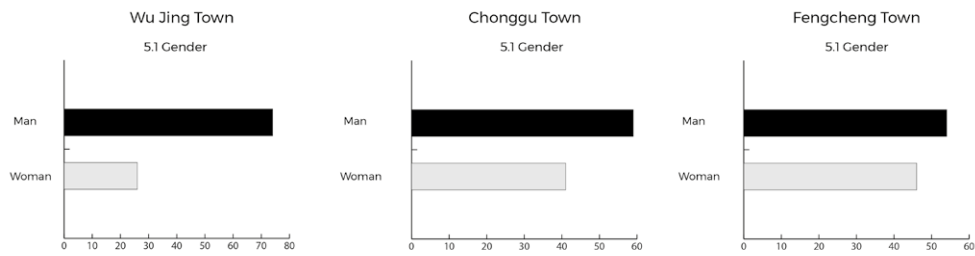
The graphs in the next pages are placed in order to reproduce the rural urban continuum. The first town shown is Wu Jing town that is the closest one to the urban core of Shanghai, the second one is Chonggu town, that is in the middle way between the city and the countryside (close to An Ting satellite city), and the third one is Fengchen town, that is the farthest one from the urban core (fig. 53). Using this way of representation, it will be easier to understand the changes along the urban rural continuum, in which the three area are placed.

The graphs shown in this part are about the most important answers that had been used for the data analysis in the next chapter, the focus with the detailed data of all the results are shown in the appendix b.

All the graphs values are represented in percentage.



Figure 53. Urban rural continuum - three villages



The sample of the survey has been taken trying to have a balance between the quantity of male and female. In several cases male were more willing to talk and to be interviewed, for this reason in all the three area the male samples is bigger than the female.

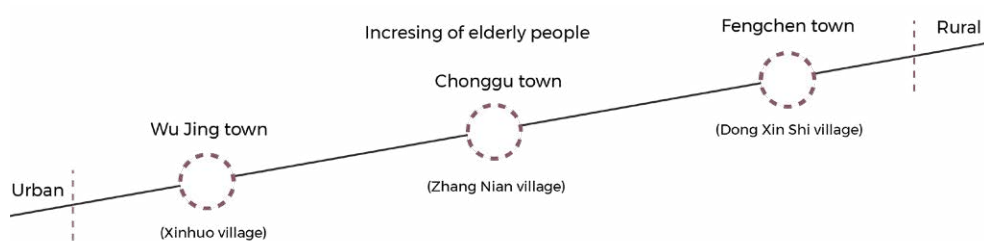
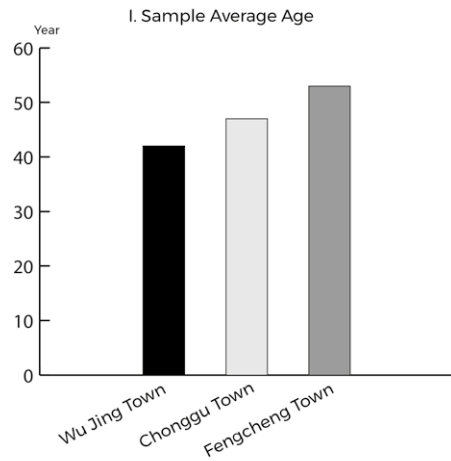


Figure 54. Continuum visualization

From the graph I. is recognizable that the average age of the interviewed is growing along the rural urban continuum, in Wu Jing town (close to the Shanghainese urban area) the average age is 42, instead in Fengchen town (close to the rural area) is over 50. The reason why there are more elderly in Fengchen area is because the young generations are emigrating away from the village in order to find a better job in the urban area¹⁴.

14 Information from the interviews done in Don Xin Shi village the 02.03.2019

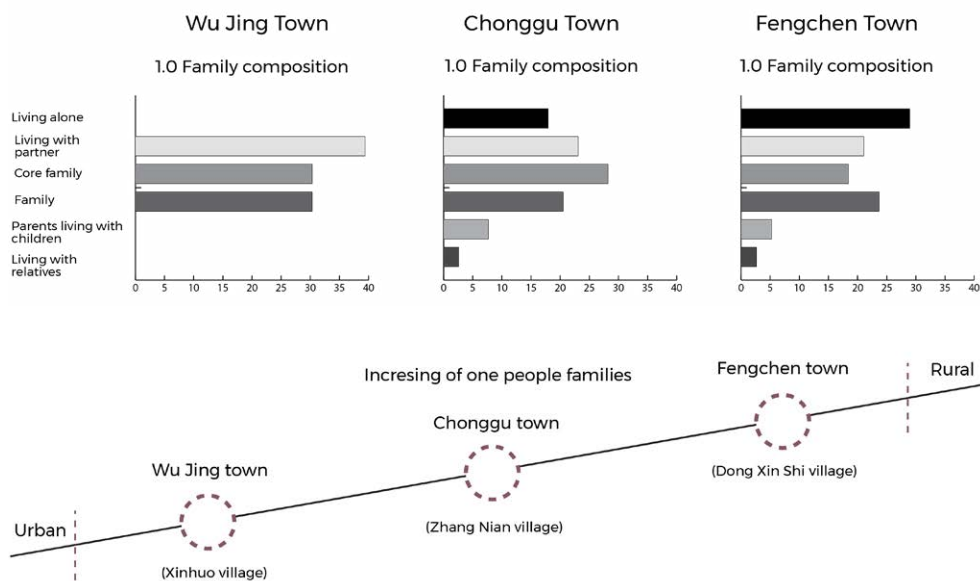


Figure 55. Continuum visualization

The section a of the questionnaire is about the family information, the analysis start from the question 1.0 that is the first question of the survey. This question permits to understand the different family compositions that are composing the village social structure. From the results is clear that in Wu Jing town the families are compose mostly by two people, this because in the area there are many young citizens and couples.

In Chonggu town area the results show a different situation, there is an important presence of people that live alone, this is due mainly by one factor: most of the interviewed in the area were elderly, which are living alone because one of the partner recently died. The young people prefer to emigrate to the urban areas in order to find a job and better living standard¹⁵. In Fengchen area, the major part of people are living alone (30%), this is due because a huge presence of immigrants in the village, most of them were working in the furniture factories that recently has been relocated, for this reason they will move soon to another area in order to find a better job¹⁶.

¹⁵ Information from the interviews done in Zhang Nian Village the 09.03.2019

¹⁶ Information from the interviews done in Don Xin Shi village the 02.03.2019



Figure 56. Continuum visualization

The question 1.2 of the questionnaire ask about how many members of the family are emigrated out of the village and why did they moved.

Focusing on the second question is clear that in all the three cases the main reason is “work”, about Chonggu town, the quantity of people emigrated for work reason is almost the 80 percent. Comparing this data with Wu Jing town and Fengchen town, it is understandable that in Chonggu town there are more problems of unemployment.

The other reasons (school, family and other), are always less than 10 percent, this quantity is not relevant for the impact analysis.

Only in the case of Wu Jing town more than 20 percent of people answer “school”. This answer is unusual for this area; in the surrounding of the town there are several university and secondary school, that are a higher number in comparison with the two other areas.

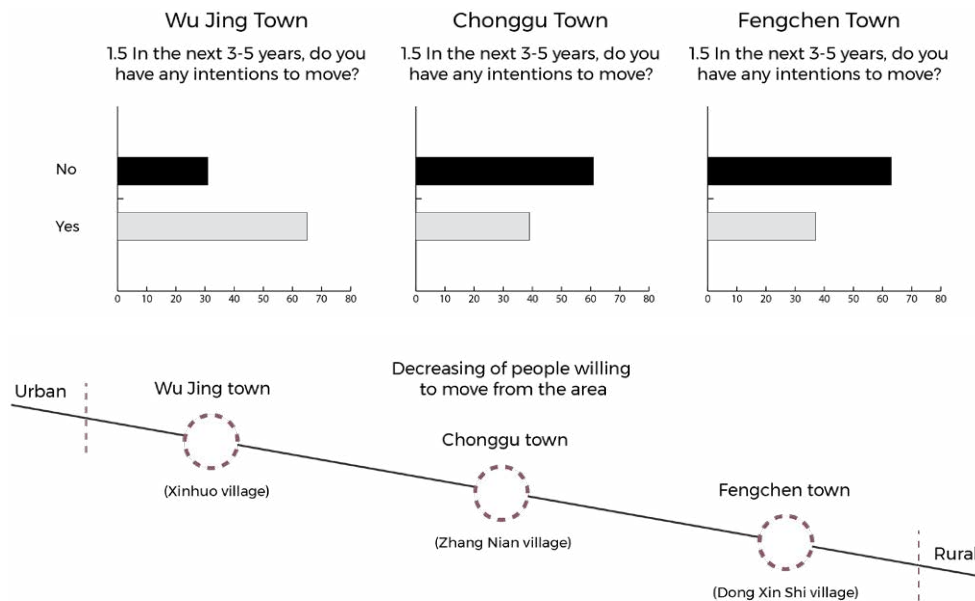
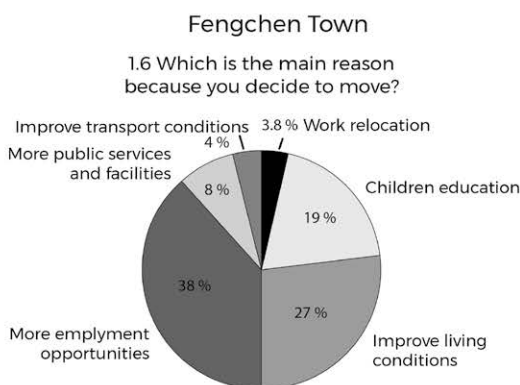
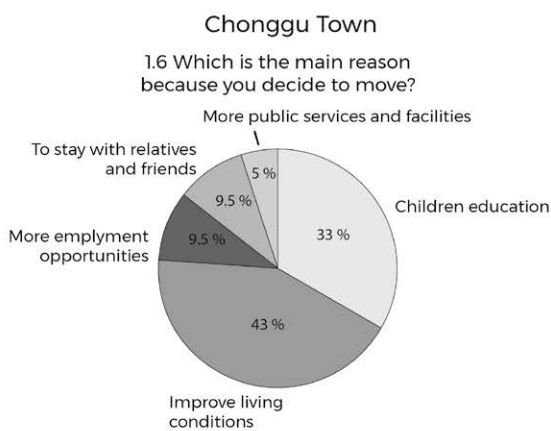
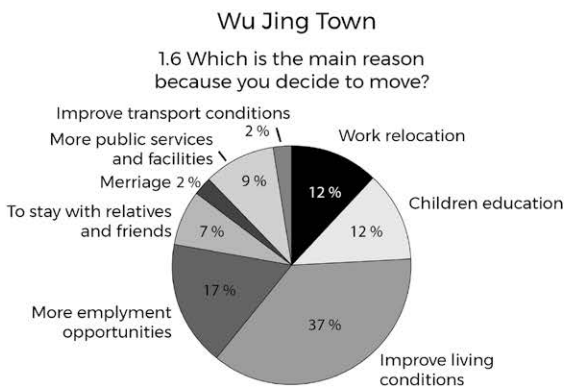


Figure 57. Continuum visualization

The question 1.5 is focused about the intention for the interviewed to move in the next years. This point allow the research to better understand if the area is attractive or if the area is shrinking.

The first important result it is that in Wu Jing town the 65 percent people want to move out of the area. There can be many reasons to justify this result: the villages where the questionnaire was done were one of the last existing in the area, and the high rate of urbanization of the area will probably force the last people that are living in the village to be relocated and leave soon. The peri urban area of Wu Jing town will probably disappear in several years, due to the dramatic pressing of the urbanized area.

In the case of Chonggu town and Fengchen town the situation is less dramatic, but still there are unpredictable variables as in Chonggu town that has been carried out a strong relocation of many local resident, due by the project of developing a new water town. Instead, in Fengchen town, after the relocation of the illegal furniture industry many migrants were forced to leave area in order to find a better job.

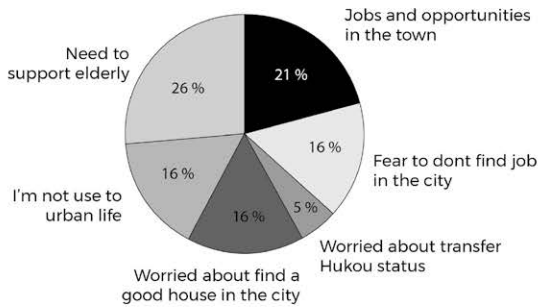


The question 1.6 investigate in deep the reason why the interviewed decided to leave and move away from the village. From the result is clear that people mostly move in order to improve their living conditions. Only in Fengchen town this answer is no the main one, replaced by “more employment opportunities”. This answer is due mainly to the point that in the area of Fengchen town and Don Xin Shi village was recently close the main industry of furniture, so many people are now without jobs and looking for a replacement also outside the area.

Another important point regard the answer “children education” that was selected by the 33 percent of people in the area of Chonggu town. This means that there is a lack of education facilities in the area, and people have to move in order to find schools and universities.

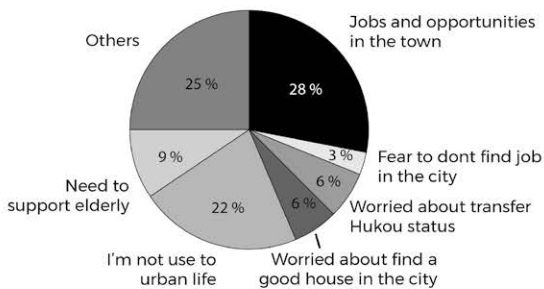
Wu Jing Town

1.7 Which is the main reason because you decide to stay?



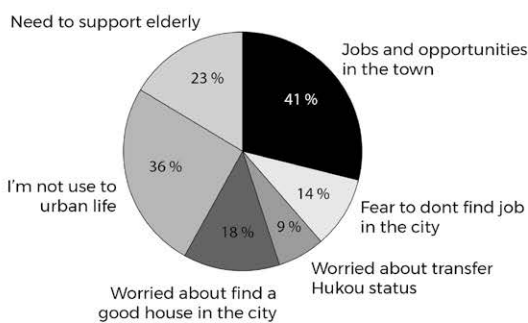
Chonggu Town

1.7 Which is the main reason because you decide to stay?



Fengchen Town

1.7 Which is the main reason because you decide to stay?



In case the answer to the previous question 1.5 was negative, the interviewed was guided to the question 1.7, which aim to understand why the interviewed decide to stay in the area.

The main answer selected from the interviewed was “jobs and opportunities in the town”, this means that most of the people who do not want to leave have a job in the area.

Other secondary answers are “need to support elderly”, and “I’m not used to urban life”. These two answer mean that people who want to leave the area are constrain to remain in the village also if they don’t like to live there, the second answer was chosen mostly by old people which have difficulties to change their habits and adapt to new living stiles.

Another relevant outcome that is shown in all the three cases is “fear to don’t find a job in the city”, this can also be interpret as a constrain for to people to remain in the area, locals may not be able to leave the area because for them can be problematic to find a job somewhere else.



Figure 58. Continuum visualization

The point 1.10 in the questionnaire aim to search in deep the social situation of the citizens, and if they are satisfy having their status. The question is “would you like to change your hukou status”. In recent years, having an agricultural hukou in an area close to the city can bring to the owner many benefits; as for example the increasing of the cost of the land and so high amount of revenue in case of selling and also high amount of dividend from the rent of the land.

As understandable from the results, in the three villages people do not want to transfer their hukou status.

In all the three cases the percentage of the people who don’t want to change the status is around 70 – 80 percent. The lowest one is in Fengchen town area, where there is a presence of many immigrants that would like to change their status.

4.2.1 Social changes

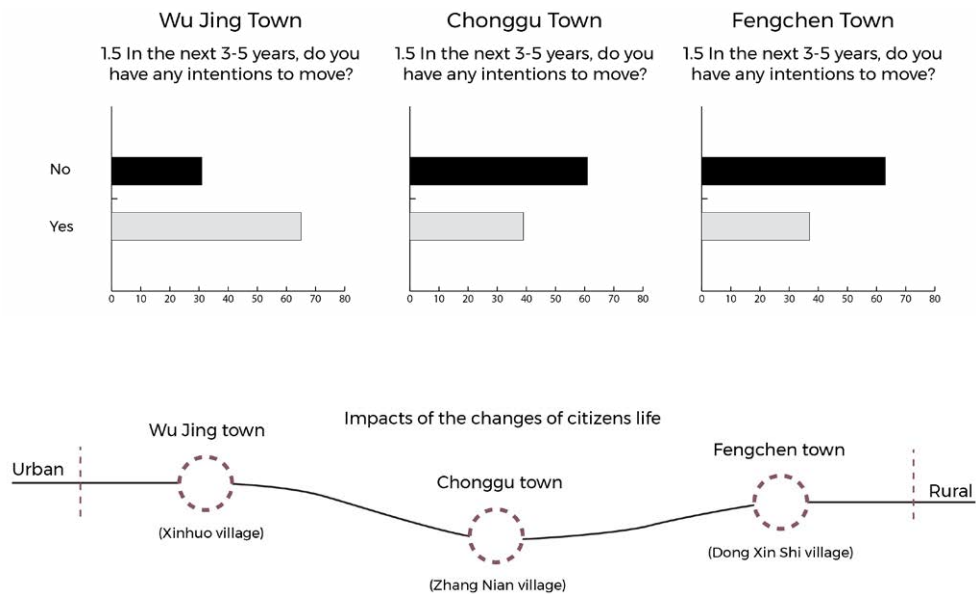


Figure 59. Continuum visualization

The section b of the questionnaire investigate the impression of the interviewed of the area and neighbourhood, starting from the point 2.1 that ask from 1 (lowest) to 10 (higher) how much the changes in the village form 2000 impacts on interviewed life.

Starting to analyse Wu Jing town (that is the closest town to Shanghai's urban area) it is understandable that almost the total amount of the interviewed answer between 8 and 10, this means that the area had strong changes in the last two decades.

The second results is about the area of Chonggu town, in which we have opposite answer than before; 40 percent of the interviewed answer the lowest amount "1". This means that the population of the area did not feel massive changes, showing a sort of stability in the village. In Fengchen town the results are less drastic, it is clear that most of the people answer "10", but there is a more distributed quantity of chosen answer than in Wu Jing town. This can mean that many changes are happened but they did not effected on everyone. To summarize there are strong changes along the two poles of the continuum (Wu Jing town and Fengchen town), instead there are few changes in Chonggu town area.

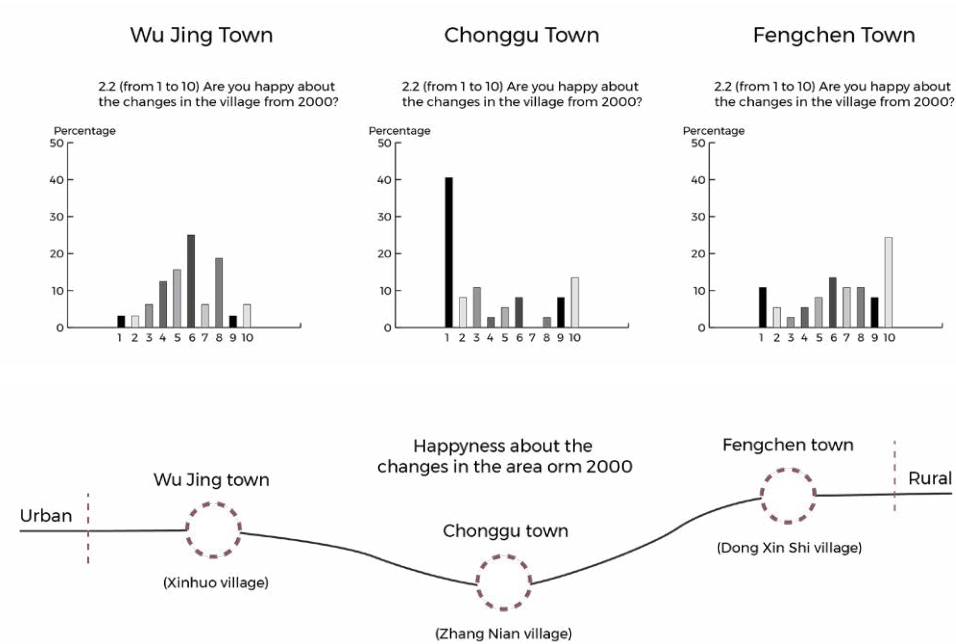


Figure 60. Continuum visualization

The question 2.2 asked if the people are happy with the changes happen in the villages from 2000.

Starting with analysing Wu Jing town, that is the area that had a stronger changes according to the point 2.1, the answers gave a sufficient mark “6” for a 25 percent, the second important mark is “8” gave for a 18 percent. These answers can means that people are mostly happy with the changes but not enthusiastic. This can be due to a dramatic industrialization of the area and a relocation of many locals. On the other side the changes brought many new services in the area as road and bus connection, schools and metro line.

In Chonggu town the answers are opposite than Wu Jing case; 40 percent of the interviewed answer “1” that is the minimum mark possible to give. This result is correlated to the point 2.1 in which people says that there were really few changes in the area, and so they can be not happy about lack of services that that the area is still facing.

In the case of Fenchgen area the people interviewed were for the 25 percent really happy of the changes, this can be a result of the recent “cleaning” policy undertake from the Shanghai govern, in which has been decide to demolish the illegal settlements and illegal factories.

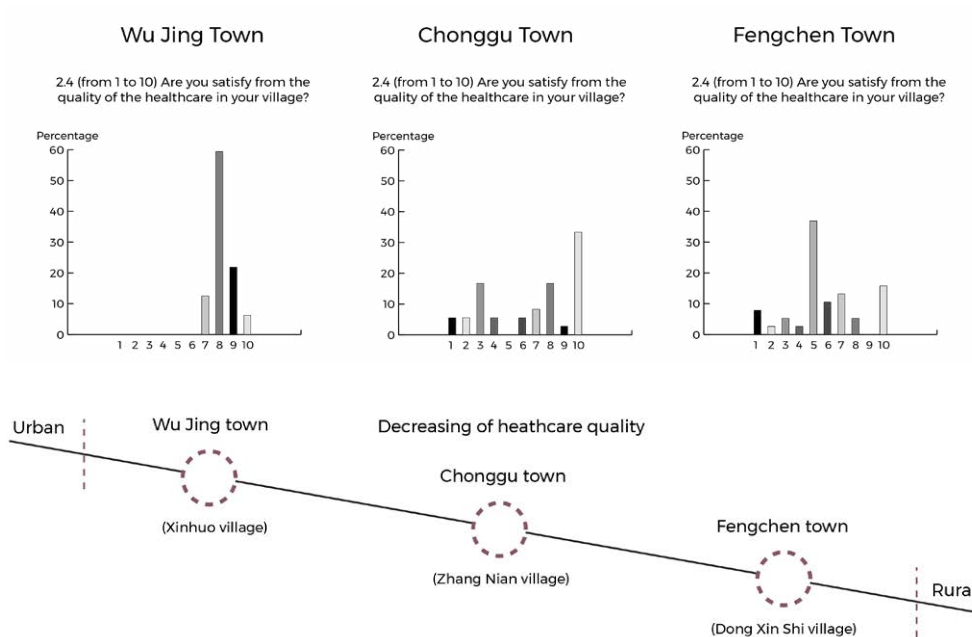


Figure 61. Continuum visualization

Once analysed the changes in the area during the last decades the focus of the questionnaire swift on the level of services in the area as healthcare, safety, and education.

The first point about services is the 2.4 that ask if the interviewed is satisfy by the healthcare of the area. In Wu Jing town and in Chonggu town the results are high, which most of the people answer between “8” and “10”. This because of the presence of hospitals close to the villages.

A lower result is instead showing from Fengchen town, in which interviewed are less satisfy about the healthcare, this is probably due to a lack of hospital in the area, where people have to drive for 30 minutes in order to reach the closest hospital.

Looking to the urban rural continuum it is clear the decreasing of quality of healthcare (from urban to rural), in which Wu Jing town have high marks, and instead Fengchen took much lower score.

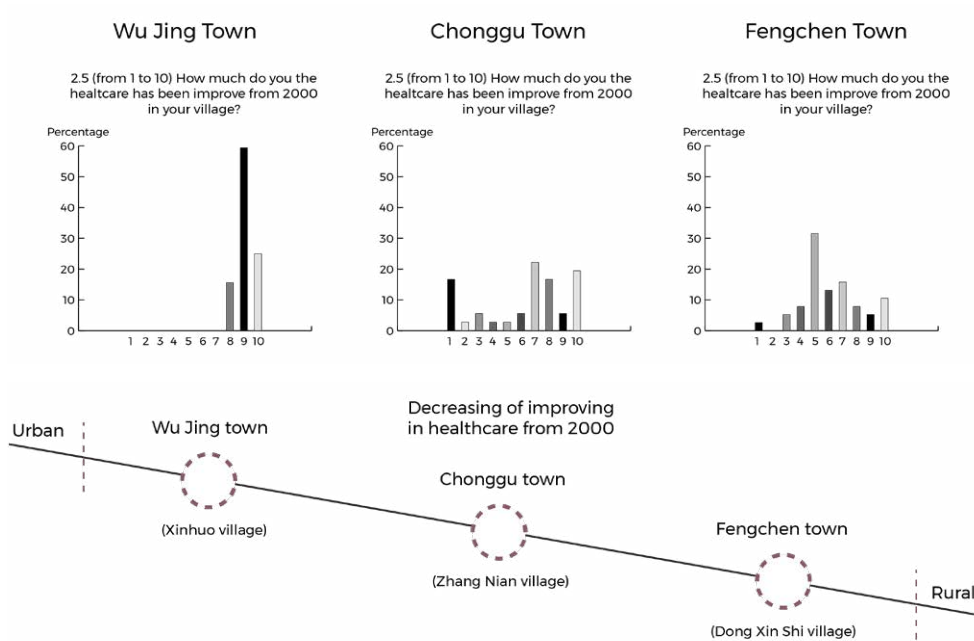


Figure 62. Continuum visualization

Following the question 2.4, also the question 2.5 investigate about how much the healthcare quality has changed during the last two decades form 2000.

This question is also useful to prove the previous one, in which we understand if the improvement of the quality of the healthcare coincide with quality perceived in the point 2.4.

It is clear that the trends recognize from the answer to the point 2.5 are similar to the point 2.4, this means that in Wu Jing town and in Chonggu town the improvement from 2000 in the healthcare had been important, instead in Fengchen town they are still not sufficient.

Is also similar the situation about the urban rural continuum, which is decreasing from urban to rural, following the point 2.4

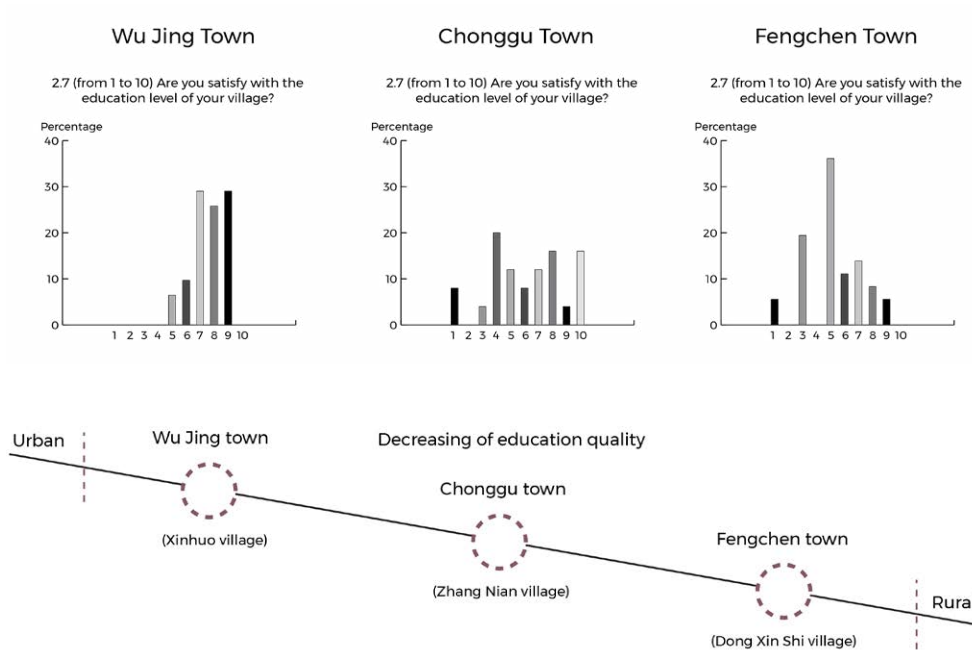


Figure 63. Continuum visualization

The second question about social changes is focus on the education topic, the aim of this point is to understand the perceived quality of education, from the part of the local residents that area living in the area.

Starting to analyse the area of Wu Jing town is it clear that the residents gave high mark value to the education facilities of the village, this outcome is mainly due to a relevant presence of universities and high school close by where they live.

In Chonggu town the situation is changing, which most of the answer are low marks (4, 5, 6), but there is also a relevant part of “7”, “8”, and “10”.

About Fengchen town area, that is the farthest one form Shanghai urban core, is clear the low quantity of people satisfy from the education level.

Is it interesting understand the continuum for this point, in which again as in 2.5 and 2.4 the quality of a social service is decreasing from the area close to the urban core (Wu Jing town) to the area close to the rural part (Fengchen town).

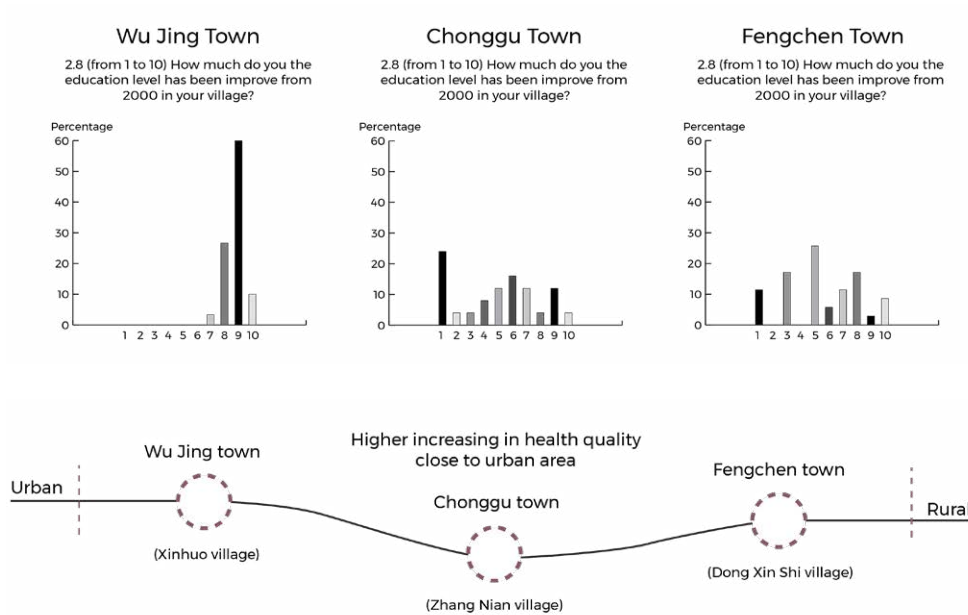


Figure 64. Continuum visualization

The point 2.8 is focusing on how much the education level has been improved from 2000. Also in this case the answer is similar to the point 2.7, in which Wu Jing town has a great mark, that decline along the urban rural continuum in Chonggu town and Fengchen town.

Is clear that the areas far from the urban core had improved in a lower manner the education services in the last two decades. In Chonggu town the mark “1” was chosen by the 25 percent of the interviewed, this is a clear outcome that explain the dramatic situation of the education in the most peripheral areas of the Shanghainese peri urban fringe.

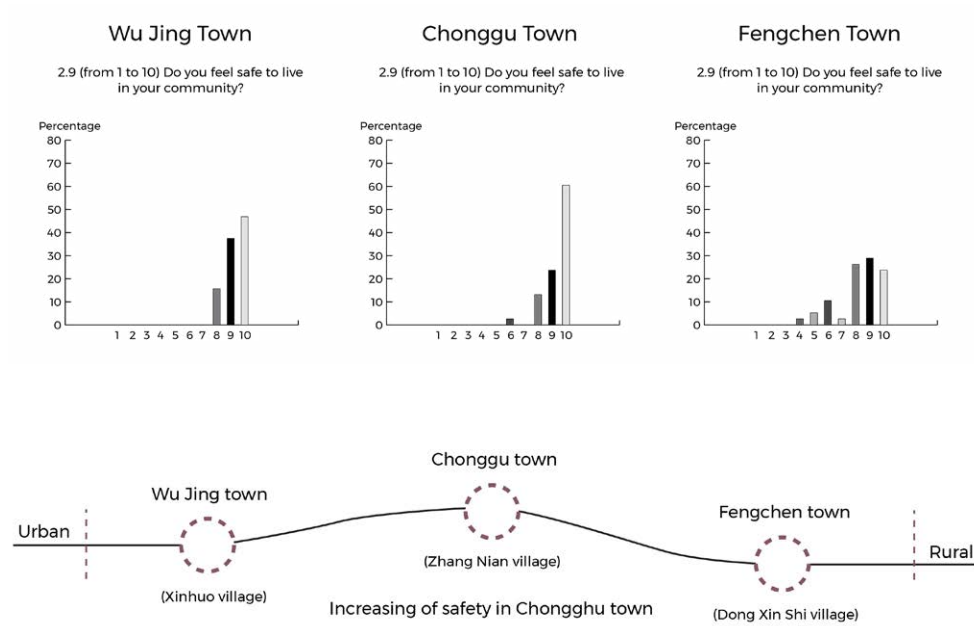


Figure 65. Continuum visualization

The last indicator regarding social changes is the quality of safety in the area, as in the previous point 2.7 and 2.5, the question goes from 1 (minimum) to 10 (maximum) and investigate about the personal opinion of the local residents.

In this case in all of the three areas the results are high, dwellers feel safe to live in these three community.

It is recognizable a peak of the maximum mark in Chonggu town, where more than 60 percent of the answer were “10”, this can be due to the low quantity of immigrants that are living in the area.

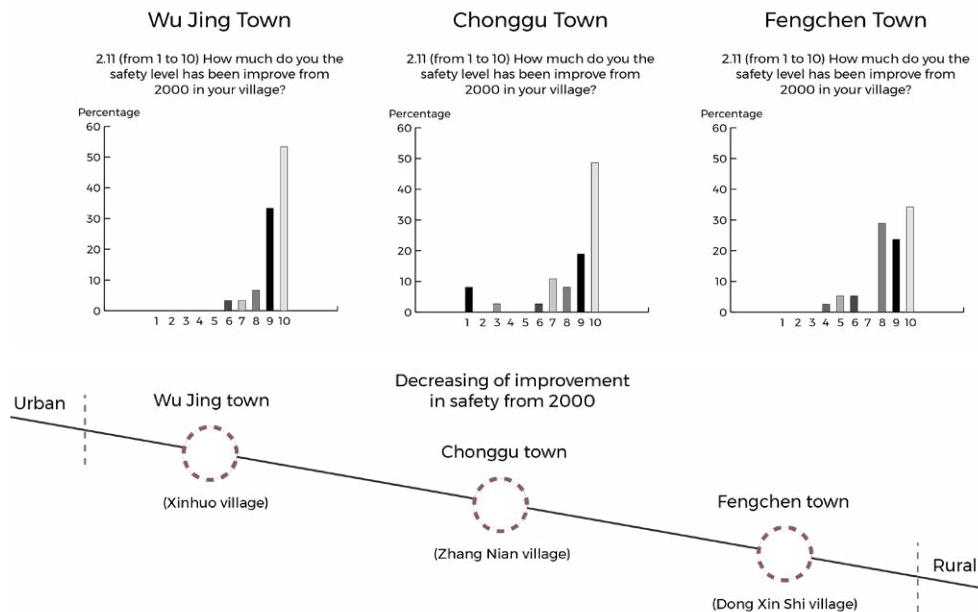


Figure 66. Continuum visualization

The last point about social changes regard the improvement of safety in the village from 2000.

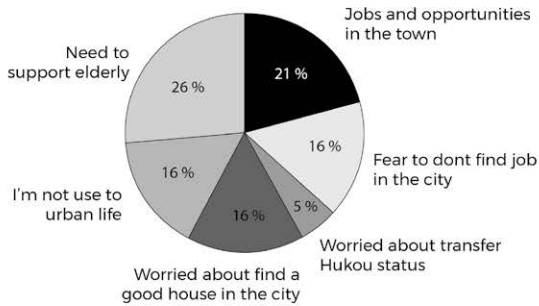
All the three area had a high mark from this question, this is probably due to the numerous “cleaning” policies undertake by central government and Shanghai government with the aim to make order in these areas.

Most of these policies were about demolishing illegal factories and illegal houses, also trying to regulate the immigrants’ trends and the immigrants’ houses, which are often neighbourhood with low life standard and services, similar to slums.

4.2.2 Economical effects

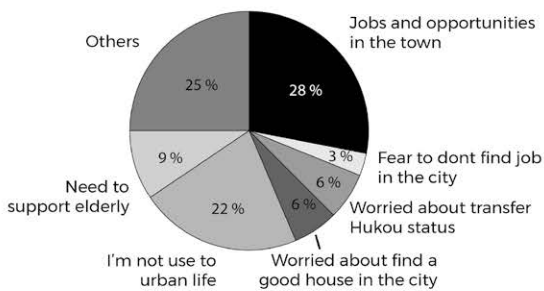
Wu Jing Town

1.7 Which is the main reason because you decide to stay?



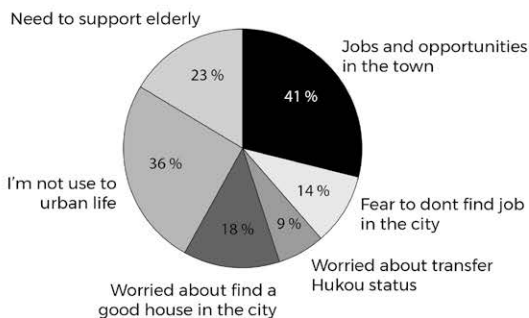
Chonggu Town

1.7 Which is the main reason because you decide to stay?



Fengchen Town

1.7 Which is the main reason because you decide to stay?



The section c is create in order to investigate the economic impacts along the rural urban continuum.

Starting with analysing the result of the first point of this section (3.0) that investigate the occupation of the interviewed.

It is clear that in Wu Jing town the major part of the employees are in the industry sector, this is due to an important presence of factories cluster in the area.

In Chonggu town the first answer to the question 3.0 is “retired”, this is due to a relevant presence of elderly in the area. The second and the third answer are “factory worker” and “commercial and service”, both these jobs are done outside Zhang Nian village area, residents are commuting to work every day.

Almost half of the interviewed in Fengcheng town answered “self employed” this is mostly because the recent relocation of the primary industry of the village in which many workers have lost their jobs and are trying to undertake work by themselves.

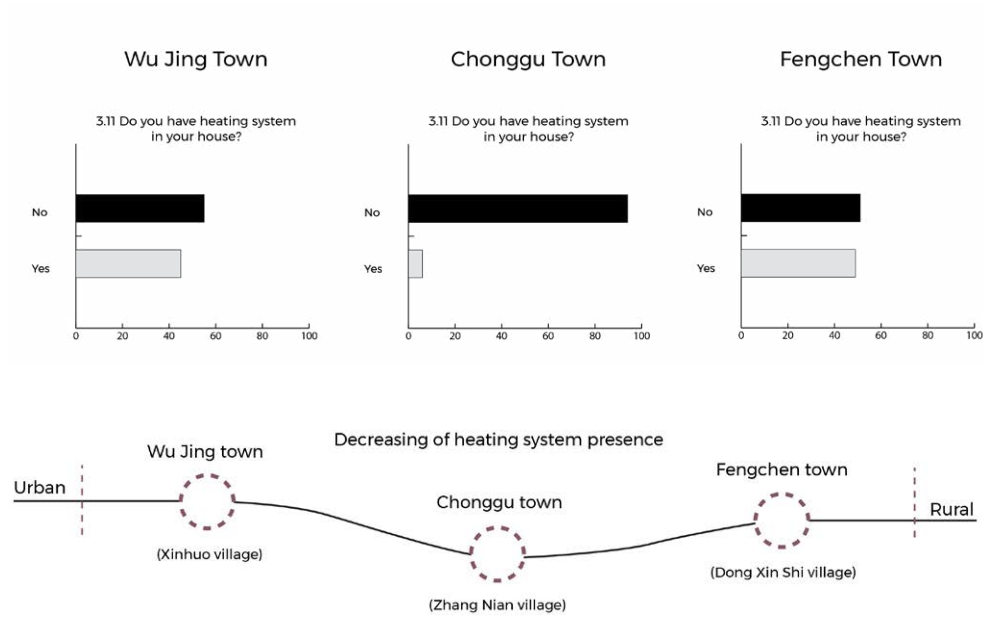


Figure 67. Continuum visualization

The second point showed about the economical investigation is regarding the residential utilities, in which the question investigates if the interviewed have heating system in the house.

This indicator will help the research to understand if resident have access and can afford this typology of commodity.

The result is that in Wu Jing town and Fengchen town area, almost half of the interviewed have heating system in their house, instead in Chonggu area almost none have it. This can be due a different economic situation in which Chunggu town, and in particular Zhang Nian village are facing a lack of industry that is translate in a lack of jobs in the area.

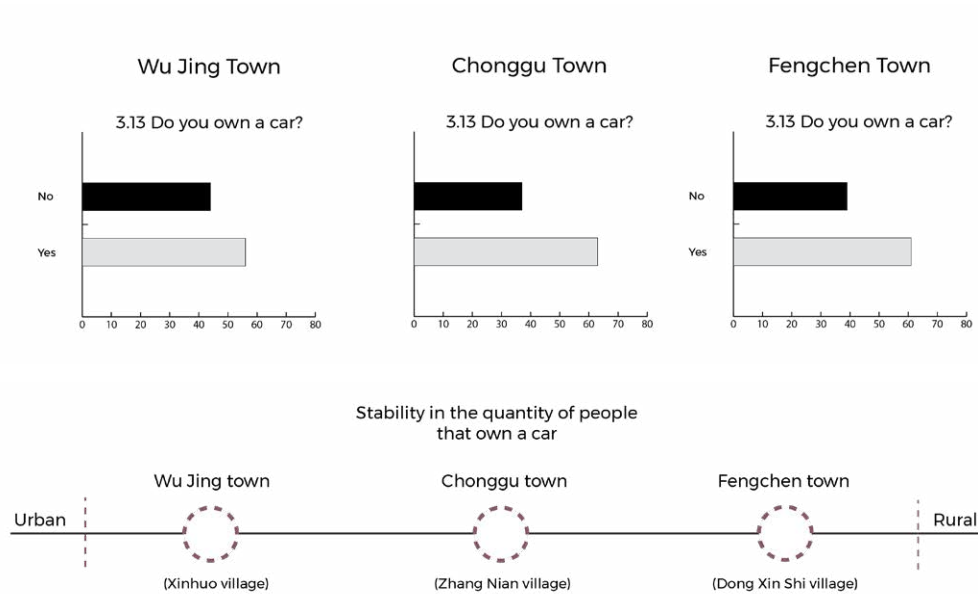


Figure 68. Continuum visualization

The third economic indicator took in consideration is the quantity of people that own a car. Having a car in China represent a status and can be relatively expensive for a single family.

The results from this question were unexpected, because in all the three area most of the people own a car (around 60 percent), this can be due many factors.

All the three area are facing a lack in the public transportation, only in Wu Jing town there are several bus lines and a one future metro line, in fact this area is the one with less people that own a car compared to the others two.

A second factor that can be take in consideration is that many workers needs a car in order to undertake their jobs, that is a different compered to own a car only for leisure.

The outcome from the point 3.13 is that most of the citizen have enough economic stability to have the possibility of buy a car.

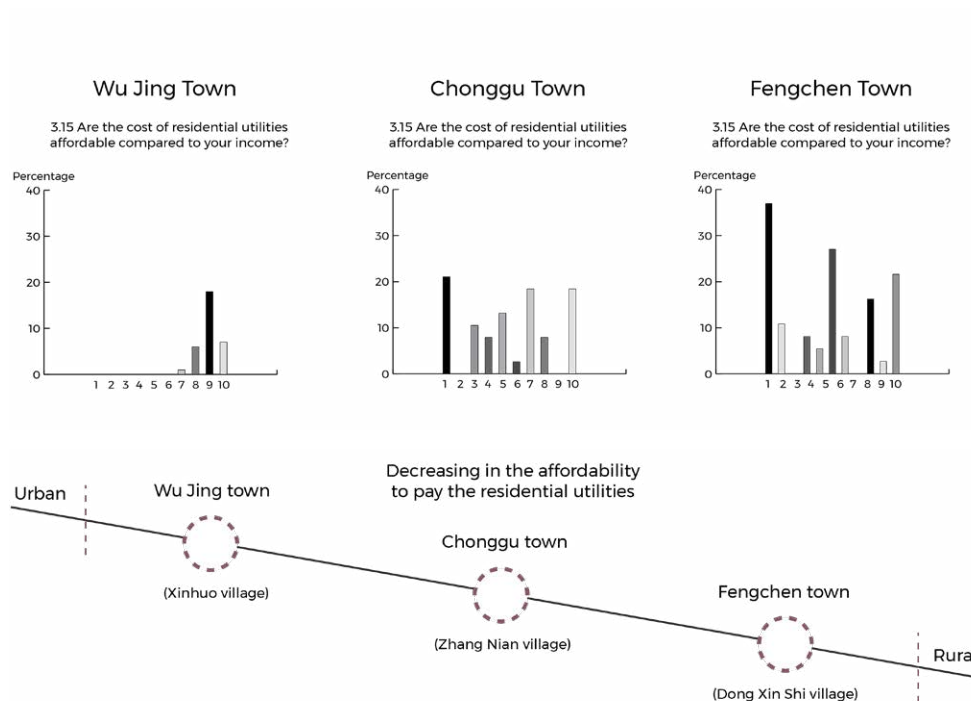


Figure 69. Continuum visualization

The last economic indicator shown is the point 3.15, in which the question investigates if the residential utilities are affordable compared to the income of the interviewed.

Looking at the outcome of the answers is it clear the decreasing along the urban rural continuum. In Wu Jing town (the area closest to Shanghai), resident answer that they can easily afford to pay the residential utilities, instead, going along the continuum, in Chonggu town more than 20 percent of the interviewed answer “1”, and in Fengcheng town (the area closest to the rural) almost the 40 percent answer “1”.

This mean that there is clear decreasing of the monetary power along the continuum, this prove what is showed in the previous chapters in which is define that in the rural area the GDP is almost one third that in the urban area.

4.2.3 Environmental degradation

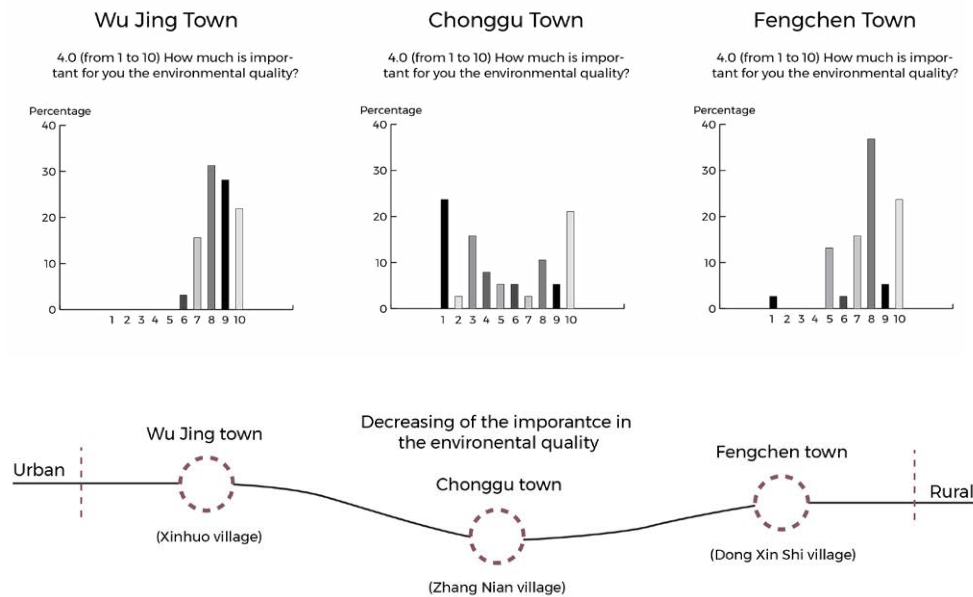


Figure 70. Continuum visualization

The section d is focused on the environmental impacts, investigating how much the resident give importance to the environmental factors, and if they prefer to live close to nature and green areas. The first question took in consideration asked how much they care about environmental quality. The answers are not creating a clear trend along the continuum, is recognizable that in the two poles (Wu Jing town and Fengcheng town) the marks are high “8”, “9”, “10”. Instead, in Chonggu town most of the interviewed (25 percent) did not care about the environmental quality.

This can due as a result of a polluted or clean environment: if the citizen live in a polluted area (as Wu Jing town) they probably will care more about environmental issue, instead if citizens are living in a clean environment (as Chonggu town) they will not face strong environmental problems and for this reason they will care less.

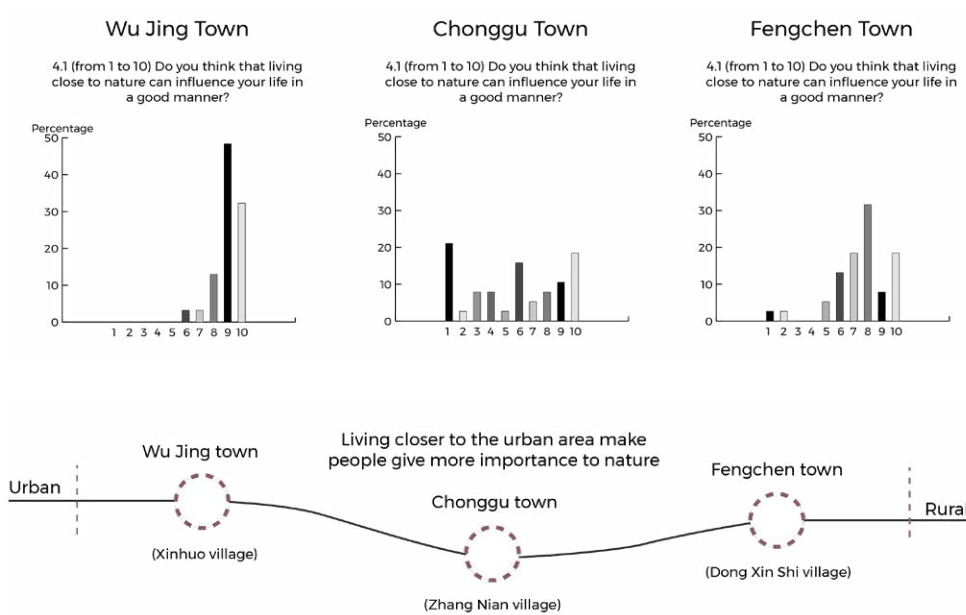


Figure 71. Continuum visualization

The second question of the section d was “do you think that living close to the nature can influence your life in a good manner”. The answers are similar to the one of the point 4.0, in which Wu Jing town and Fengchen town areas have high marks and Chonggu town low marks. People that live close to natural environment do not give much importance about nature. The result in Fengchen town are unexpected, because the area is the farthest one from the urban core of Shanghai, and there is a strong presence of agricultural fields. The reason why people give high importance to the nature can be the fact that in the area there was a high presence of illegal factories of furniture that decrease the environmental quality of the area. After the relocation of these factories the quality of the environment increase, but local resident still remember how was before¹⁷.

¹⁷ Information from the interviews done in Don Xin Shi village the 02.03.2019

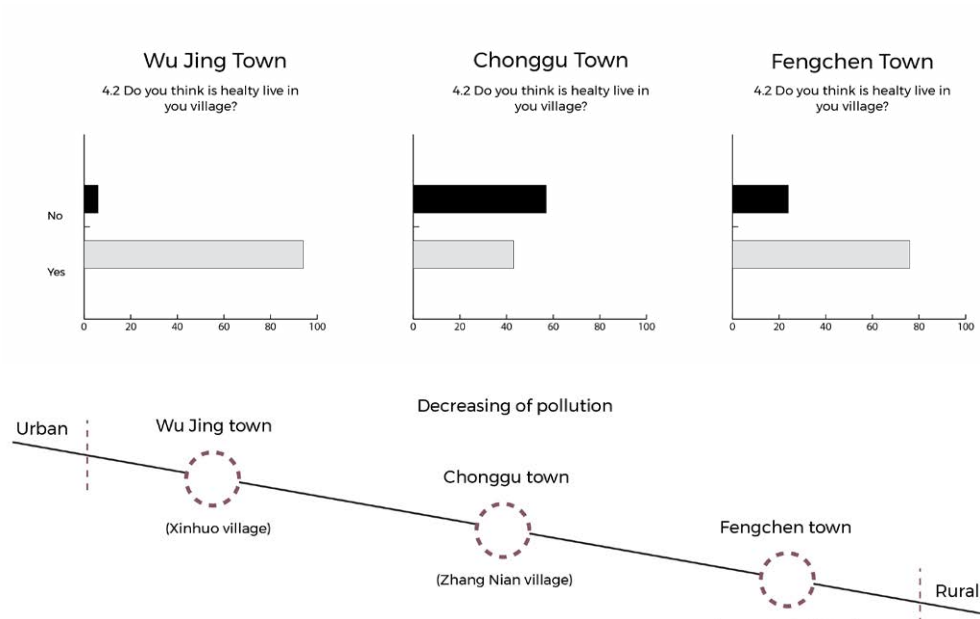


Figure 72. Continuum visualization

The question of the point 4.2 investigate and understand the personal impression of the interviewed, in which is asked if they think is healthy to live in the three villages.

The answers are wired and unexpected if correlated to the point 4.1 and 4.0. Where before people care more about the environmental quality (in Wu Jing town and Fengcheng town area) most of the people answer that is healthy to live in the village. Instead, in Chonggu town, where people care less about the environmental quality, people think is not healthy to live in the area.

The results from the point 4.2 says that citizen think is healthier to live close to industrial area, as in Wu Jing town and Fengcheng town, instead that in area where there are not industry as in Zhang Nian village in Chonggu town.

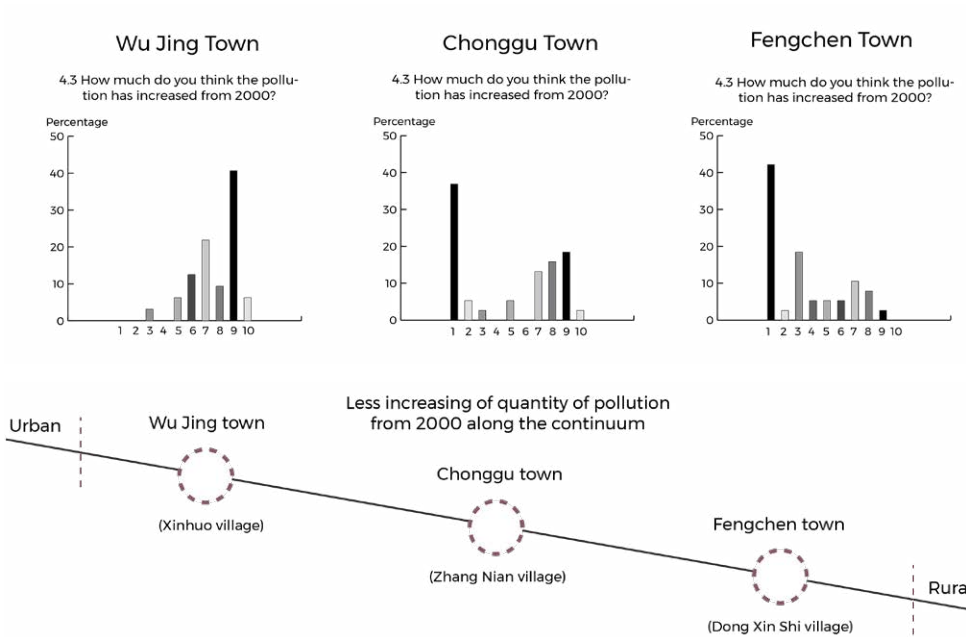


Figure 73. Continuum visualization

The point 4.3, investigate about how much for the citizen the pollution has increased from 2000.

The answer draw a clear trend along the urban rural continuum, in which Wu Jing town have a strong increased of the pollution, Chonggu town less, and Fengchen town almost none (more the 40 percent of the interviewed answer “1”, the minimum quantity). Following these answers is clear that the pollution is increased more in the villages close to the urban areas where the industrialization has been dramatic, and decrease along the urban rural continuum, reaching the lower amount in the area farthest to the urban core in Don Xin Shi village of Fengchen town.

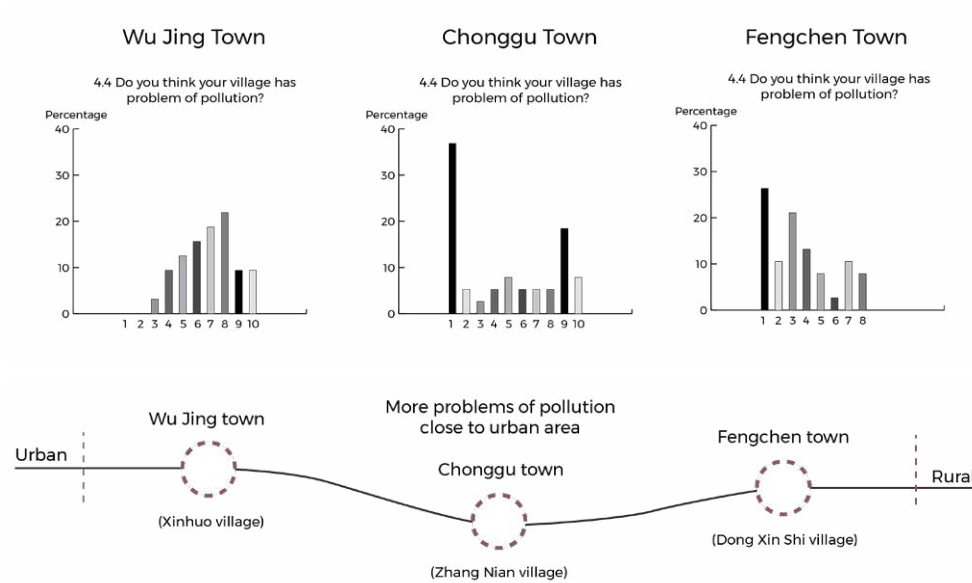


Figure 74. Continuum visualization

The point 4.4 investigate about the impression of the interviewed, regarding the presence of pollution in the village.

The result shows a clear situation in which Wu Jing town is the area with higher problems, instead the area of Chonggu town and Fengchen town faced lower problems due to pollution.

The industrial area around Wu Jing town is huge, and its environmental impact on the area is strong.

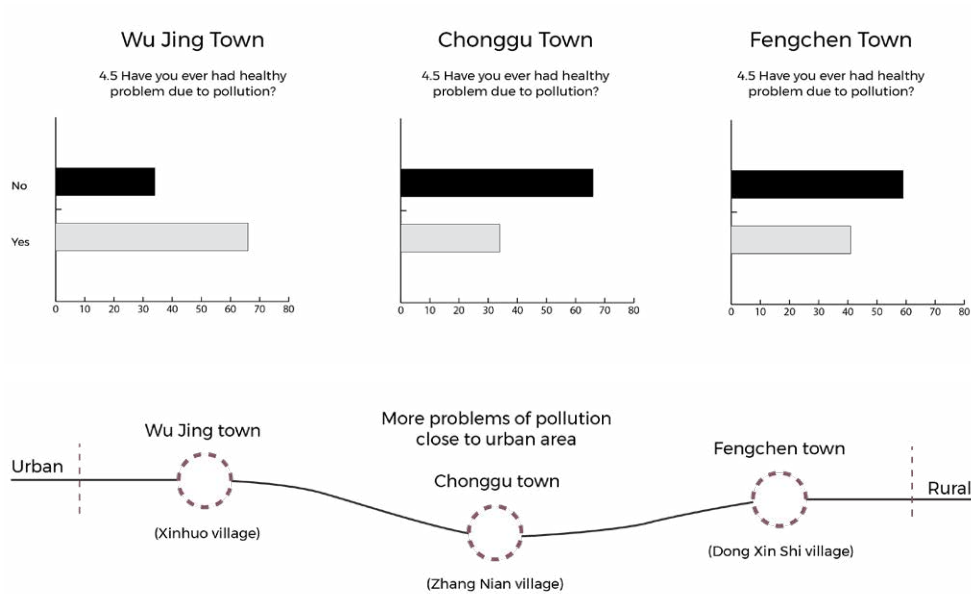
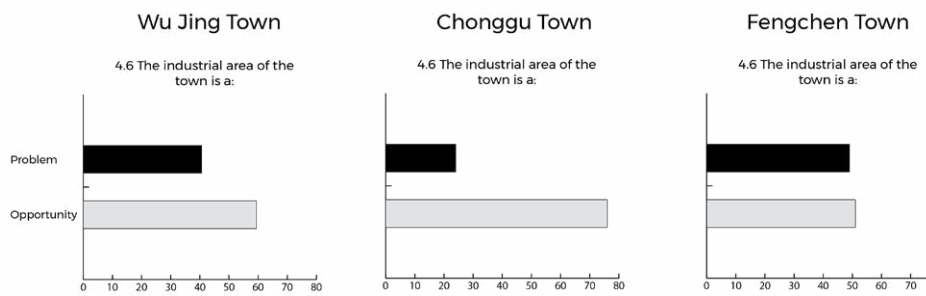


Figure 75. Continuum visualization

The question 4.5 aim to investigate about the quantity of pollution, asking if people had health problems that can be connected with the pollution.

These answers prove once again the correlation between the closeness to the urban core and the closeness to rural area.

In the area of Wu Jing town almost 70 percent of the interviewed answer “yes”, instead in Chonggu town and Fengchen town there is an opposite situation, in which around 60/70 percent answer no. Focusing on the urban rural continuum, it is recognizable that in the area close to the urban core of Shanghai there is most of the population that had health problems due to pollution, moving far from the urban core (in Chonggu and Fengchen areas) this problems decrease reaching almost half of the cases of sickness.



The last relevant question of the section d is about the personal impression of the residents regarding the industrial area in the town, asking if for them is a problem or an opportunity.

All around the world the industrial site have two faces, they increase the economy, bringing jobs in the, and increasing the stability of the area. From the other side they can bring negative externalities as air and water pollution, sickness, degradation of the natural environment, etc.

The aim of the point 4.6 is to understand if the local population are looking to the industrial area in a positive or negative manner. The results shows that in Wu Jing town and Chonggu town the most of the population think that the industrial area is an opportunity, instead in Fengchen town the result is divided in 50/50. This can be due to the situation of illegality in which the village was before the furniture industry was relocated by force.

V. Conceptualizing the plural impacts of peri-urbanization across Shanghai's urban-rural continuum

After describing the data collected from the surveys, it is important to proceed doing a correct analysis. The manner choose to analyse the questionnaire is to select the most relevant data as indicators and to build an index by merging them. The order chosen to develop this process start from select the survey's most relevant questions and create different indicators, calculate them with a mathematical expression in order to give a specific weight to each of the different indicators, with the final step that merge the different indicators in order to calculate the index.

5.1 Which are the indicators, and how to choose them?

Indicators are defined as quantifiable constructs that provide information, either on matters of wider significance of that which is actually measured, or on process and trends that otherwise might not be apparent (Hammond et al, 1995). Summarising the indicators have the ability to encapsulate a complex reality in a single data. The utility of an indicator is the possibility to translate several intangible processes and use them as a decision making data, in particular indicators are useful to monitoring the changes over time. One example of how to use and utilize data from indicators is the United Kingdom sustainable development strategy, that is monitored using 15 headline indicators, 147 core national indicators, and 29 local indicators all regarding aspects of economic growth, social progress and environmental protection (DEFRA, 2002).

5.1.1 Indices the indicators

Different indicators can be used by their own, having a little meaning, or they can be aggregate in order to form index with a wider significance (Katharine V., 2014). Using indices can bring several advantages, as showing the data in a more simple way, and make them easier to understand incorporating several variables, and creating a more realistic model of reality. As an example, The

World Economic Forum, has created an Environmental Sustainability Index based on 67 variables represented by 22 indicators within 5 broad dimensions (environmental systems, reducing environmental stresses, reducing social vulnerability, social and institutional capacity, and global stewardship) (WEF, 2000). Indices are used in several fields, their can be defined as one of the most common manner of showing data, using them to show the reality in simple manner, and permits comparisons along space and time.

Using indicators and indices can bring several problematics; it can be no realistic or accurately in representing condition or processes. More is complex the reality that the indicator is trying to capture, the higher is the possibility of having mistaken in the representation. For example, trend as globalization can be define in several manner by people with different backgrounds, in which they may focus mostly on different data, which bring to have different index. In any case, these data have to be chosen ensuring to have quantifiable indicators that can be representative in the globalization phenomena.

Aggregating indicators can create even more chance for the research to be more subjectable, whilst the purpose for indicators is to better understand the complexity of reality, which can be showed in several manner.

Even with an important and relevant theoretical frameworks of the processes and conditions involved, indicators can necessarily only be a certain moment along the time, and thus is a limit in their ability to represent dynamic processes. A critical evaluation of the appropriate use and limitations of indices is necessary, also due to the fact that they usually link several data from several sources. To create the most robust and durable results, it is possible to define that indicators and indices are never complete: they are along a process of evolution, that is a continual process of refinement, so that the indicators and index have the greatest possible validity and thus utility (Katharine V., 2014).

5.2 Choice of indicators as determinants of impacts along Rural Urban Continuum

The index of this research is developed in order to represent three impacts (social, economic, and environmental), that are shaping the peri urban area along the urban rural continuum (table 4). In order to investigate these trends, has been chosen several different results from the surveys. Is studied that the three impacts summarized the main changes that happened in the peri urban fringe, to quantify them, it has been decide to utilize only data collecting by surveys, these indicators were chosen because of their simplicity and facility to be comprehensible, within the constraints of data availability.

5.2.1 Social fabric

The first sub-index regard the macro topic of social wellness, inside the index there are indicators about healthcare, education, and safety. The social index is useful to understand the quality of living standard of the peri urban citizen's (Yan Guo, et al., 2015), until several years ago the quality of these indicators in the peri urban areas was dramatically low, the purpose is to understand how much the social quality has change from 2000 in the peri urban fringe of Shanghai.

5.2.2 Economic and well being

The economical gap between urban and rural issue has been always strong, for this reason is important to analyse how is the economic situation in the peri urban fringe in one of the richest cities in China. The analysis will allow the research to understand if the citizens of these areas are able to afford the basic needs (Yan Guo, et al., 2015), and in which manner the resident of the area are earning their income, underline the disparities in the area (Aloyce L., 2003).

5.2.3 Environmental quality

The environmental quality is the issue usually taken less in consideration compared to the other (human wellbeing) topic of economic and social impacts. In the last decades, the peri urban areas were places in which the environmental quality was low, with dramatic hygienic and living standard condition. In order to improve

these characteristics the municipality of Shanghai developed several strategies, the aim of this index is to represent how is the local citizen perception of the environmental quality of the area (Jieming Zhu, 2012), and how much has been improved in the last two decades.

Table 4. Summary of variables, indicators and data sources used in the index

Determinant of rural urban continuum / sub-index	Component indicators	Meaning of each indicator	Hypothesised functional relationship between indicators and continuum	Data source
Social fabric	Perceived quality of healthcare	Population satisfaction	Higher increase of the quality in the area close to the urban zone	Own survey
	Improving of healthcare from 2000	Success of public investment in the field	Higher improvement in the area close to the urban zone	Own survey
	Perceived quality of education	Population satisfaction	Higher increase of the quality in the area close to the urban zone	Own survey
	Improving of education from 2000	Success of public investment in the field	Higher improvement in the area close to the urban zone	Own survey
	Perceived quality of safety	Population satisfaction	Higher increase of the quality in the area close to the urban zone	Own survey
	Improving of safety from 2000	Success of public investment in the field	Higher improvement in the area close to the urban zone	Own survey

	Increase of the residential utilities price	Affordability for the local citizen to pay the utilities	Higher increasing in the area close to the urban zone	Own survey
Economic and well being	Residential utilities cost relate to the income	Affordability for the local citizen to pay the utilities	In the urban area citizen will afford easily the cost of the utilities	Own survey
	Resident income average	Spending capability	Higher income in the area close to the urban area	Own survey
Environmental quality	Increasing of pollution from 2000	Clear overview on the situation during the last two decades	Higher pollution close to the urban area	Own survey
	Perception of pollution	consciousness of the situation	Citizen perceive higher pollution close to the urban areas	Own survey
	Importance gave to pollution	Involvement of local population	Citizen give more importance to pollution in the more polluted area	Own survey
	Importance gave to natural area	Involvement of local population	Citizen give higher importance to the natural area where are not present	Own survey

5.3 standardize the indicators in indices

The methodology used to calculate the different indices is taken from Katharine Vincent theories; this method has been developed in order to calculate the vulnerability index and it fit in this case research.

Having considered the theoretical determinants of the three impacts and selected appropriate indicators to showing them, another step

needs to be made in order to standardise these variables and create an index of social, environmental and ecological impacts. All the variables will be adjust in a scale from 1 to 10, where 1 is the lowest mark and 10 is the best mark, the different indicators will be add up and multiply by their weight.

This research has derived theories driven aggregate impacts indexes about economic, social, and environmental issues.

These impacts are formed through calculate the weighted average of five composite sub-indices:

- Social index is formed by six indicators; the perceive quality of healthcare, education and safety (account for a 50%), and the improving of quality of these three data (account for another 50%).
- Economical index is formed by three indicators; the increasing of the price in the residential utilities, which is a negative indicator (account for 33%), the affordability of these utilities (33%), and the average resident income (that has been standardize) (33%).
- Environmental index, is formed by four indicators: the increasing of the pollution from 2000 (that is a negative indicator, account for 25%), the pollution perceive (negative indicator, account for 25%), the importance gave to the presence of pollution (25%), and the importance in presence of natural areas (25%).

Table 5. Data orientation, from survey to indices

N. of the question in the survey	Wu Jing town	Chonggu town	Fengchen town	Weight	Data typology
Social index					
2.4	8,2	6,7	5,8	16%	healthcare
2.5	9,1	6,3	6,1	16%	
2.7	7,6	6,2	5,3	16%	education
2.8	8,5	5,0	5,4	16%	
2.9	9,3	9,4	8,3	16%	safety
2.11	8,7	8,3	8,6	16%	
Economic index					
3.14	9,0	6,0	4,8	33%	price of utilities
3.15	7,2	5,6	6,1	33%	
5.3	9,6	6,2	9,2	33%	income

Environmental index					
4.0	8,5	5,3	7,7	25%	price of
4.1	9,0	5,7	7,5	25%	utilities
4.3	2,3	5,1	6,6	25%	increasing and
4.4	3,1	5,3	6,4	25%	problem due to pollution

The outcome will show in detail how the three indices are derived and which is the weight of the single indicators. The overall equation can be summarized as thus (Katharine V., 2014):

$$\text{Index}_i = \sum (l_i * W_i) (l_{ii} * W_{ii}) (l_{iii} * W_{iii}) (l_{iv} * W_{iv}) \dots \quad (1)$$

Where l_i is the single indicator, and W_i is the weight gave to it. For all of the three villages it has been calculated each of the three different indices, whit a total of nine values. These nine values will be placed along urban rural continuum and will allow to better understand the changes along it.

Wu Jing town indices:

$$\text{Social} = (8.2 * 0.16) (9.1 * 0.16) (7.6 * 0.16) (8.5 * 0.16) (9.3 * 0.16) (8.7 * 0.16) = 8.3$$

$$\text{Economic} = (9 * 0.3) (7.2 * 0.3) (9.6 * 0.3) = 8.6$$

$$\text{Environmental} = (2.3 * 0.25) (3.1 * 0.25) (8.5 * 0.25) (9.0 * 0.25) = 5.7$$

Chonggu town indices:

$$\text{Social} = (6.7 * 0.16) (6.3 * 0.16) (6.2 * 0.16) (5.0 * 0.16) (9.4 * 0.16) (8.3 * 0.16) = 6.7$$

$$\text{Economic} = (6.0 * 0.3) (5.6 * 0.3) (6.2 * 0.3) = 6.0$$

$$\text{Environmental} = (5.1 * 0.25) (5.3 * 0.25) (5.3 * 0.25) (5.7 * 0.25) = 5.4$$

Fengchen town indices:

$$\text{Social} = (5.8 * 0.16) (6.1 * 0.16) (5.3 * 0.16) (5.4 * 0.16) (8.3 * 0.16) (8.6 * 0.16) = 6.3$$

$$\text{Economic} = (4.8 * 0.3) (6.1 * 0.3) (9.2 * 0.3) = 6.3$$

$$\text{Environmental} = (6.6 * 0.25) (6.4 * 0.25) (7.7 * 0.25) (7.5 * 0.25) = 7.1$$

5.4 Evaluation of results along the rural urban continuum

As discussed in the previous points, aggregate values play an important role in simplifying multiple processes into a single figure, developing a clear conceptual framework, and identifying where to place the data along the rural urban continuum.

The indices are represented using the manner explained in the (fig. 52) of the previous chapter, this manner of representation will create a clear understanding of the continuum's situation.

The final outcomes are shown in the figure 77, 78 and 79. The result shows a series of trends that are facing the three areas along the continuum. Starting with describing the general value of the urban area in the index is assumed from the literature that in the areas as Shangahi and An Ting new city have social and economic qualities higher than in the peri urban areas. Other assumed has been done regarding the environmental quality, in which in the urban areas is usually low, but not lower than industrialized area as Wu Jing Town. It has been define the rural area quality, in which the social and economic indices are low, instead the quality of the environment is high.

Starting with analysing the social index, it is understandable a clear trend along the urban rural continuum, in which Wu Jing town have a higher marks, that mean higher quality of services and improvement of them from 2000. The second area along the continuum is Congghu town, in which there is a dramatic decreasing of the index, that is still higher than in Fengchen area. From the schema of figure 77 is clear the decreasing of the social index along the continuum, which means that in the farthest peri urban area from the town there are less services and less improvements.

The second analysis is about the economic index (figure 78), in this case the outcome is different; the index is high in Wu Jing town, which is understandable because of its vicinity with a big industrial cluster, than is decreasing faster in Chonggu area (in which there are few industries). The uninspected outcome is about Fengchen area, which as the farthest one that was expected to have the lower economical index. In this case is appropriate to indicate that in the area there was a presence of a huge cluster of furniture factories

that recently has been relocated, despite this in the area there is still an important market and logistic centre about furniture, which help the economical index to rise and be higher than in Chonggu area. The last index to focus on is the environmental one (figure 79), in this case we can define a clear trend in which Wu Jing town, that is the most industrialized area of the three, and have one of the lowest mark. It is recognizable a clear rising in the quality of the environment along the continuum, reaching the best point in Fengchen area. It is also interested to detach the index in two value that have the same “direction” as in figure 76 in order to better understand that in the polluted area there is an higher importance gave to the presence of pollution, instead in zone with an higher environmental quality people give less importance to the presence of pollution.

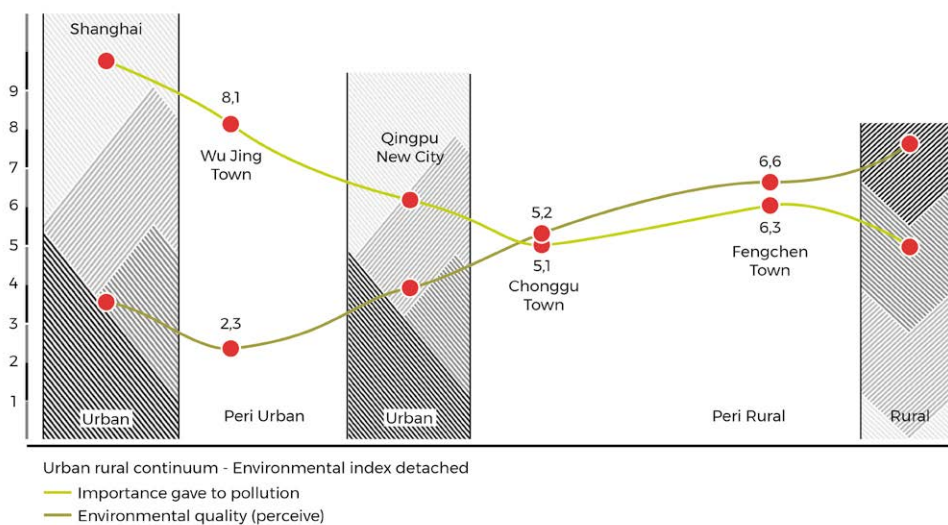


Figure 76. Environmental index detached

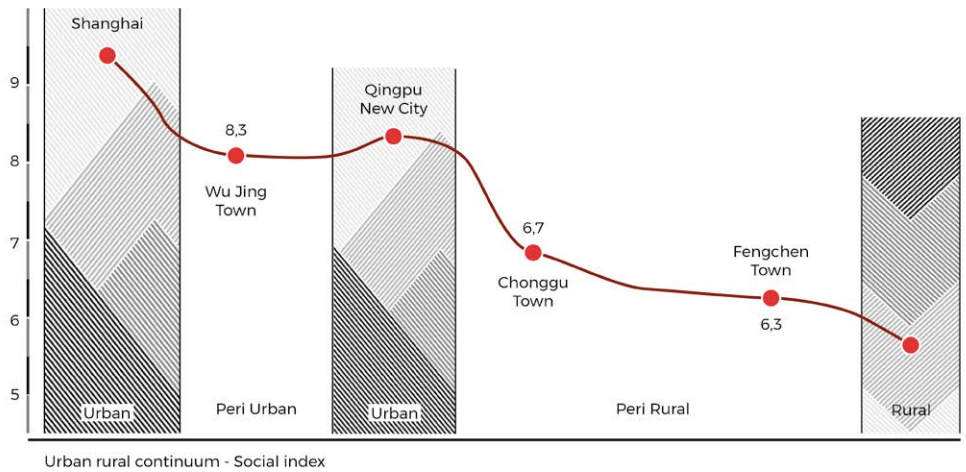


Figure 77. Social index along the urban rural continuum

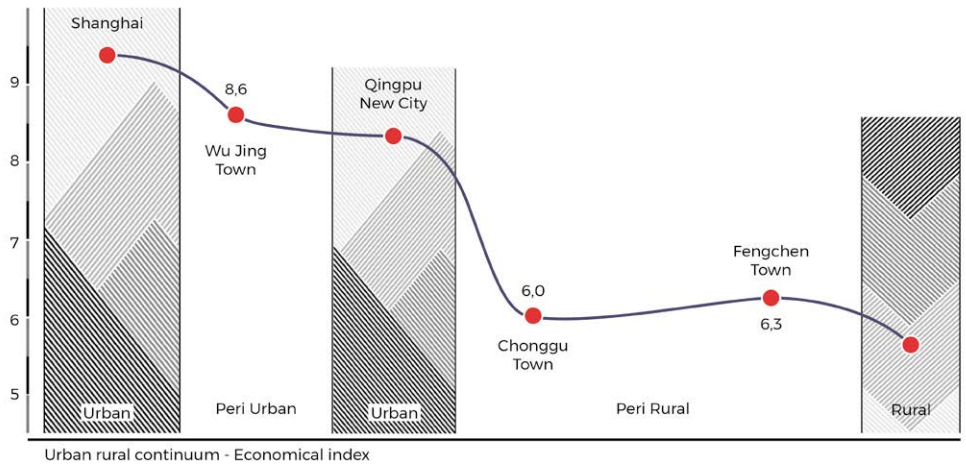


Figure 78. Economic index along the urban rural continuum

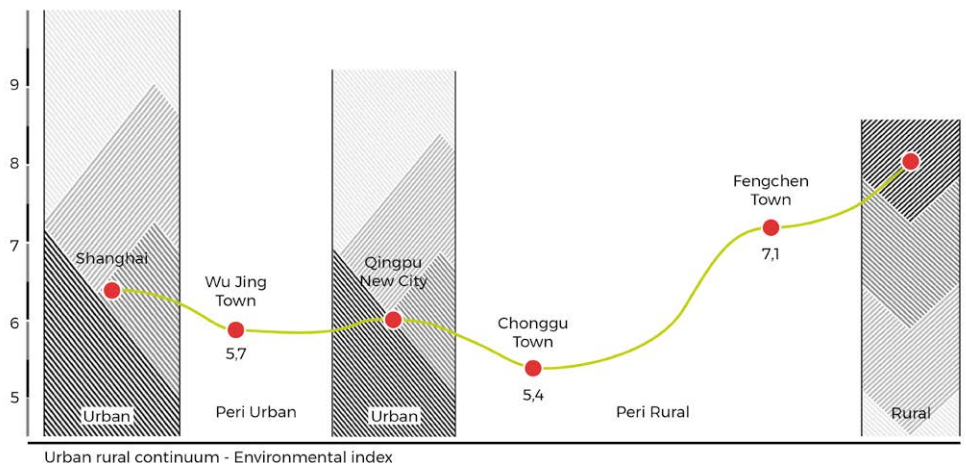


Figure 79. Environmental index along the urban rural continuum

After having analysed the three indices, the outcome is a wide overview of the Shanghainese peri urban areas situation. It is clear the correlation between the urban areas and strong impacts, in which Wu Jing town is the area with more changes and is also the area closest to the urban core. From the results it is possible to predict that in several years, in Wu Jing town area the last villages will be demolished and the peri urban area will be replaced by the urban one.

Another clear point is the poverty in Chonggu area, in which the social and the economical index are low, seems that An Ting new city is not having a strong influence on the village in terms of economy and social quality. This situation can be due to several reasons, as explained in the previous chapter Zhang Nian village is without factories and is facing strong changes, the future for this village will be correlated with its environmental qualities; the village is surrounded by agricultural land and canals, which create beautiful landscape. Utilizing these qualities, the village aims to become an important touristic water town attraction.

Fengchen town area, as the farthest one from the urban core, was expected to be with lower incomes and low social standards. This prediction was half-true, because in the area there is a presence of a big cluster of furniture warehouse, that gave work to many residents, and many migrants that are living in the area. Also if most of this cluster has been relocated, there are still many local producers working in the area.

VI. Conclusion

The meaning of this research was to define and set a clear overview of the actual situation in the Shanghainese peri urban area. In order to ensure this, three different villages had been studied and analysed, this brought to a series of thought and understanding.

6.1 Peri urban area as a “restless landscape”

As understand from the literature, the peri urban areas are fasting changing and, what we can study is just a short moment in their evolution (J. Friedmann, 2016). After studying the three villages is it clear that in several months, or few years the situation will dramatically change in all of the three areas.

In Wu Jing town, the presence of the small peri urban fringe, composed by small settlements is going to disappear, leaving space to the urban areas. In this area many change are happening as the construction of the new metro line 15, and the expanding of the high technology park. These changes will strongly modify the life of the local citizens and immigrants of the area. What is clear from the survey's results it that these changes bring an improvement in the social services and an improvement in the local economy, this is a positive outcome of urbanization. What is not clear is the loose in terms of local culture and rites, the cost of erase the identity of the area. Another negative point from the survey's outcome is the degradation of the environment in the village, Wu Jing area results the village with the poorest environment.

The Chonggu town area is facing a completely different situation, from the spatial analysis is clear that most of the area remain agriculture based. This allow the village to preserve its environmental qualities, thanks also to the Qingpu district polices. In this moment, the economy is stagnant, but as emphasised in the previous chapter the peri urban areas are “restless landscape” and from the research investigation is clear that in short time the area will drastically change, here the plan is to transform the village in a touristic water city. The problematics due to these changes can be several; already during the site visit and interviews with residents¹⁸

¹⁸ Site visit done the 8/9 march 2019

was showed that many local people were leaving the area. Also in this case, as the case of Wu Jing town, we can faced a loss of local identity, with also a possibility of commodification of the area, which can bring an improvement of services and economy.

Focusing on the last village in Fengchen town area, it was assumed, following the urban rural continuum concept, that the farthest area from the urban core was also the most disadvantage one between the three. This assumption is partially true, looking at the results and outcomes from the analysis is it possible to define a series of trends. The area has recently change from industrial based to mostly commercial based, losing in this process hundreds of jobs, for this reasons many immigrants are leaving the village. Taking in consideration these data is possible to define that the area is shrinking and the economy is weak, but still more active than in Chonggu area. Don Xin Shi village is an area that is in between two moment, with an important amount of disposable land that can be utilize and transform in future from big investors. The area is also well connected with the city of Shanghai, Pudong Airport, and the port of Shanghai, with a network of roads and highways, which allows easy transportation of people and goods. It is clear that the area have to choose a direction for its development, which needs to take in account the needs for the local residents.

6.2 Research questions analysis

6.2.1 Q1: How to conceptualize different reality of the Shanghainese peri urbanization?

In order to create a concept that represent the peri urban fringe of Shanghai, it has been chosen three representative villages with different characteristics, with the aim to cover different peri urban realities. The villages had been studies using different approaches (spatial and quantitative). The outcome is a wide overview of which is the peri urban situation of Shanghai; it is clear the effort that the Shanghainese municipality did, and is doing in order to improve the living condition, the economy, and the environmental problems in these areas, trying to solve the problematic situations,

as for example the illegal settlements, poverty, and environmental degradation. Studying the literature, the overview about Chinese peri urbanisation show a dramatic situation around to country (Abramson D., Cohen B, Friedman J., Logan J. R.), in which the peri urban areas are facing a series of relevant and drastic problems. However, from the focus and studying on the three chosen villages in the Shanghainese area, it is clear that the situation in the peri urban fringe of Shanghai is higher and better than in others part of China, and the effort made from the municipality is recognisable and is giving several positive results. In all of the three villages had been carried out several policies of “cleaning” in which illegal settlements, and illegal buildings has been demolish. Furthermore, it has been improved the public infrastructure and the transportations system in these areas, in order to rise the connectivity of people and goods. Notwithstanding the peri urban area of Shanghai is still much more poorer than the urban area, and there are still several issue to solve, but from the research outcome is clear the trend of improvement during the last years. The next step can be to try to reach the western standard of quality, in which the gap between urban and rural is less drastic (Julie Le Gallo, 2004).

6.2.2 Q2: Do villages with different characteristics faced the peri urbanization impacts in different manner?

After underline the similarities and the differences of the three villages, and studying the opinion of the resident through questionnaire and indices, it has been create a clear overview about the three impacts that has been investigated.

All of the villages are facing similar trends, as poverty, relocation of local resident, presence of immigrants and fast changings, even if, each one with different strength. Focusing on the three impacts (social, economic, and environmental), the results show different outcomes along the urban rural continuum, this is due mostly to the various characteristics of each of the villages. From the indices outcome is clear the differences in the strength of the impacts in the three villages along the urban rural continuum, in which Wu Jing town is facing the highest changes in spite the other two areas.

Recalling the Webster¹⁹ definition of peri urban area, in which his emphasize these places to be in a process of transition, is clear that the three villages are facing these process undertaking similar issues, but they are doing this with different weight and characteristics. In order to answer the question, is possible to assume that there are similar trends in which peri urban villages are facing the peri urbanisation, but each of the village is treating them in a different manner, creating unique transition patterns in which each single case can evolve as a result of different impacts. To conclude is possible to declare that the peri urban area of Shanghai show a successful case of restoration of legality and environmental protection, with the process of regeneration that just started and need to be consolidate in the next years. This case should be taken as an example of “good practice” for other cities all over the country.

6.3 Future research

The next step of the research should analyse a series different peri urban villages around the main cities of China, and understand which are the differences between them, looking to the several policies that had been used in the different context. A second step can be done analysing international cases in order to understand which are the different trends that characterise countries and continents. Knowing this wide differences can allow to undertake a decision making process that is more detail and conscious about the possible evolution of the urban-rural interface.

¹⁹ A process in which rural areas located on the outskirts of established cities become more urban in character, in physical, economic, and social terms, often in piecemeal fashion (Webster, 2002)

Critical point of view from European perspective

This part of the dissertation was written to explore the differences in cultural background of the author of the thesis and the academic environment the work was developed in. It is a crucial and in the same time sensitive issue that has to be taken into account by reader.

Learning strategies and approaches in academic field in China differ significantly from the European system of education, as well as their social and political context differ one from each other. It is important to discuss on the issue of censorship as it affects directly the academic work developed during the academic career in Chinese university. Censorship in the context of China refers to the governing strategy of the Chinese Communist Party (CCP) to exercise control on the content and flow of information in Chinese society (Qiang 2011). All universities and colleges in China are under the control of a party committee, which oversees party affairs on campus and the running of the schools. All of the top universities in China are subordinate to the Ministry of Education, which controls funding resources and personnel issues. All of these measures facilitate political censorship within Chinese academia. Since 2012, China has further tightened political control over educational institutions with foreign connections and officials have called on universities to stop using imported textbooks with “Western values.” President Xi Jinping has called on all Chinese universities to be “strongholds of the party’s leadership” with “ideological work.” (Feng, 2017)

The censorship in the Chinese academy has a biggest influence in social and political sciences as it targets “sensitive topics” in the country’s political arena.

Even though the central issues of this thesis are not the main area of concern of the Chinese censorship, it still directly or indirectly point to certain aspects of the functioning of the central government.

Therefore the author of the work experienced certain restrictions while developing the work and making conclusions. In this chapter the final conclusions of this thesis work are discussed from the critical point of view, with a special focus on criticizing the three impacts studied in the previous part of the dissertation.

Following the requirements of the university, the professors strictly suggested students to choose a thesis topic that would deal with Chinese local issues. There was no possibility to choose a different topic from the ones related to China. Academic freedom has always been viewed as problematic in the Chinese country (Philip, 2009), for example one of the rules was that in the end of the academic year, the dissertation works could be controlled by government in spot-check mode. In the case the dissertation was not following the “governmental requirement” it would be asked to the student to restructure the work. These limits derived from “governmental interference” are profoundly linked to the Chinese Confucian knowledge tradition (Qiang Z., Wenquin S., 2018). Confucian values could constrain Chinese scholars in their academic pursuits. In the Confucian tradition, knowledge is less a matter of understanding the world than of changing it, and scholars can shift their trust in the academic freedom in order to follow the society interests of the government.

The research methods of this dissertation are mostly based on quantitative data collecting from the local citizen that lives in the three areas. My first concern about collecting data in political conditions of China is about the extent of freedom that interviewed people have while answering the questionnaire. The strategy was to “build” a questionnaire that allows people to answer also in a negative manner, to question about the actions undertaken by the government in that area. Another strategy that I used was to interview people with different background and age in order to have different perspectives. From my personal experience I understood that older people tend to be more proud about the government and they would hardly speak critically about it. During the process of collecting data, local citizens accepted to participate to the interview only after a detailed explanation of the thesis topic and its relation to Tongji University; and the fact that people interviewed were going to help the academic process by answering the questions. In this sense people were participating in the interviews to “help” the government overall interests.

In this dissertation the author calculate three impacts in three different peri urban villages. In this part there is a critical analysis the

outcome of the research focusing on every impact separately.

Social issues in the contemporary Chinese society



Figure 80. Local residents meeting area in Xinhou Village

The social index calculated in the chapter V was taking in consideration local citizen's opinion about quality of healthcare, education and safety. These macro topics had been used to construct the indices, in order to understand the unbiased opinions of people interviewed. In this case I would like to give some self-critics about the questions that are lacking in the questionnaire. There are some voids regarding which social rights people have, in several villages government forced people to relocate and leave the house, often these people were elderly which were living all the life in the same area. During the personal interviews²⁰ local resident stated that in case they would not accept to leave the area, the government had forced them to leave. What is left behind the questionnaires is the extent to which people feel protected or constrained by the central government along the urban rural

²⁰ Information from the interviews done in Zhang Nian Village the 09.03.2019

continuum. The outcome assumption can be that people living close to urban area where the social index is higher will rely more on the government, instead in the farthest area along the urban rural continuum, locals can feel farthest from the decision made by the public entities. The reason might be fact that usually the presence and initiatives of the government is more evident in more dense areas. For example, in Wu Jing Town there were several public amenities which comfort and increase the quality of life of the local citizens. Instead, during the site visits in Fengchen town and Chonggu town, the local residents expressed a common sense of abandonment, which can be identify as a spiritual sense of “separation” from the public entity.

A second important social issue is the presence of strong labors migration flows from the inner part of China. Shanghai is one of the Chinese eastern cities with the highest immigration flows (Laurence R., 2005). The immigrants are not allowed to live inside the administrative borders of urban areas because of the hukou regulations. The hukou regulations leads to social and economic segregation. In case of the City of Shanghai is it resulting in the high level of inequalities which divide migrants and citizens in two different class. Immigrants have less possibility to access the medical care services, public education, social security, and the housing market. The peri urban areas work as magnet to those people who cannot afford or are not allowed to live within urban areas. Therefore the peri urban areas become a centre of social inequalities.

Economic prosperity and the income polarization

The link between economic prosperity and inequality is a topic highly discussed between the experts and scholars around the world. There are many opinions regarding how inequalities change according to the economic growth (Perotti 1994. Forbes, 2000 and Arjona et al., 2001). The debate on the issue of inequality and economic growth continues. The main consensus comes from the idea that the income distribution in a country is traditionally assumed to shift from relative equality to inequality and back to

greater equality as the country develops (W. Adrian, et al., 2010). China is a particular case: the country is experiencing a fifty years long economic boost due to the opening reforms. In the same period, the Gini coefficient that is used to calculate the inequality grew from 0.22 in 1952 to 0.46 in 2018²¹.

Shanghai is the Chinese economic heart, the biggest port in China and financial center of the country. Thousands of workers come to Shanghai from all around the country to search for the better work opportunities. This inner immigration process together with a set of economic and political conditions determine a certain logic of spatial distribution of population within the Shanghainese peninsula. Peri-urban areas become a main destination where immigration flows relocate workers. This is, on the one hand, due to high rates in the housing rental market within the city of Shanghai.

The workers are often originated from the low-income rural areas and belong to low-skill labor force. Therefore, they are not able to settle in the more central location and are forced to move to peri-urban areas. On the other hand, there are also political circumstances that influence the migration flows; the hukou system does not allow immigrants from rural areas to settle down inside the border of the urban area. The outcomes of this dissertation show that the economic index decrease significantly along the urban rural continuum. It means that there are less economic possibilities moving farthest from the urban core. In



Figure 81. Interview with one of the last resident of Zhang Nian Village

²¹ National Bureau of Statistics of China

this sense, the government of Shanghai has more control over the low-income population as it has less power in protesting than the higher income classes. For example, the population of Zhang Nian Village was completely relocated away from the area, according to an agreement between the municipality of Shanghai and a private developer. This agreement proposed to “thematize” the old village as a commercial/touristic theme park. This project was developed without taking into account the historical heritage of the area. Another relevant example is Don Xin Shi Village, in which the high presence of illegal industrial settlements brought the government of Shanghai to forcibly shut down and destroy them. Most of the immigrant workers lost their jobs and move to another area with more work opportunities.

Ecological transition in the world power economy

In the past 50 years, after the “opening reform”, Shanghai experienced a dramatic expansion of the urbanized area and the urban green land (urban parks, street trees, lawns) at the expense of agricultural fields (Shuqing Zhao, et al 2006). The presence of pollutants (SO₂, NO_x, and total suspended particles) were higher in urban areas than in peri urban and rural areas, also if these concentration started to decrease in the recent years as a result of decreasing of the use of coal inside the industrial processes. The ecological index, calculated in this dissertation, shows that the quality of environment increases along the urban rural continuum. The case of Xinhou Village, the closest one to the urban area of Shanghai, underline the high environmental problems that is faced by the first city outskirts. In this case, there is still a high presence of small factories and informal settlements which create a harmful environment in the area. Here local citizens had always cultivated crops and fished to sustenance their families. After the environmental qualities dropped down, the quantity and quality of fish decreased, and the soil became polluted. Studying the future plan for the area and doing site visits in Xinhuo Village, it became clear that the government of Shanghai is trying to radically transform the area, bringing a high transportation system (metro line), building



Figure 82. Dry canal in Don Xin Shi Village

new commercial park in the area where several tech companies will move, and demolishing the old fishing villages, relocating the citizen away from the area. This action can lead to disruption of the roots and the history of these agricultural areas, extending the urbanized zone, and decreasing the environmental qualities of the closest peri urban areas to the city. Similar outcomes have been underlined in the other two studied villages (Zhang Nian Village and Dong Xin Shi Village), in which from the research outcomes, the quality of environment increase icomparison to Xinhou Village. This is due to the remote location of these villages, far from the city core, and the fact of low surrounding urbanization. The Chinese and Shanghainese government are actually investing much effort in restoring the environmental quality of the cities and villages. This can be seen in the strong relocation of industries far from the urbanized area, also in the several project of re-naturalization of the soil and wetlands landscape

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Graphs from the questionnaire (all own graphs):

1.0 Family composition

I. Sample average age

5.1 Gender

1.2 Why member of your family are emigrated out of the village?

1.5 In the next 3-5 years, do you have any intention to move?

1.6 Which is the main reason because you decide to move?

1.7 Which is the main reason because you decide to stay?

1.10 Would you like to change your Hukou status?

2.1 Do you think that the changes happened in your village (as industrialization and new built

environment) in the last two decades (from 2000) had a strong impact in your life?

2.2 Are you happy about these changes in your village in the last two decades?

2.4 Are you satisfy from the healthcare of your village?

2.5 How much do you think that the healthcare quality has been improved from 2000 until now?

2.7 Are you satisfy with the general citizen education level in your village?

2.8 How much do you think the education level has been improved for your village from 2000 until now?

2.9 Do you feel safe living in your community?

2.11 How much do you think the safety has been improved from 2000 until now?

3.0 Your occupation is?

3.11 Do you have heating system in your house in the village?

3.13 Do you own a car?

3.15 Are the cost of residential utilities affordable compared to your income?

4.0 How much is important for you the environmental quality in your everyday life?

4.1 Do you think that living close to natural green space can influence your life in a good manner?

4.2 Do you think is healthy to live in your village for you?

4.3 How much do you think the pollution has increased from 2000 in the village?

4.4 Do you think that your village has problem of pollution?

4.5 Have you ever had healthy problem due to pollution?

4.6 Do you think the industrial area in your village is problem or opportunity?

Appendix

a. English survey example

Understanding the Impact of Peri-urbanization on Rural
Communities in Shanghai
Case NO.1: Xinhua Village, Wu Jing Town questionnaire

Dear dwellers:

Hello, we are Tongji University students, from the college of Architecture and Urban Planning. We are trying to understand some of the main issue regarding the social, economic and environmental trend about your village. All the information treated here will be used only for research purpose, you can stop completing the questionnaire at any time. We would really appreciate you filling out the questionnaire to help advance our research. Your answers to this questionnaire are anonymous so no one will know who you are once you have completed it. If you continue with this questionnaire you are agreeing to your answers being used in our research which will be presented as part of our group work.

Thank you.

Tongji University College of Architecture and Urban Planning 2019.02

Section a (Family information)

1.0 Family composition:

- a. Living alone b. Living only with partner b. Core Family (parents and unmarried children) c. Family (parents and a married child) d. Family (parents and married children living together) e. Living with non-immediate relatives such as brothers and sisters f. Other _____

1.1 The total number of your “economic household” is: _____

(economic household is comprised of extended family members that share income and expenditure together, might be more than a core family)

1.2 How many members of the your “economic household” have emigrated out of the village? _____

Why did they emigrated?

- a. Work b. School c. Family d. Other _____

1.3 List your changing occupations since the 2000?

1st job: _____ 2nd job: _____ 3rd job: _____

4th job: _____ 5th job: _____ 6th job: _____

add more if necessary _____

1.4 Did you notice changes in the social relations between residents from 2000, in which way?

- a. No changes b. People become more indifferent
c. People become more friendly

1.5 In the next 3-5 years, do you have any intention to move out of the village?

- a. No (skip the next question) b. Yes

1.6 Which is the main reason because you decide to move? (Select up to two):

- a. Work relocation b. Children education c. Improve living conditions
d. More employment opportunities e. Because of relatives and friends
f. Marriage g. To find more public services and facilities
h. Improve the transportation conditions i. Others (please specify): _____

1.7 If you do not plan to move, which is the main reason? (Select up to two):

- a. There are many job opportunities and good income in the town
- b. Fear to don't find stable jobs in the city
- c. Worried that the status cannot be transferred
- d. Worried about find a good house in the city
- e. I'm not used to urban life
- f. Lack of social security
- g. Need to support the elderly in rural areas
- h. Others, please briefly describe _____

1.8 Do you wish your children would live in this village for his life?

- a. No
- b. Yes Why? _____

1.9 Your Hukou status is:

- a. Agricultural hukou
- b. Non-agricultural hukou

1.10 Would you like to change your hukou status?

- a. No
- b. Yes Why? _____

1.11 If you there will be the possibility to transfer your status in a non-agricultural hukou, will you choose which of the following?

- a. Transfer to the account and move the city (Shanghai)
- b. Transfer account but not move the city (Shanghai)
- c. Move the city (Shanghai) but do not transfer account
- d. Other _____

Section b (Neighbourhood impression)

2.0 What first attracted you to live in this neighbourhood? Was it because you:

- | | Yes | No |
|-------------------------------------------|--------------------------|--------------------------|
| a. Was born in this neighbourhood | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Liked the neighbourhood | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Wanted to be nearer family/friends | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Wanted to be nearer to work | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Wanted to be nearer your own community | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Did not have a choice | <input type="checkbox"/> | <input type="checkbox"/> |

From 1 (few) to 10 (a lot)

2.1 Do you think that the changes happened in Xinhua Village (as industrialization and new built environment) in the last two decades (from 2000) had a strong impact in your life?

1 2 3 4 5 6 7 8 9 10

2.2 Are you happy about these changes in Xinhua Village in the last two decades?

1 2 3 4 5 6 7 8 9 10

2.3 From how long are you living in Xinhua Village?

- a. I've born here b. Year _____

2.4 Are you satisfy from the healthcare of Xinhua Village?

1 2 3 4 5 6 7 8 9 10

2.5 How much do you think that the healthcare quality has been improved from 2000 until now?

1 2 3 4 5 6 7 8 9 10

2.6 How long it takes to reach the closest hospital from your home? You usually go by:

- a. By car _____ minutes b. By motorcycle _____ minutes
c. By foot _____ minutes

2.7 Are you satisfy with the general citizen education level in your village?

1 2 3 4 5 6 7 8 9 10

2.8 How much do you think the education level has been improved for your village from 2000 until now?

1 2 3 4 5 6 7 8 9 10

2.9 Do you feel safe living in your community?

1 2 3 4 5 6 7 8 9 10

2.10 Are you satisfy with the general safety level in your village?

1 2 3 4 5 6 7 8 9 10

2.11 How much do you think the safety has been improved from 2000 until now?

1 2 3 4 5 6 7 8 9 10

Section c (Economical Information)

3.0 Your occupation:

- a. Agriculture b. Factory workers c. Commercial and service
- d. Self-employed e. Housework f. Public worker (party organizations, enterprises, institutions) g. Professional and technical
- h. Production and transportation i. Military l. Students
- m. Retired n. Unemployed
- o. Other, please briefly describe _____

3.1 Where do you work?

- a. local town center b. local distrit center c. downtown Shanghai
- d. other city (please specify) _____

3.2 Are you commuting to your work location every day?

- a. No b. Yes

3.3 Have you purchased commodity housing in urban area?

- a. No b. Yes

3.4 If yes, where are your commodity housings located?

- a. Local town center b. Local distrit center
c. Downtown Shanghai d. Other city (please specify) _____

3.5 For how long you were saving money in order to buy your apartments in urban area?

- a. < 5 year b. For _____ years c. I had money from family / friends

3.6 Are you renting your house / room in the village to other people?

- a. Yes b. No

3.7 Are you renting your house / room in the urban area to other people?

- a. Yes b. No

3.8 Are you renting your arable land to other people?

- a. Yes b. No

3.9 How much do you get from the village collective as dividend?

Yuan_____ per year

3.10 How many square meters is your house? _____ sqm

3.11 Do you have heating system in your house in the village?

- a. Yes, from when _____ b. No

3.12 Do you have water supply in your house in the village?

- a. Yes, from when _____ b. No

3.13 Do you own a car?

- a. Yes, from when?_____ b. No

3.14 In your community, do prices of residential utilities (gas, electricity, water) increased in the last five years?

1 2 3 4 5 6 7 8 9 10

3.15 Are the cost of residential utilities affordable compared to your income?

1 2 3 4 5 6 7 8 9 10

3.16 What are the types of income you and your family get? (multiple selection)

- a. salary (main job) b. retirement pension c. additional jobs
d. income from own business e. other (specify) _____

Section d (Environmental information)

4.0 How much is important for you the environmental quality in your everyday life?

1 2 3 4 5 6 7 8 9 10

4.1 Do you think that living close to natural green space can influence your life in a good manner?

1 2 3 4 5 6 7 8 9 10

4.2 Do you think is healthy to live in Xinhua Village for you?

- a. Yes b. No

4.3 How much do you think the pollution has increased from 2000 in the village?

1 2 3 4 5 6 7 8 9 10

4.4 Do you think that Xinhua Village has problem of pollution?

1 2 3 4 5 6 7 8 9 10

4.5 Have you ever had healthy problem due to pollution?

- a. Yes b. No

4.6 Do you think the industrial area in Wu Jing Town are:

- a. Problem b. Opportunity

4.7 Do you work in the industrial area of Wu Jing Town?

- a. Yes b. No

4.8 Do you know people been relocated in order to developed new buildings / new areas?

- a. Yes b. No

4.9 How do you feel about it?

- a. Happy b. Sad c. Jealous d. Indifferent e. Other _____

Section e (Personal data)

5.0 Age: _____ years old

5.1 Gender: a. Male b. Female

5.2 Education level:

- a. None b. Elementary school c. Junior high school
d. High school technical e. Junior college
f. Bachelor degree or above

5.3 Your personal monthly income last year:

- a. No income b. <500 yuan c. 500-1000 yuan
d. 1000-2000 yuan e. 2000-3000 yuan f. 3000-5000 yuan
g. 5000-7000 yuan h. 7000-10000 yuan i. > 10,000 yuan

b. Chinese survey example

调查问卷：如何理解郊区城镇化对上海周边农村社区的影响——以吴泾镇星火村为例

尊敬的居民：

您好！我们是来自同济大学建筑与城市规划学院的学生。我们正在进行一项基于当地社会、经济和环境因素的郊区城镇化议题的研究，以下所有问题的答案都仅用于研究目的。

我们非常地希望您能抽出一些时间完成我们的调查问卷，您的所有回答内容都是匿名的，问卷也会被保密管理。

最后，如果您愿意完成这份调查问卷，我们将对您为此项研究的支持表示衷心的感谢。

谢！

同济大学建筑与城市规划学院2019年2月

第一部分 家庭信息

1.0 您的家庭构成

- a. 独自居住 b. 与伴侣同居 c. 夫妻同居且有未婚子女
d. 夫妻同居且有已婚子女 e. 夫妻与已婚子女家庭同居
f. 与非直系的其他兄弟姐妹或其他亲戚同居 g. 其他情况_____

1.1 有收入的家庭成员个数 _____（此问题指您的家庭中有固定收入来源并与家人共享收入的人数，不仅限于您的家庭成员；例如：一家三口仅父亲有固定收入并借此供养全家，则共享收入的家庭成员个数为1）

1.2 您的家庭有多少有收入的家庭成员搬出了村庄？ _____ 搬出村庄的原因是什么？

- a. 工作 b. 学习 c. 独立成家 d. 其他 _____

1.4 您是否关注到自2000年起，社会关系开始发生变化，在哪方面会有变化？

- a. 没有变化 b. 人们变得更相似 c. 人们变得更友好

1.5 在接下来的3至5年里,您是否有迁出农村的想法?

- a. 没有(请跳过下一个问题) b. 有

1.6 您想迁出农村的原因是什么?(最多勾选两项)

- a. 工作地点的变化 b. 子女上学 c. 提高生活水平
d. 寻找更多工作机会 e. 因亲属或朋友原因 f. 结婚
g. 因公共服务和基础设施的缺乏 h. 因交通水平的落后
i. 其他原因_____

1.7 您不想迁出农村的原因是什么?(最多勾选两项)

- a. 附近城镇拥有许多工作机会和可观的收入
b. 担心在城市中找不到合适稳定的工作
c. 担心户口问题 d. 担心无法买房 e. 不适应城市生活
f. 担心社会安全 g. 需要留下来照顾老人
h. 其他原因_____

1.8 您希望您的子女还留在农村吗?

- a. 不希望 b. 希望 为什么? _____

1.9 您的户籍类型是?

- a. 农业户口 b. 非农业户口

1.10 您是否想转换您的户籍类型?为什么? _____

- a. 不想 b. 想

1.11 如果您有机会转换为非农业户口,您将会如何选择?

- a. 转换为非农业户口并搬往上海市区
b. 转换为非农业户口但不搬迁
c. 搬往上海市区但不想转换户口
d. 其他_____

第二部分 社区印象

2.0 您因何原因愿意住在这片区域？

- | | 是 | 否 |
|---------------|--------------------------|--------------------------|
| g. 出生在这片区域 | <input type="checkbox"/> | <input type="checkbox"/> |
| h. 喜欢这片区域 | <input type="checkbox"/> | <input type="checkbox"/> |
| i. 想住得离亲戚朋友更近 | <input type="checkbox"/> | <input type="checkbox"/> |
| j. 想住得离工作地点更近 | <input type="checkbox"/> | <input type="checkbox"/> |
| k. 想住的离社区更近 | <input type="checkbox"/> | <input type="checkbox"/> |
| l. 没法选择 | <input type="checkbox"/> | <input type="checkbox"/> |

以下问题请选择对应数字：1 分为最低，10 分为最高

2.1 您认为星火村近20 年来的巨大变化（工业化和人居环境得改善）是否对您有深刻的影响？

1 2 3 4 5 6 7 8 9 10

2.2 您是否为过去20 年星火村的变化而感到高兴？

1 2 3 4 5 6 7 8 9 10

2.3 您在星火村居住了多久？

a. 从出生就住在这 b. 从_____年开始

2.4 您对星火村的卫生医疗服务是否满意？

1 2 3 4 5 6 7 8 9 10

2.5 您认为自2000 年起，星火村的卫生医疗质量提高了多少？

1 2 3 4 5 6 7 8 9 10

2.6 您从家前往最近的医院需要多久？

a. 乘车需_____分钟 b. 乘电动车、摩托车需_____分钟
c. 步行需_____分钟

2.7 您对星火村的基础教育水平是否满意？

1 2 3 4 5 6 7 8 9 10

2.8 您认为自2000 年起，星火村的基础教育水平提高了多少？

1 2 3 4 5 6 7 8 9 10

2.9 您在社区中居住是否感到安全？

1 2 3 4 5 6 7 8 9 10

2.11 您认为自2000年起，星火村的社区安全水平提高了多少？

1 2 3 4 5 6 7 8 9 10

第三部分 经济信息

3.0 您的职业是：

- a. 农、林、牧、渔、水利业生产人员 b. 工厂工人
- c. 商业、服务业人员 d. 个体户
- e. 家务工作 f. 国家机关、 f. 党群组织、企业、事业单位负责人
- g. 专业技术人员
- h. 生产、运输设备操作人员及有关人员 i. 军人 l. 学生
- m. 退休 n. 失业 o. 其它,请简述_____

3.1 您在哪里工作？

- a. 当地城镇中心 b. 当地城区中心
- c. 上海市中心 d. 其他城市_____

3.2 您是否每天都要去上班？

- a. 不用 b. 用

3.3 您在市区是否购买了商品房？

- a. 没有 b. 有

3.4 如果有，您购买的商品房在什么区域？

- a. 当地城镇中心 b. 当地城区中心 c. 上海市中心
- d. 其他城市_____

3.5 为了购买市区的住房，您大概需要存多久的钱？

- a. 小于5年 b. 大约_____年
- c. 我从亲戚朋友那里寻求帮助

3.6 您是否将农村的住房租给其他人？

- a. 是 b. 否

3.7 您是否将市区的住房租给其他人？

a. 是 b. 否

3.8 您是否将您的耕地租给其他人？

a. 是 b. 否

3.10 您的住房面积是多少？ _____平方米

3.11 您的农村住房是否有供暖系统？

a. 有，从_____年开始 b. 没有

3.12 您的农村住房是否有自来水供应？

a. 有，从_____年开始 b. 没有

3.13 您是否有私家车？

a. 有，从_____年开始 b. 没有

3.14 在您的社区，过去五年公共服务（天然气、电力、水）的费用有所增加吗？

1 2 3 4 5 6 7 8 9 10

3.15 您觉得公共服务的费用在您的承受范围之内吗？

1 2 3 4 5 6 7 8 9 10

3.16 您和您家庭的收入来源类型是什么？（多选）

a. 工资（全职工作） b. 退休金 c. 兼职收入
d. 自家的业务收入 e. 其他_____

第四部分 环境信息

4.0 您认为环境质量对您每日生活的重要程度有多高？

1 2 3 4 5 6 7 8 9 10

4.1 您是否认为居住在自然生态的区域附近会对您的生活有益？

1 2 3 4 5 6 7 8 9 10

4.2 您是否认为居住在星火村对您的健康有益？

a. 是 b. 否

4.3 您是否认为自2000年起，星火村的污染变得严重了？

1 2 3 4 5 6 7 8 9 10

4.4 您是否认可星火村有污染问题?

1 2 3 4 5 6 7 8 9 10

4.5 您是否听说过因为污染而造成的健康问题?

a. 是 b. 否

4.6 您认为吴泾镇的工业区:

a. 是有问题的 b. 是发展的机遇

4.7 您是否在吴泾镇的工业区工作?

a. 是 b. 否

4.8 您是否知道因为新建设而造成的居民拆迁问题?

a. 是 b. 否

4.9 你如何看待这种问题?

a. 喜悦 b. 伤心 c. 嫉妒

d. 没什么感觉 e. 其他_____

第五部分 个人资料

5.0 年龄: _____周岁 5.1 性别: a. 男 b. 女

5.2 文化程度: a. 无 b. 小学 c. 初中 d. 高中技校

e. 大专 f. 本科或以上

5.3 去年您个人的月收入:

a. 没有收入 b. <500 元 c. 500 - 5000 元

d. 5000-10000 元 e. >10000 元

c. Survey Results

Wu Jing Town

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
Family composition	1.0	b	d	c	b	d	b	c	c	c	c	b,c	b	d	c	d	b	b	b	b	c	b	d	c	d	b	b	c	b	c				
The total number of your "economic household" is	1.1	2	2	3	4	3	4	3	4	3	3	2	4	3	4	5	3	4	2	2	2	2	4	3	3	3	5	2	3	5	2	4		
How many members of the your "economic household" have emigrated out of the village? Why did they emigrated?	1.2	a	c	a	b	d	a	\	a	a	b	a	a	a	\	\	a	b	c	c	a	a	d	a	a,b	a	a	b	a	b				
List your changing occupations since the 2000	1.3	\	1,2	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\			
Did you notice changes in the social relations between residents from 2000, in which way?	1.4	a	b	b	c	c	b	b	a	a	b	c	b	b	b	c	a	b	c	b	c	b	c	b	c	b	b	a	c	b	b			
In the next 3-5 years, do you have any intention to move out of the village?	1.5	b	b	b	b	a	b	a	b	b	b	b	a	b	a	b	b	a	\	a	b	a	a	b	b	a	a	b	b	b	b			
Which is the main reason because you decide to move? (Select up to two):	1.6	a, g	g, h	c	c, g	\	a, c	\	b, e	c	c, d	b, c	\	c, e	\	\	a, b, c	a, b, c	c, e	g	a, b, c, d	\	d	\	\	c	c	\	d	f	d	c, d		
If you do not plan to move, which is the main reason? (Select up to two):	1.7	\	\	d	\	d, g	\	b, g	\	\	\	b	\	e, g	a	\	\	\	b, d	a	\	a, c	a, e, g	\	\	e, g	\	\	\	\	\			
Do you wish your children would live in this village for his life?	1.8	a	\	\	\	b	a	a	a	a	a	a	b	a	b	a	a	b	a	a	a	b	a	a	a	b	a	a	a	a	a			
Your Hukou status is:	1.9	b	b	a	b	a	a	a	b	b	a	a	a	a	a	b	b	a	a	b	b	b	a	a	b	a	a	a	b	a	a			
Would you like to change your hukou status?	1.10	b	a	a	b	a	a	a	b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b	a	b			
If you there will be the possibility to transfer your status in a non-agricultural hukou, will you choose which of the following?	1.11	b	a	c	a	b	a	b	a	c	a	a	a	b	c	a	a	c	c	c	c	c	c	d	c	c	c	a	c	a	a			
What first attracted you to live in this neighbourhood? Was it because you:	2.0																																	
Were born in this neighbourhood	2.a	y	y	y	y	y	n	y	n	n	y	y	y	y	n	n	n	y	y	n	n	y	y	y	y	y	y	n	y	y	y	y		
Liked the neighbourhood	2.b	n	n	n	n	n	n	n	n	y	y	n	n	n	y	y	n	n	n	y	y	\	y	n	n	y	y	y	n	n	n	y	y	
Wanted to be nearer family/friends	2.c	y	y	y	y	y	n	y	y	y	n	y	y	y	y	y	y	y	y	\	y	y	y	y	y	y	y	y	y	n	y	y		
Wanted to be nearer to work	2.d	y	y	y	y	y	y	n	y	y	n	y	y	y	n	y	y	y	y	\	y	y	y	y	y	y	y	y	y	n	y	y		
Wanted to be nearer your own community	2.e	n	y	y	y	n	y	n	n	y	y	n	n	y	y	n	n	y	y	\	y	y	y	y	y	y	y	n	n	n	y	y		
Did not have a choice	2.f	y	\	y	y	n	y	n	n	n	y	y	n	n	n	n	n	n	n	\	n	y	n	y	y	n	n	y	n	n	n	y		
Do you think that the changes happened in Xinhua Village in the last two decades from 2000 had a strong impact in your life?	2.1	10	3	\	10	6	9	9	8	8	9	10	9	9	10	9	8	9	8	8	8	8	8	8	8	8	9	10	8	9	10	10		
Are you happy about these changes in Xinhua Village in the last two decades?	2.2	10	3	1	3	8	4	2	5	6	8	6	6	6	5	6	8	9	5	10	8	8	4	5	8	4	6	7	5	7	6			
From how long are you living in Xinhua Village?	2.3	b	a	b	a	b	a	b	b	b	b	a	a	a	a	b	b	b	a	a	b	b	a	a	b	a	a	b	a	a	a	a		
Are you satisfy from the healthcare of Xinhua Village?	2.4	7	8	10	8	8	8	8	8	7	9	8	7	9	8	9	9	8	8	10	8	9	8	7	8	8	8	8	9	8	8	9		
How much do you think that the healthcare quality has been improved from 2000 until now?	2.5	10	8	10	9	8	8	8	8	9	9	9	10	9	9	10	9	9	9	9	9	9	8	9	9	10	10	9	9	9	9	9		
How long it takes to reach the closest hospital from your home? You usually go by:	2.6	a (10)	a (10) b (20) c (45)	a (10) b (10) c (30)	a (10)	a (10) b (15) c (30)	a (10)	b (10)	a (10)	a (10)	a10	c10	a10	b10	b,c	a10	a10	a10	a	10,10,20	b10	a10	a10	b15	b	b10	a	a10	a10	b10	b10	a5		
Are you satisfy with the general citizen education level in your village?	2.7	9	6	5	7	6	7	5	7	7	8	6	7	9	9	8	8	9	8	9	8	9	7	7	8	9	\	8	7	7	9	8		
How much do you think the education level has been improved for your village from 2000 until now?	2.8	9	8	\	\	7	9	8	8	8	9	8	9	9	9	9	9	9	9	9	9	9	8	8	9	9	8	8	10	9	9	9	8	
Do you feel safe living in your community?	2.9	10	9	10	9	9	10	8	8	10	8	10	10	10	10	9	9	10	9	9	10	8	9	8	10	9	9	9	9	10	10	10	10	
Are you satisfy with the general safety level in your village?	2.10	10	6	10	9	9	10	8	9	9	10	10	10	9	9	10	10	10	10	10	10	9	7	9	8	10	9	9	9	9	9	10	9	
How much do you think the safety has been improved from 2000 until now?	2.11	10	10	\	\	9	9	8	9	8	10	10	10	10	9	10	10	9	9	10	10	9	7	10	9	10	9	10	10	9	6	10	10	
Your occupation	3.0	b	b, i	c, o	e	b	b	d	e	n	\	e	b	g	m	d	c	g	b	o	o	g	h	g	m	m	h	\	b	h	d	m	b	
Where do you work?	3.1	b	b	a	\	a	a	b	\	\	a	\	b	b	\	b	b	b	b	a	a	b	b	\	\	a	a	a	b	b	\	b		
Are you commuting to your work location every day?	3.2	b	b	b	a	b	b	b	\	\	b	a	b	b	\	b	b	b	\	\	b	b	b	\	\	a	b	b	a	b	\	b		
Have you purchased commodity housing in urban area?	3.3	a	a	a	a	a	a	a	a	a	b	a	a	a	a	a	a	a	a	\	a	a	b	a	a	a	a	a	a	a	a	a	a	
If yes, where are your commodity housings located?	3.4	a	\	d	\	b	\	\	\	\	b	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	
For how long you were saving money in order to buy your apartments in urban area?	3.5	b	b (20)	\	\	b (30)	\	\	\	\	a	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	
Are you renting your house / room in the village to other people?	3.6	b	a	\	b	b	\	b	b	\	b	b	\	b	b	b	b	\	\	b	b	b	b	b	b	b	b	b	a	\	b	b		
Are you renting your house / room in the urban area to other people?	3.7	b	b	\	\	b	\	\	\	\	a	\	\	b	\	b	\	\	\	\	\	b	b	\	\	b	b	\	\	\	\	\	\	
Are you renting your arable land to other people?	3.8	a	b	\	\	b	\	b	\	b	\	\	\	b	\	b	\	\	\	\	\	b	\	\	\	b	\	\	\	\	\	\	\	
How much do you get from the village collective as dividend?	3.9	\	400	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	
How many square meters is your house?	3.10	\	196	\	\	\	100	\	\	150	100	70	\	90	\	\	\	\	\	\	80	\	\	80	75	55	85	137	190	\	65	\	120	100
Do you have heating system in your house in the village?	3.11	b	b	a	a	a	a	a	a	a	b	b	a	b	\	b	b	b	b	a	a	b	b	a	a	b	a	\	b	a	b	a		
Do you have water supply in your house in the village?	3.12	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	\	a	\	a	a	a	
Do you own a car?	3.13	a	b	b	b	b	a	b	b	b	a	a	a	b	b	a	a	a	a	b	a	a	b	a	b	a	b	a	a	a	a	b	a	
In your community, do prices of residential utilities (gas, electricity, water) increased in the last five years?	3.14	10	10	9	10	9	9	8	7	9	9	9	10	9	10	9	9	9	8	8	9	9	8	8	9	9	8	8	9	10	9	9	9	10
Are the cost of residential utilities affordable compared to your income?	3.15	10	6	8	7	8	8	6	6	6	6	6	7	7	7	8	7	7	7	7	8	8	6	5	5	9	7	9	7	7	9	7	6	
What are the types of income you and your family get? (multiple selection)	3.16	a	b	a	a	a	d	a	a	a, c	d	a	a	b	a, d	a	a	a, c	a	a	a	a	a	a	a	a	a, d	a	a	a, d	a, b	a, c		
How much is important for you the environmental quality in your everyday life?	4.0	10	9	9	9	10	8	7	7	8	8	8	10	8	9	9	10	10	9	7	10	10	8	9	8	6	7	7	9	8	8	8	9	
Do you think that living close to natural green space can influence your life in a good manner?	4.1	10	10	9	10	9	8	\	8	8	9	7	9	9	9	9	10	10	10	8	10	9	9	10	10	6	9	9	10	9	9	9	9	
Do you think is healthy to live in Xinhua Village for you?	4.2	a	a	a	a	a	b	a	a	a	a	b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
How much do you think the pollution has increased from 2000 in the village?	4.3	10	5	7	6	6	7	6	8	6	9	9	9	9	9	8	9	9	9	10	8	9	5	7										

c. Survey Results

Chonggu Town

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Family composition	1.0	b	d	c	b	d	b	c	c	c	b,c	b	c,d	b	d	c	d	b	b	b	b	c	b	d	c	d	b	b	c	b	c		
The total number of your "economic household" is	1.1	2	2	3	4	3	4	3	4	3	3	2	4	3	4	5	3	4	2	2	2	2	4	3	3	3	5	2	3	5	2	4	
How many members of the your "economic household" have emigrated out of the village? Why did they emigrated?	1.2	a	c	a	b	d	a	a	a	b	a	a	a	a	a	a	a	a	b	c	c	a	d	a	a,b	a	a	b	a	b	a		
List your changing occupations since the 2000	1.3	\	1,2	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\		
Did you notice changes in the social relations between residents from 2000, in which way?	1.4	a	b	b	c	c	b	b	a	b	c	c	b	b	b	b	c	a	b	c	b	c	c	b	c	b	b	a	c	b	b		
In the next 3-5 years, do you have any intention to move out of the village?	1.5	b	b	b	b	a	b	a	b	b	b	a	b	a	b	b	b	a	\	a	b	a	a	b	a	b	a,b	b	b	b	b		
Which is the main reason because you decide to move? (Select up to two):	1.6	a, g	g, h	c	c, g	\	a, c	\	b, e	c	c, d	b, c	\	c, e	\	a, b, c	a, b, c	c, e	g	a, b, c, d	\	d	\	\	c	c	\	d	f	d	c, d		
If you do not plan to move, which is the main reason? (Select up to two):	1.7	\	\	d	\	d, g	\	b, g	\	\	\	b	\	e, g	a	\	\	\	b, d	a	\	a, c	a, e, g	\	\	e, g	\	\	\	\	\		
Do you wish your children would live in this village for his life?	1.8	a	\	\	\	b	a	a	a	a	a	b	a	b	a	a	b	a	a	b	a	a	a	b	a	b	a	a	a	a	a		
Your Hukou status is:	1.9	b	b	a	b	a	a	a	b	b	a	a	a	a	b	b	a	a	b	b	a	a	b	b	a	a	b	a	a	a	a		
Would you like to change your hukou status?	1.10	b	a	a	b	a	a	b	a	a	a	a	b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b	a	b	a		
If you there will be the possibility to transfer your status in a non-agricultural hukou, will you choose which of the following?	1.11	b	a	c	a	b	a	b	a	c	a	a	a	b	c	a	a	c	c	c	c	c	c	d	c	c	c	a	c	a	a		
What first attracted you to live in this neighbourhood? Was it because you:	2.0																																
Were born in this neighbourhood	2.a	y	y	y	y	y	n	y	n	n	y	y	y	y	n	n	n	y	n	n	y	y	y	y	y	y	y	y	n	y	y	y	
Liked the neighbourhood	2.b	n	n	n	n	n	n	n	n	y	n	n	n	y	n	n	y	y	\	y	n	n	y	y	y	y	y	n	n	n	y	y	
Wanted to be nearer family/friends	2.c	y	y	y	y	y	n	y	y	y	n	y	y	y	y	y	y	y	\	y	y	y	y	y	y	y	y	y	y	n	y	y	
Wanted to be nearer to work	2.d	y	y	y	y	y	y	n	y	y	n	y	y	y	n	y	y	y	\	y	y	y	y	y	y	y	y	y	y	y	n	y	
Wanted to be nearer your own community	2.e	n	y	y	y	n	y	n	n	y	y	n	n	y	y	n	n	y	\	y	y	y	y	y	y	y	n	y	n	y	y	y	
Did not have a choice	2.f	y	\	y	y	n	y	n	n	n	y	n	n	n	n	n	n	n	\	n	y	n	y	y	n	y	n	n	y	n	n	y	
Do you think that the changes happened in Xinhua Village in the last two decades from 2000 had a strong impact in your life?	2.1	10	3	\	10	6	9	8	8	9	10	9	9	10	9	8	9	8	8	8	8	8	8	8	8	8	8	9	10	8	9	10	
Are you happy about these changes in Xinhua Village in the last two decades?	2.2	10	3	1	3	8	4	2	5	6	8	6	6	6	5	6	8	9	5	10	8	8	4	5	8	4	6	7	5	7	6		
From how long are you living in Xinhua Village?	2.3	b	a	b	a	b	a	b	b	b	a	a	a	a	b	b	b	a	a	b	b	a	a	b	a	a	b	a	a	a	a		
Are you satisfy from the healthcare of Xinhua Village?	2.4	7	8	10	8	8	8	8	8	7	9	8	8	7	9	8	9	8	8	8	10	8	9	8	7	8	8	8	8	8	9		
How much do you think that the healthcare quality has been improved from 2000 until now?	2.5	10	8	10	9	8	9	8	8	9	9	9	10	9	9	9	9	9	9	9	10	9	9	9	9	9	9	10	10	9	9		
How long it takes to reach the closest hospital from your home? You usually go by:	2.6	a (10)	a (10) b (20) c (45)	a (10) b (10) c (30)	a (10)	a (10) b (15) c (30)	a (10)	b (10)	a (10)	a (10)	a10	c10	a10	b10	b,c	a10	a10	a10	a	10,10,20	b10	a10	a10	b15	b	b10	a	a10	a10	b10	b10	a5	
Are you satisfy with the general citizen education level in your village?	2.7	9	6	5	7	6	7	5	7	7	8	6	7	9	9	8	8	8	8	8	9	7	7	8	9	7	8	7	7	9	8		
How much do you think the education level has been improved for your village from 2000 until now?	2.8	9	8	\	\	7	9	8	8	8	9	8	9	10	9	9	9	10	9	9	9	9	8	8	9	9	8	10	9	9	9	9	
Do you feel safe living in your community?	2.9	10	9	10	9	9	10	8	8	10	8	10	10	10	10	9	10	9	9	10	8	9	8	10	9	9	9	9	9	10	10	10	
Are you satisfy with the general safety level in your village?	2.10	10	6	10	9	9	10	8	9	9	10	10	10	9	10	10	10	10	10	10	10	10	9	7	9	8	10	9	9	9	10	9	
How much do you think the safety has been improved from 2000 until now?	2.11	10	10	\	\	9	9	8	9	8	10	10	10	10	9	10	10	9	9	10	10	9	7	10	9	10	9	10	10	9	6	10	
Your occupation	3.0	b	b, i	c, o	e	b	b	d	e	n	\	e	b	g	m	d	c	g	b	o	o	g	h	g	m	m	h	\	b	h	d	m	b
Where do you work?	3.1	b	b	a	\	a	a	b	\	\	a	\	b	b	\	b	b	b	b	a	a	a	b	b	\	\	a	a	a	b	\	b	
Are you commuting to your work location every day?	3.2	b	b	b	a	b	b	\	\	b	a	b	b	\	b	b	b	\	\	b	b	b	\	\	a	b	b	a	b	\	b		
Have you purchased commodity housing in urban area?	3.3	a	a	a	a	a	a	a	a	a	b	a	a	a	a	a	a	a	\	a	a	a	b	a	a	a	a	a	a	a	a	a	
If yes, where are your commodity housings located?	3.4	a	\	d	\	b	\	\	\	\	b	\	\	\	\	\	\	\	\	\	\	\	b	\	\	\	\	\	\	\	\	\	
For how long you were saving money in order to buy your apartments in urban area?	3.5	b	b (20)	\	\	b (30)	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	
Are you renting your house / room in the village to other people?	3.6	b	a	\	b	b	\	b	b	\	b	b	\	b	b	b	b	\	\	b	b	b	b	b	b	b	b	a	\	b	b		
Are you renting your house / room in the urban area to other people?	3.7	b	b	\	\	b	\	\	\	\	a	\	\	b	\	b	\	\	\	\	b	b	\	\	\	\	\	\	\	\	\	\	\
Are you renting your arable land to other people?	3.8	a	b	\	\	b	\	b	\	b	\	\	\	b	\	b	\	\	\	\	b	\	\	\	\	\	\	\	\	\	\	\	\
How much do you get from the village collective as dividend?	3.9	\	400	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	
How many square meters is your house?	3.10	\	196	\	\	\	100	\	\	150	100	70	\	90	\	\	\	\	\	80	\	\	80	75	55		85	137	190	\	65	\	120
Do you have heating system in your house in the village?	3.11	b	b	a	a	a	a	a	a	a	b	b	a	b	\	b	b	b	b	a	a	b	b	a	a	b	a	\	b	a	b	a	
Do you have water supply in your house in the village?	3.12	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	\	a	\	a	a	
Do you own a car?	3.13	a	b	b	b	b	a	b	b	b	a	a	a	b	b	a	a	a	b	a	a	b	a	b	a	b	a	a	a	a	a	b	a
In your community, do prices of residential utilities (gas, electricity, water) increased in the last five years?	3.14	10	10	9	10	9	9	8	7	9	9	9	10	9	10	9	9	9	8	8	9	9	8	8	8	9	9	10	8	9	9	10	
Are the cost of residential utilities affordable compared to your income?	3.15	10	6	8	7	8	8	6	6	6	6	6	7	7	8	7	7	7	7	8	8	6	5	5	9	7	9	7	9	7	6	6	
What are the types of income you and your family get? (multiple selection)	3.16	a	b	a	a	a	a	d	a	a, c	d	a	a	b	a, d	a	a	a, c	a	a	a	a	b, c	a	a	a	a, d	a	a	a, d	a, b	a, c	
How much is important for you the environmental quality in your everyday life?	4.0	10	9	9	9	10	8	7	7	8	8	10	8	9	9	10	10	9	7	10	10	8	9	8	6	7	7	9	8	8	8	9	
Do you think that living close to natural green space can influence your life in a good manner?	4.1	10	10	9	10	9	8	\	8	8	9	7	9	9	9	9	10	10	10	8	10	9	9	10	6	9	9	10	9	9	9	9	
Do you think is healthy to live in Xinhua Village for you?	4.2	a	a	a	a	a	b	a	a	a	a	b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
How much do you think the pollution has increased from 2000 in the village?	4.3	10	5	7	6	6	7	6	8	6	9	9	9	9	9	8	9	9	9	10	8	9	5	7	3	7	7	7	9	9	7	9	
Do you think that Xinhua Village has problem of pollution?	4.4	10	5	6	4	6	7	4																									

c. Survey Results

Fengchen Town

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39					
Family composition	1.0	b	e	b	b	d	e	a	a	b	a	d	\	a	d	a	b	e	a	a	c	d,f	a	c	c	a	c	d	a	d	b	d	c	d	b	d	c	b	a	c				
The total number of your "economic household" is	1.1	4	4	1	2	3	3	2	1	2	3	2	3	1	2	3	4	3	5	1	2	4	1	6	2	1	4	2	\	4	1	2	2	2	0	2	4	5	2	2				
How many members of the your "economic household" have emigrated out of the village? Why did they	1.2	a	0	0	0	a	3	a	a	a	\	a	a	0	c	a,b	a	a	0	1	0	a	1	a	d	\	0	a	a	a	a	a	a	a	a	a	a,b	a	a	0	a	\		
Did you notice changes in the social relations between residents from 2000, in which way?	1.4	c	c	a	c	b	c	c	c	b	c	c	c	c	a	c	c	c	b	a	a	a	c	a	\	\	a	a	\	\	c	\	a	\	\	c	c	a	a	\				
In the next 3-5 years, do you have any intention to move out of the village?	1.5	b	b	a	a	\	b	a	a	a	b	b	a	a	a	a	a	a	a	a	a	a	b	a	b	b	a	a	b	b	b	a	b	a	b	a	a	a	a	\				
Which is the main reason because you decide to move? (Select up to two):	1.6	d	d	\	\	b	d,g	\	\	d	d	c,d	b,c,d	\	\	\	\	\	\	\	\	\	c	\	d	d,h	\	a,b	\	c	g	b,c	\	c	\	c,d	\	b	\					
If you do not plan to move, which is the main reason? (Select up to two):	1.7	\	\	a	a	g	\	e	d	g	\	a,g	\	b,d,e	b,e	b,e	a	g	a	e	a	a	d	g	c,d,e	\	\	\	\	\	\	\	\	\	\	\	e	\	a	\	a	\	c,e	
Do you wish your children would live in this village for his life?	1.8	a	b	a	a	b	b	\	b	a	a	a	b	a	a	a	a	b	a	a	a	a	a	a	a	a	b	a	\	a	a	a	a	a	a	a	a	a	a	b	a	a		
Your Hukou status is:	1.9	b	a	a	b	b	b	b	b	a	a	b	a	a	a	a	a	b	b	a	a	a	a	a	a	a	a	a	\	a	b	b	a	a	a	a	a	a	a	b	b	a		
Would you like to change your hukou status?	1.10	b	b	a	b	a	a	a	a	a	b	a	a	a	b	a	b	a	a	\	b	a	b	a	a	b	a	b	\	a	b	b	a	a	a	a	a	a	a	a	b	a	a	
If you there will be the possibility to transfer your status in a non-agricultural hukou, will you choose whic	1.11	\	\	\	\	b	\	\	\	c	a	b	\	\	a	b	a	b	\	\	a	\	a	b	d	a	c	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\
What first attracted you to live in this neighbourhood? Was it because you:	2.0																																											
Were born in this neighbourhood	2.a	n	n	n	y	y	n	y	n	\	n	y	\	n	y	n	n	\	n	n	y	n	y	y	\	\	\	y	y	y	y	y	n	y	\	n	y	n	y	y	y	y		
Liked the neighbourhood	2.b	n	y	y	y	n	n	y	y	\	y	n	\	n	y	y	y	y	y	n	y	y	y	y	\	\	y	y	y	y	y	n	y	y	y	y	y	y	y	y	y	y	y	y
Wanted to be nearer family/friends	2.c	n	n	n	y	n	y	y	y	\	y	y	\	y	y	y	\	y	y	y	y	y	y	\	\	\	\	y	n	y	y	y	n	y	\	y	y	y	n	y	n	y	y	
Wanted to be nearer to work	2.d	y	y	y	n	n	y	\	y	\	y	n	y	y	y	y	y	\	y	y	y	y	y	\	\	\	\	y	n	n	y	y	y	n	\	y	y	y	n	y	n	y	y	
Wanted to be nearer your own community	2.e	n	n	n	y	n	y	y	y	\	y	n	\	y	y	y	\	y	y	y	n	y	y	\	\	\	\	y	n	y	y	y	n	y	\	n	y	n	y	n	y	n	y	
Did not have a choice	2.f	y	n	\	y	\	y	y	n	\	y	y	\	y	y	n	\	y	y	n	n	y	\	\	\	\	\	y	\	y	y	\	y	n	n	n	n	n	n	n	n	y		
Do you think that the changes happened in Xinhuo Village (as industrialization and new built environmen	2.1	4	10	3	10	5	6	6	10	9	10	6	\	7	10	1	7	8	1	\	5	7	7	7	1	10	3	10	7	10	5	7	10	5	8	7	3	8	3					
Are you happy about these changes in Xinhuo Village in the last two decades?	2.2	5	7	10	10	5	8	6	10	9	10	6	\	7	10	2	6	10	10	\	1	7	8	1	1	1	3	5	9	8	10	6	4	6	10	9	4	7	8	2				
From how long are you living in Xinhuo Village?	2.3	b	\	b	a	a	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b	b	b	\	b	b	a	a	a	a	a	b	a	a	b	a	a	b	a	a	a			
Are you satisfy from the healthcare of Xinhuo Village?	2.4	4	5	5	1	5	6	7	7	10	10	5	\	5	6	7	6	10	5	5	5	7	3	1	5	6	8	5	10	10	5	1	5	10	8	3	5	5	2					
How much do you think that the healthcare quality has been improved from 2000 until now?	2.5	8	5	5	4	5	6	8	7	10	10	5	\	5	5	5	7	9	5	5	5	6	7	3	6	5	6	8	10	7	5	4	1	3	10	7	4	6	9	7				
How long it takes to reach the closest hospital from your home? You usually go by:	2.6	a,b,c	a	a	c	\	a	c	a	a,b,c	a,b,c	a,b,c	a	a	a	c	c	c	c	c	b	a,b,c	c	a,b,c	b	a	b	c	b	a	c	a	a,b,c	a	c	a	a	c	b	b				
Are you satisfy with the general citizen education level in your village?	2.7	8	3	5	5	6	5	3	5	9	7	5	\	5	6	5	6	9	8	5	7	8	5	7	1	3	3	\	5	3	6	3	1	5	5	7	3	7						
How much do you think the education level has been improved for your village from 2000 until now?	2.8	8	1	5	1	3	5	3	5	9	10	\	\	5	6	8	6	10	8	5	7	8	5	8	\	1	3	3	\	5	3	7	1	10	5	7	8	3	7					
Do you feel safe living in your community?	2.9	10	8	10	10	5	8	6	9	9	8	9	\	9	8	10	8	10	10	8	9	6	9	8	9	4	8	10	7	10	6	9	6	5	8	8	9	9	9					
How much do you think the safety has been improved from 2000 until now?	2.11	10	4	10	10	8	8	8	9	9	8	5	\	9	10	10	8	10	10	8	9	6	9	8	8	10	8	10	10	10	10	6	9	10	5	8	8	9	9	9				
Your occupation	3.0	\	c	b	m	\	h	m	d	d	a	l	d	c	d	b	c	d	b	b	d	d	d	d	d	d	b	m	f	\	c	l	d	m	d	d	d	b	f	d				
Where do you work?	3.1	\	a	a	\	\	a	\	a	c	a	c	d	a	a	a	b	b	a	a	a	a	b	\	\	\	a	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\		
Are you commuting to your work location every day?	3.2	\	b	a	a	\	a	\	b	b	a	a	a	b	b	a	b	b	a	b	b	b	b	b	\	\	b	a	b	\	b	b	\	a	\	\	\	\	\	\	\	\		
Have you purchased commodity housing in urban area?	3.3	\	a	a	b	\	a	b	a	a	a	d	a	a	b	a	a	a	a	b	b	a	a	\	\	\	a	b	b	\	a	b	a	b	b	a	a	a	a	b	a			
If yes, where are your commodity housings located?	3.4	\	\	\	a	\	a	\	a	\	c	\	\	a	\	b	\	\	b	\	b	a	\	\	\	\	a	d	\	\	a	\	\	\	\	\	\	\	\	\	\			
For how long you were saving money in order to buy your apartments in urban area?	3.5	\	\	\	\	a	c	c	c	b	b	c	\	c	c	b	\	\	c	b	c	b	c	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\			
Are you renting your house / room in the village to other people?	3.6	\	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b	b	b	\	\	b	b	b	b	a	\	b	\	b	b	b	b	b	b				
Are you renting your house / room in the urban area to other people?	3.7	\	b	b	b	b	b	b	b	b	b	b	b	b	a	b	\	b	b	b	b	b	b	b	\	\	b	b	b	b	a	\	b	\	b	\	b	b	b	b				
Are you renting your arable land to other people?	3.8	\	b	b	b	b	b	b	b	a	b	b	b	b	a	b	a	b	b	a	b	b	a	\	\	\	b	b	b	b	a	\	b	\	b	\	b	h	b	b				
How many square meters is your house?	3.10	\	40	40	160	\	200	156	150	90	100	120	142	80	60	100	75	\	8	10	40	100	24	100	300	50	\	360	250	100	\	\	60	250	120	40	80	40	\	150				
Do you have heating system in your house in the village?	3.11	\	b	b	b	\	a	b	a	a	b	a	b	a	b	b	b	b	b	b	a	a	a	a	b	a	b	a	a	a	b	a	a	a	a	b	a	a	b	a				
Do you have water supply in your house in the village?	3.12	\	a	a	a	a	a	a	a	a	a	a	a	a	a	b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a				
Do you own a car?	3.13	\	a	a	b	a	a	a	a	a	a	a	a	a	b	b	a	b	b	b	a	b	a	b	a	b	a	a	b	a	a	b	b	a	a	b	a	a	b	a	a			
In your community, do prices of residential utilities (gas, electricity, water) increased in the last five year	3.14	\	5	1	5	5	5	6	5	10	5	6	\	1	6	1	6	6	1	1	8	8	5	10	9	1	6	3	1	3	3													

